

CENTRAL HIGH SCHOOL COURSE DESCRIPTION CATALOG 2014-2015

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ENGLISH

READING AND WRITING ENRICHMENT 9

(1 credit)

This academic assistance course is required for all grade 9 students who need to improve their reading, writing, study, and test-taking skills and are enrolled in English 9. This course will stress reading strategies along with analytical writing, writing about essay questions, and other study skills related to composition. Students scoring two or more grades below grade level in reading and writing on the Stanford test and/or failing the English Language Arts portion of the MCAS test will be required to take this course.

ENGLISH 9

(1 credit)

This college preparatory course is designed for students who are reading and writing at grade level. This course teaches the skills needed for critical thinking, reading, writing, editing, speaking, listening, and viewing. The reading material used in the course includes both informational texts and literature of all genres, which are taught thematically. Students learn to identify and analyze the characteristics of non-fiction, drama, fiction, and poetry and how each form is used by the author to accomplish an artistic purpose. Writing assignments are designed to develop articulate, effective and documented thought. While research methods are taught, research projects take many forms other than the term paper, which is the focus of research at grades 11 and 12. Minimum required readings: Romeo and Juliet, Of Mice and Men, a poetry unit that includes poetry from the Harlem Renaissance writers, and a short story unit.

ENGLISH 9 Honors

(1 credit) Prerequisite: The recommendation of the grade 8 English teacher and proficiency as demonstrated on standardized tests.

This college preparatory course is designed for students who are reading and writing at grade level. This course teaches the skills needed for critical thinking, reading, writing, editing, speaking, listening, and viewing. The reading material used in the course includes both informational texts and literature of all genres, which are taught thematically. Students learn to identify and analyze the characteristics of non-fiction, drama, fiction, and poetry and how each form is used by the author to accomplish an artistic purpose. Writing assignments are designed to develop articulate, effective and documented thought. While research methods are taught, research projects take many forms other than the term paper, which is the focus of research at grades 11 and 12. Minimum required readings: Romeo and Juliet, Of Mice and Men, a poetry unit that includes poetry from the Harlem Renaissance writers, and a short story unit.

ENGLISH 9 PRE-AP

(1 credit) Prerequisite: The recommendation of the grade 8 English teacher and proficiency as demonstrated on standardized tests.

This enriched course is for students who have an interest in and aptitude for the subject and are reading above grade level. The course teaches literature and language and focuses on the development of critical, analytical, and creative thinking skills. Students learn to identify and analyze the characteristics of non-fiction, drama, fiction, and poetry, as well as how each form is used by the author to accomplish an artistic purpose. Specific themes are explored through a variety of informational texts and literary genres. Writing assignments are designed to develop articulate, effective and documented thought. While research methods are taught, research projects take many forms other than the term paper, which is the focus of research at grades 11 and 12. Minimum required reading selections: Romeo and Juliet, Of Mice and Men, a poetry unit that includes poetry from the Harlem Renaissance writers, and a short story unit.

READING AND WRITING ENRICHMENT 10

(1 credit) Prerequisite: Successful completion of grade 9 English

This academic assistance course is required for all grade 10 students who need to improve their reading, writing, study, and test-taking skills and is enrolled in English 10. The course will stress reading strategies, analytical writing, writing about literature, interpreting essay questions, and other study skills related to reading and composition. Students scoring two or more grades below grade level in writing on the Stanford test and /or failing the English Language Arts portion of the MCAS test will be required to take this course.

ENGLISH 10

(1 credit) Prerequisite: Completion of English 9

This college preparatory course is designed for students who are reading and writing at grade level. The course teaches the skills necessary for critical thinking, reading, writing, editing, speaking, listening, and viewing. The course literature includes all genres and is taught thematically. Students are taught how the author's selection of genre shapes the meaning. Writing assignments particularly focus on the analysis of literature and media and aim to develop articulate, effectively documented thought. A research project is required of all students. Minimum required reading selections: "Antigone", A Midsummer Night's Dream, The House on Mango Street, and a unit of Poetry.

ENGLISH 10 Honors

(1 credit) Prerequisite: Recommendation of the grade 9 English

This college preparatory course is designed for students reading and writing above grade level. The course is for students who indicate an aptitude for English and demonstrate an ability and willingness to complete challenging work. The course teaches the skills necessary for critical thinking, reading, writing, editing, speaking, listening, and viewing. Related themes are explored through a variety of genres from various historical periods to

create an understanding of the literary form and its relationship to literary tradition. Students are taught how the author's selection of genre shapes the meaning. Writing assignments particularly focus on the analysis of literature and media and aim to develop articulate, effectively documented thought. A research project is required of all students. Minimum required reading selections: "Antigone", A Midsummer Night's Dream, The House on Mango Street, and a unit of

ENGLISH 10 PRE-AP

(1 credit) Prerequisite: Recommendation of the grade 9 English teacher and the English Department Chairperson, a grade of B or better in grade 9 English

This college preparatory course is designed for students reading and writing above grade level. The course is for students who indicate an aptitude for English and demonstrate an ability and willingness to complete challenging work. The course teaches the skills necessary for critical thinking, reading, writing, editing, speaking, listening, and viewing. Related themes are explored through a variety of genres from various historical periods to create an understanding of the literary form and its relationship to literary tradition. Students are taught how the author's selection of genre shapes the meaning. Writing assignments particularly focus on the analysis of literature and media and aim to develop articulate, effectively documented thought. A research project is required of all students. Minimum required reading selections: "Antigone", A Midsummer Night's Dream, The House on Mango Street, and a unit of Poetry.

READING AND WRITING ENRICHMENT 11 + 12

This academic assistance course is required for all grade 11 + 12 students who need to improve their writing, study, and test-taking skills. The course will stress analytical writing, writing about literature, interpreting essay questions, and other study skills related to composition. Students enrolled English 11 or 12 CP, scoring two or more grades below grade level in writing on the Stanford test, and/or failing the English Language Arts portion of the MCAS test will be required to take this course.

ENGLISH 11

(1 credit) Prerequisite: Completion of English 10

This college preparatory course is for students reading at grade level who have passed the ELA MCAS exam. The course teaches critical thinking, reading, and writing, speaking, listening, and viewing skills. Literature is presented in thematic units through which students study the characteristics and style of different genres and periods. The development of writing skills focuses on grammar, editing, and revision and involves the expansion and development of ideas and content into compositions written for various purposes and audiences. The research paper is introduced and required of all students in preparation for post-secondary education. Minimum required reading selections: Macbeth, "The Declaration of Independence", "The Crucible", Black Boy, Their Eyes were Watching God and The Great Gatsby or To Kill a Mockingbird or Fahrenheit 451, and selections from Robert Frost, Emily Dickinson and Walt Whitman

ENGLISH 11 Honors

(1 credit) Prerequisite: Teacher recommendation

This college preparatory course is for students reading at grade level who have passed the ELA MCAS exam. The course teaches critical thinking, reading, and writing, speaking, listening, and viewing skills. Literature is presented in thematic units through which students study the characteristics and style of different genres and periods. The development of writing skills focuses on grammar, editing, and revision and involves the expansion and development of ideas and content into compositions written for various purposes and audiences. The research paper is introduced and required of all students in preparation for post-secondary education. Minimum required reading selections: Macbeth, "The Declaration of Independence", "The Crucible", Black Boy, Their Eyes were Watching God and The Great Gatsby or To Kill a Mockingbird or Fahrenheit 451, and selections from Robert Frost, Emily Dickinson and Walt Whitman

ENGLISH 11 AP: Language and Composition

(1 credit) Prerequisite: successful completion of grade 10 English and the recommendation of the grade 10 English teacher and English Department Chairperson; a grade of A or B in English 10.

This college preparatory course is designed for students reading and writing above grade level. The course is specifically designed to teach students how an author's use of language distinguishes each artist's work and shapes its message. The course is for the mature student who is reading and writing above grade level, which enjoys reading and discussing important ideas, who is able to work independently and is interested in improving writing skills through the study of both fiction and nonfiction. All students taking this course must take the Language and Composition AP exam in order to receive Advanced Placement credit. The course teaches critical thinking, reading, and writing, speaking, and viewing skills. American literature is stressed and taught thematically. The focus is on the style and characteristics of the various genres studied.

Writing instruction stresses analytical papers based on reading and includes an emphasis on grammar, editing, and revision skills. Students will be assigned detailed analytical and documented papers written both in and out of class. Students will also be taught to write a required literary research paper. Minimum required reading selections: Macbeth, "The Declaration of Independence", "The Crucible", Black Boy, Their Eyes were Watching God and The Great Gatsby or To Kill a Mockingbird or Fahrenheit 451, and selections from Robert Frost, Emily Dickinson and Walt Whitman. All students are expected to take the AP Language and Composition exam.

ENGLISH 12

(1 credit) Prerequisite: Completion of English 11

This course is designed for students reading and writing at grade level who have passed the ELA MCAS exam. The course teaches the skills necessary for critical thinking, reading, writing, editing, speaking, listening, and viewing. Literature is taught thematically and

includes all genres. Students learn to apply knowledge of characteristics of genres such as satire, parody, and allegory. Writing instruction is based on literature and media analysis and focuses on developing students' ability to produce articulate, effective, documented thought. A research paper is required of all students. Minimum required readings: Hamlet or Othello, two novel from among Lord of the Flies, Animal Farm or One Day in the Life of Ivan Denisovich, or The Mayor of Casterbridge, a World Literature unit of short stories, a poetry unit including the work of John Donne, John Keats, Alfred Lord Tennyson, and William Butler Yeats.

ENGLISH 12 Honors

(1 credit) Prerequisite: Teacher recommendation

This course is designed for students reading and writing at grade level who have passed the ELA MCAS exam. The course teaches the skills necessary for critical thinking, reading, writing, editing, speaking, listening, and viewing. Literature is taught thematically and includes all genres. Students learn to apply knowledge of characteristics of genres such as satire, parody, and allegory. Writing instruction is based on literature and media analysis and focuses on developing students' ability to produce articulate, effective, documented thought. A research paper is required of all students. Minimum required readings: Hamlet or Othello, two novel from among Lord of the Flies, Animal Farm or One Day in the Life of Ivan Denisovich, or The Mayor of Casterbridge, a World Literature unit of short stories, a poetry unit including the work of John Donne, John Keats, Alfred Lord Tennyson, and William Butler Yeats.

ENGLISH 12 AP: English Literature

(1 credit) Prerequisite: The recommendation of the grade 11 English teacher and Department Chairperson; a grade of B or better in English 11

This course is designed for the mature student who is reading and writing at the college level and wishes to take a challenging, college level English Literature course in preparation for the English Literature Advanced Placement exam in May. All students taking this course must take the AP exam in order to receive Advanced Placement credit. The course teaches critical thinking, reading, and writing, speaking, and viewing skills. Literature is taught thematically and includes all genres and distinct historical periods. Writing instruction stresses analytical papers based on reading and includes an emphasis on grammar, editing, and revision skills. Students will be assigned detailed analytical and documented papers written both in and out of class. A research paper on a literary topic is required. Minimum required reading selections: Hamlet or Othello, two novels from among Lord of the Flies, The Mayor of Casterbridge, Animal Farm or One Day in the Life of Ivan Denisovich, and a poetry unit including the work of John Donne, John Keats, Alfred Lord Tennyson, and William Butler Yeats. All students are expected to take the Advanced Placement Literature exam.

READ 180

(1 credit)

This academic assistance course is a requirement for all grade 9 students who are entering high school reading significantly below grade level. The course is designed to match instruction and materials to students' reading needs. The instructional mode includes whole class direct instruction, Read 180 software instruction, small group instruction, and independent reading.

System 44

(1 credit)

This academic assistance course is a requirement for all grade 9 students who are entering high school reading significantly below grade level and struggle with decoding. The course is designed to match instruction and materials to students' reading levels. The instructional mode includes whole class direct instruction, System 44 software instruction, small group instruction, and independent reading.

ENGLISH ELECTIVES

Students should be aware that they might not get their first elective choice due to over or under enrollment.

DRAMA I Grades: 9, 10, 11, 12

(1 Credit) Prerequisite: None

In this course, students will be introduced to the basic technical aspects of theatre production as well as to the physical, vocal, and interpretive facets of performance. Students will begin with a focus on physical movement, physical awareness, and carriage, use of space, pantomime, and tableaux. The vocal component will consist of breath and sound exercises developing into use of the voice in monologues, dialogues, improvisations and short scripted scenes. There will be an emphasis on cooperation, creativity, depth of expression, creating a character, enthusiasm, group support, participation, and willing acceptance of direction. Theatre history, terminology, and traditions will be examined for the students' understanding and appreciation. The members of this class will be expected to find ways to support and participate in the rehearsals and productions of the advanced acting classes. This class will present a modest production in spring.

DRAMA II Grades: 10, 11, 12

(1 Credit) Prerequisite: Completion of Drama 1 and recommendation of Drama 1 teacher

This course continues the physical, vocal, and interpretive activities and exercises begun in Acting 1, but at an advanced level. These students will explore a wider variety of scripted performance pieces. It is expected that each student in this class will be fully committed to partaking in the theatrical experience, including additional rehearsal time after school and evening performances. This class will present a full-length production in spring.

DRAMA III Grades 11, 12

(1 Credit) Prerequisites: Completion of Drama 2 and recommendation of Drama 2 teacher

This course continues to build on the physical, vocal and interpretive work of the Acting 1 and 2 classes. Students explore script analysis, building character and rehearsal techniques as they apply to scene work. The course will also explore the act of directing and producing a play. The students in this course are required to either act or serve on the technical crew for the Fall Festival of Shakespeare, and they will direct and act in the Night of One Act Plays, which serves as their final exam. Students are required to be available for extensive after school rehearsals and evening performances.

DRAMA IV Grade 12

(1 Credit) Prerequisites: Completion of Drama 3 and recommendation of Drama 3 teacher.

In addition to all of the requirements listed in the Acting 3 course description, students in Acting 4 will learn the art of directing a play will explore the art of casting a scene in a play and be responsible for producing that scene for an in-school performance. Each Acting 4 student will be responsible for directing a portion of the Night of One-Act Plays. In addition, each Acting 4 student, along with an Acting 3 student, will study play production. This project will include set, costume and lighting design. Students are required to be available for extensive after school rehearsals and evening performances.

YEARBOOK Grades 10, 11, 12

(1 credit) Prerequisite: Application by student; selection by advisor.

This is a three-year course open to sophomores, juniors and seniors. In the first year, emphasis is on basic journalistic writing; in year two, layout, and design; in year three, personal management, page management, and publishing. The school yearbook is produced by the combined class. Students may not enroll for senior year only. Only students in tenth or eleventh grade may apply.

JOURNALISM I

(1 credit) Prerequisite: ELA Honors or Pre-AP placement (for incoming freshmen); ELA teacher recommendation for sophomores, juniors and seniors with selection by advisor.

This course is offered to all students who make up the staff of the school newspaper, The Central Talon. Students are, responsible for researching, writing, and editing stories, taking photographs, laying out the paper, and soliciting advertisements. Since learn the journalistic style that they put into practice in their writing. This is a one-year course after which students can take Journalism II.

JOURNALISM II

(1 credit) Prerequisite: Journalism I, selected by advisor.

This course expands on the skills learned in Journalism I with a more intense focus on journalistic style, editing and page layout. Sophomores, juniors and seniors are able to take this course and they can take it for two or three years.

CREATIVE WRITING

(1 credit) Prerequisite: Recommendation of current English teacher and selection by the instructor

This course is open to juniors and seniors who are interested in improving their creative writing and critical reading skills. Content of the course will include learning to write various kinds of poetry, writing short stories, writing biography, recognizing elements of the novel, and writing the creative essay. The course will also include learning to interact with poetry and literature in order to comprehend poet's/author's intent. The students will also learn layout and production techniques in order to produce the literary magazine AERIE that culminates the course.

BROADCAST JOURNALISM 1A Grades 9,10,11,12

(0.5 credit)

This course is for students who are interested in learning the skills involved in planning writing and producing television news style bulletins and features. It will offer students the opportunity to use the television equipment in Studio 86 and to possibly have their stories aired in a student produced news program broadcast live daily from our studio. The course also places an emphasis on media literacy and analysis of news stories. The course begins with an emphasis on the script writing, research and interviewing skills that form the basis of a news feature. Camera skills, non-linear editing and the accompanying television production skills will also be taught. This course is open to a select group of no more than 20 students per class. To continue into the second semester of the class, students must have a grade of B or higher

BROADCAST JOURNALISM 1B Grades 9,10,11,12

(0.5 credit) Prerequisite: Broadcast Journalism 1A

This is the follow-up course to Broadcast Journalism 1A. It offers students the opportunity to further develop the skills learned in BC Journalism 1A. This is primarily a productions class, as these students are the main producers of the material for the morning show. The students continue to tape interviews, shoot cover footage both in school and outside of class. These students have the opportunity to join the video production homeroom that produces the morning news show and in doing so, gain additional experience by rotating roles in the studio production aspect of the class.

BROADCAST JOURNALISM 2 Honors

(1 credit) Prerequisite: Recommendation of Broadcast Journalism 1 teacher and Grade of C or higher: excellent attendance.

This two-semester course continues to develop and refine the writing and video production skills and techniques taught in Broadcast Journalism IB . It will include more emphasis on script writing and research as a basis of more in-depth news features and possible documentary-style news pieces. Students in this course are normally members of the video production homeroom and are involved in all aspects of production of our morning news show. As such, they are the primary producers of the material aired on our daily news show (amCentral), which is streamed live over the web (and school-wide over the closed circuit television system.

BROADCAST JOURNALISM 3

(1 credit) Prerequisite: Recommendation of Broadcast Journalism 2 teacher and Grade of C or higher: excellent attendance.

This two-semester course continues to develop and refine the writing and video production skills and techniques taught in Broadcast Journalism IB . It will include more emphasis on script writing and research as a basis of more in-depth news features and possible documentary-style news pieces. Students in this course are normally members of the video production homeroom and are involved in all aspects of production of our morning news show. As such, they are the primary producers of the material aired on our daily news show (amCentral), which is streamed live over the web (and school-wide over the closed circuit television system.

WRITING WORKSHOP Grades 11, 12

(0.5 credit)

This course aims to develop analytical skills for college and work on creative projects. The course focuses on the writing process, observational skills, point of view, audience awareness, data interpretation and acquisition, different modes of expression. Experiences from which students may find topics for writing are provided through readings and class activities. A laboratory workshop method, which involves sharing of writing, revision, and editing, is used.

MATHEMATICS

ALGEBRA 1

(1 credit)

Students will investigate and communicate mathematically using the concepts of algebra. Emphasis will be placed on conceptual understanding and algebraic methods as a problem-solving tool. Students will explore: number systems including rational and irrational; properties, relations and functions; and equations, inequalities and simple matrices. Students will develop and defend conclusions, explore introductory concepts of probability and statistics, and make connections between algebra and other fields of mathematics using real world problems. In addition, students will study the use of tables and graphs to understand mathematical situations. Instruction and investigations will include the use of resources including graphing calculators and software.

GEOMETRY

(1 credit) Prerequisites: Successful completion of Algebra 1

Students will investigate and communicate mathematically using the concepts of geometry. Emphasis will be placed on integrating those topics with other fields of mathematics and real world problems. Students will represent and solve problem situations using geometric models, apply properties of figures, and classify figures in terms of congruence and similarity. Students will deduce properties and relationships between figures from given assumptions and defend those assumptions. Instruction and investigations will include the use of resources including graphing calculators and software.

GEOMETRY HONORS

(1 credit) Recommended: Grade of B or better in Algebra 1; endorsement of previous math teacher

Students will investigate and communicate mathematically using the concepts of geometry. Emphasis will be placed on integrating those topics with other fields of mathematics and real world problems. Students will represent and solve problem situations using geometric models, apply properties of figures, and classify figures in terms of congruence and similarity. Students will deduce properties and relationships between figures from given assumptions and defend those assumptions. Instruction and investigations will include the use of resources including graphing calculators and software. Students in geometry honors may cover the material at a more rapid rate and the course includes supplemental themes and projects.

MATH APPLICATIONS I

(1 credit) Prerequisite: completion of Algebra 1 and Geometry. (Students who have Completed Algebra 2 cannot take this course)

This course integrates various subjects within the mathematics curriculum in the form of projects. The connection to other courses enables students to apply mathematical concepts to meaningful real world scenarios. Topics may include formulas used in careers, problem solving strategies used in other courses, or geometric concepts in architecture. Students will study interesting topics through the use of research, independent work, and/or interaction with people in their careers. Instruction and investigations will include the use of resources including graphing calculators and software. This course is intended for students who are identified as lacking proficiency in Algebra 1 and Geometry

MATH APPLICATIONS II

(.5 credit) Prerequisite: Students who have not passed the MCAS Test in Mathematics. Seniors will be assigned into the course first- then juniors.

Students will investigate and communicate mathematically using the Massachusetts State Frameworks for grades 9 and 10. Students will focus on developing and improving their understandings of the concepts of Algebra and Geometry presented in the Massachusetts Frameworks and in solving real world problems. Through problem solving and the use of technology, hands-on activities, graphing calculators, and computers, students will see mathematics as an indispensable tool for modeling real world phenomena. Plato software will be utilized to provide individualized pacing, instruction, practice and assessment for students. Students will learn test strategies and will practice doing published MCAS problems.

ALGEBRA 2

(1 credit) Prerequisites: Successful completion of Algebra 1 and Geometry

Students will investigate and communicate mathematically using the concepts of advanced algebra. Students will investigate in more detail: the number systems; linear, fractional, quadratic, and exponential equations; inequalities; and solve related real world problems. Students will use trigonometry tables as well as graphs as tools to interpret higher order equations, inequalities, and matrices. In addition, students will investigate variation, logarithmic functions, and sequences and series. Instruction and investigations will include the use of resources including graphing calculators and software.

ALGEBRA 2 HONORS

(1 credit) Recommended: Grade of B or higher in Algebra 1 and Geometry; endorsement by previous mathematics teacher

Students will investigate and communicate mathematically using the concepts of advanced algebra. Students will investigate in more detail the number systems; linear, rational, quadratic, and exponential equations; inequalities; and solve related real world problems. Students will use trigonometry tables as well as graphs as tools to interpret higher order

equations, inequalities, and matrices. In addition, students will investigate variation, logarithmic functions, and sequences and series. Instruction and investigations will include the use of resources including graphing calculators and software. Students in Algebra 2H may cover the material at a more rapid rate than in Algebra 2 and the course includes projects and supplemental themes.

ADVANCED ALGEBRA AND TRIGONOMETRY

(1 credit) Prerequisites: Successful completion of Algebra 1, Geometry and Algebra 2

This course provides an in depth look at functions (polynomial, rational, trigonometric, and logarithmic) and conic sections. Instruction and investigations will include the use of resources including graphing calculators and software. Course is intended for students who have past but not yet mastered the standards for Algebra 2 and are not yet ready for Pre-Calculus. Students will investigate and communicate mathematically.

PRE-CALCULUS HONORS

(1 credit) Recommended: Grade of B or higher in Algebra 1, Geometry and Algebra 2; endorsement of the previous mathematics teacher

Students will investigate and communicate mathematically. This course is a further study of the properties of real numbers, functions and relations. Students will investigate the applications of trigonometry, limits, circular functions, and polar coordinates. Other areas of study are complex numbers as vectors and the study of slope function. Applications of these principles in real world problems provide the use of these concepts in real life situations. Instruction and investigations will include the use of resources including graphing calculators and software. Students in Pre-Calculus Honors will cover the material at a more rapid than precalculus and the course will include supplemental themes and projects. (NOTE THIS COURSE IS ONLY OFFERED AT THE HONORS LEVEL)

CALCULUS AP: AB

(1 credit) Prerequisite: Completion of Pre-Calculus, Recommended: Grade of B or higher; endorsement of previous mathematics teacher. (NOTE THIS COURSE IS ONLY OFFERED AT THE AP LEVEL)

AP Calculus AB provides an understanding of the fundamental concepts and methods of differential and integral calculus with an emphasis on their application, and the use of multiple representations incorporating graphic, numeric, analytic, algebraic, and verbal and written responses. Topics of study include: functions, limits, derivatives, and the interpretation and application of integrals. An in-depth study of functions occurs in the course. Technology is an integral part of the course and includes the use of graphing calculators, computers, and data analysis software. On a regular basis, graphing calculators are used to explore, discover, and reinforce concepts of calculus.

Students should understand that this course is designed to be a fourth-year mathematics course and the equivalent of a year-long, college-level course in single variable calculus. The course requires a solid foundation of advanced topics in algebra, geometry,

trigonometry, analytic geometry, and elementary functions. The breadth, pace, and depth of material covered exceeds the standard high school mathematics course, as does the college-level textbook, and time and effort required of students. AP Calculus AB provides the equivalent of the first course in a college calculus sequence. Students are expected to take the AP Calculus AB Exam at the end of this course.

CALCULUS AP: BC

(1 credit) Prerequisite: Completion of Calculus AP (A/B), Recommended: Grade of B or higher; endorsement of previous mathematics teacher. (NOTE THIS COURSE IS ONLY OFFERED AT THE AP LEVEL)

AP Calculus BC provides a deeper understanding of the fundamental concepts and methods of single-variable calculus developed in AP Calculus AB. There is a continued emphasis on calculus applications and techniques, with the use of multiple representations including graphic, numeric, analytic, algebraic, and verbal and written responses. Topics of study include: functions (including parametric, polar and vector), limits, derivatives, the interpretation and application of integrals, and polynomial approximations and series. Technology is an integral part of the course and includes the use of graphing calculators, computers, and data analysis software. On a regular basis, graphing calculators are used to explore, discover, and reinforce concepts of calculus.

Students should understand that this course is designed to be a fourth-year mathematics course and the equivalent of a year-long, college-level course in single variable calculus. The course requires a solid foundation of topics in advanced algebra, geometry, trigonometry, analytic geometry, and elementary functions. The breadth, pace, and depth of material covered exceeds the standard high school mathematics course, as does the college-level textbook, and time and effort required of students. AP Calculus BC is an extension of AP Calculus AB, and provides the equivalent of a second course in a college calculus sequence, while AP Calculus AB provides the equivalent of the first course in a college calculus sequence. Students are expected to take the AP Calculus BC Exam at the end of this course.

STATISTICS

(1 credit) Prerequisite: Completion of Algebra 2.

Compatible with either a one- or two-semester course, this course is the ideal alternative for juniors and seniors not going into advanced courses such as calculus, but who are interested in an introduction to the important, practical topics of statistics. The data analysis approach moves students away from monotonous computation to focus on the statistical thinking behind data gathering and interpretation. This approach more accurately reflects the way working statisticians contribute to our understanding of the world. It also helps students become more discerning consumers of statistics, teaching them to look closely at what numbers from surveys, election polls, and medical studies really show.

STATISTICS AP

(1 credit) Prerequisite: Teacher recommendation

AP Statistics provides a systematic development of the concepts, principles, and tools of statistics with an emphasis on inquiry and critical-thinking skills associated with the collection, representation, analysis, and drawing conclusions from authentic data. Topics of study include data investigation, designing and conducting studies, anticipating patterns using probability and simulations, and statistical inference. Technology is a central component of the course and includes the use of graphing calculators, computers, and data analysis software. On a regular basis, graphing calculators and computers are used to explore, discover, and reinforce concepts of statistics and probability.

Students should understand that this course is designed to be a fourth-year mathematics course, and the equivalent of an introductory, one-semester, non-calculus-based, college-level statistics course. The course requires a working knowledge of Algebra II, and quantitative reasoning. The breadth, pace, and depth of material covered exceeds the standard high school mathematics course, as does the college-level textbook, and time and effort required of students. This course provides the statistics foundation for college majors in social sciences, health sciences, and business, and serves as the preparation for an upper-level, calculus-based statistics course for majors in the sciences, engineering, and mathematics. Students are expected to take the AP Statistics Exam at the end of this course.

SCIENCE

REQUIRED COURSES*

(presented in required sequence)

INTRODUCTORY PHYSICS

(1 credit)

The Introductory Physics course is designed for ninth grade high school students and includes the Introductory Physics standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*. This course provides the skills and foundation for further studies in Biology, Chemistry and Physics. The topics presented include motion and forces, conservation of energy and momentum, heat and heat transfer, waves, electromagnetism and electromagnetic radiation. Laboratory activities are an integral part of the course and include investigation, observation, analysis and problem solving. This course prepares students for successful performance on the grade 9 Introductory Physics MCAS assessment.

INTRODUCTORY PHYSICS HONORS

(1 credit) Prerequisites: Science teacher or counselor recommendation, based in part on previous Mathematics MCAS performance.

The Honors Introductory Physics course is designed for ninth grade high school students and includes the Introductory Physics standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*. Laboratory activities highlight problem solving skills and experimental techniques. The honors curriculum is presented at an increased pace and introduces supplementary themes and projects which are not covered in the regular Introductory Physics course. This course prepares students for successful performance on the grade 9 Introductory Physics MCAS assessment.

BIOLOGY

(1 credit) Prerequisites: Completion or concurrent enrollment in Introductory Physics

The Biology course is designed for tenth grade high school students and includes the Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*. The topics presented include chemistry of life, cell biology, genetics, anatomy and physiology, evolution and biodiversity and ecology. Laboratory activities are an integral part of the course and include investigation, observation, analysis and problem solving. This course prepares students for successful performance on the grade 10 Biology MCAS assessment.

BIOLOGY PRE-AP

(1 credit) Prerequisites: Completion or concurrent enrollment in Introductory Physics; science teacher or counselor recommendation, based in part on previous Mathematics MCAS performance.

Requisite: Concurrent enrollment in Biology Pre-AP Laboratory (0.5 credits)

The Biology Pre-AP course is designed for tenth grade high school students and includes the Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*. Laboratory activities highlight problem solving skills and experimental techniques. The Pre-AP curriculum is presented at an increased pace and introduces supplementary themes and projects which are not covered in the regular Biology course. This course prepares students for successful performance on the grade 10 Biology MCAS assessment.

BIOLOGY PRE-AP LABORATORY

(0.5 credits) Requisite: Concurrent enrollment in Biology Pre-AP

All students enrolled in Pre-AP Biology must take this semester course. This laboratory course complements Pre-AP Biology by utilizing investigations to further develop and communicate understanding of biological concepts within the Curriculum Frameworks. Students will develop skills and techniques to achieve competency in performing laboratory investigations.

CHEMISTRY **

(1 credit) Prerequisites: Completion or concurrent enrollment in Biology

The Chemistry course is designed for eleventh grade high school and includes the Chemistry standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*. The topics presented include properties of matter; atomic structure and nuclear chemistry; periodicity; chemical bonding; chemical reactions and stoichiometry; states of matter, kinetic molecular theory and thermochemistry; solutions, rates of reactions and equilibrium; acids and bases and oxidation-reduction reactions. Laboratory activities are an integral part of the course and include investigation, observation, analysis and problem solving. This course prepares students for successful performance on the grade 11 Chemistry MCAS assessment.

CHEMISTRY PRE-AP

(1 credit) Prerequisites: Completion or concurrent enrollment in Biology; science teacher or counselor recommendation, based in part on previous Mathematics MCAS performance.

Requisite: Concurrent enrollment in Chemistry Pre-AP Laboratory (0.5 credits)

The Chemistry Pre-AP course is designed for eleventh grade high school students and includes the Chemistry standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*. The Pre-AP curriculum is presented at an increased pace and introduces supplementary themes and projects which are not covered in the regular

Chemistry course. This course prepares students for successful performance on the grade 11 Chemistry MCAS assessment.

CHEMISTRY PRE-AP LABORATORY

(0.5 credits) Requisite: Concurrent enrollment in Chemistry Pre-AP

All students enrolled in Pre-AP Chemistry must take this semester course. This laboratory course complements Pre-AP Chemistry by utilizing investigations to further develop and communicate understanding of chemical concepts within the Curriculum Frameworks. Laboratory activities are an integral part of the course and include investigation, observation, analysis and problem solving. Students will develop skills to achieve competency in conducting laboratory investigations.

*** Although the SPS Pupil Progression Plan identifies chemistry as an elective course, SCHS strongly suggests all students complete a chemistry course as part of a comprehensive and competitive college preparation plan.*

ADVANCED PLACEMENT

(presented alphabetically)

Students should be aware that they might not get their first choice due to over or under enrollment.

AP BIOLOGY

(1 credit) Prerequisites: Completion of Biology, completion or concurrent enrollment in Chemistry, science teacher or counselor recommendation, and signed student contract
Requisite: Concurrent enrollment in AP Biology Laboratory (0.5 credits)

Advanced Placement Biology is designed to present a college-level biology course in scope and sequence. The major biological themes presented include *science as a process, evolution, energy transfer, continuity and change, relationship of structure to function, regulation, the interdependency in nature, and science and technology in society*. Students are required to take the Advanced Placement Biology Exam in order to receive Advanced Placement credit. Students who successfully complete this assessment and receive a satisfactory score on the Advanced Placement Exam may receive college credit at participating colleges.

AP BIOLOGY LABORATORY

(0.5 credits) Requisite: Concurrent enrollment in AP Biology

All students enrolled in AP Biology must take this semester course. This laboratory course complements AP Biology by utilizing extensive laboratory work and inquiry, as outlined by the College Board Curriculum, to further develop and communicate understanding of biological concepts. Students will develop skills and techniques to achieve competency in performing laboratory investigations.

AP CHEMISTRY

(1 credit) Prerequisites: Completion of Biology and Chemistry, science teacher recommendation, and signed student contract

Requisite: Concurrent enrollment in AP Chemistry Laboratory (0.5 credits)

Advanced Placement Chemistry is designed to present a college-level chemistry course in scope and sequence. The four major themes of chemistry presented include *structure of matter, states of matter, reactions and descriptive chemistry*. The course is designed for students who are interested in pursuing careers in medicine, engineering or other scientific fields. Students are required to take the Advanced Placement Chemistry Exam in order to receive Advanced Placement credit. Students who successfully complete this assessment and receive a satisfactory score on the Advanced Placement Exam may receive college credit at participating colleges.

AP CHEMISTRY LABORATORY

(0.5 credits) Requisite: Concurrent enrollment in AP Chemistry

All students enrolled in AP Chemistry must take this semester course. This laboratory course complements AP Chemistry by utilizing extensive laboratory work and inquiry, as outlined by the College Board Curriculum, to further develop and communicate understanding of chemical concepts. Students will develop skills and techniques to achieve competency in performing laboratory investigations.

AP ENVIRONMENTAL SCIENCE

(1 credit) Prerequisites: Completion of Biology, completion or concurrent enrollment in Chemistry, science teacher recommendation, and signed student contract

Requisite: Concurrent enrollment in AP Environmental Science Laboratory (0.5 credits)

Advanced Placement Environmental Science is designed to present a college-level environmental science course in scope and sequence. Environmental science is an interdisciplinary study that draws on science, mathematics, economics, history and law in the context of human interaction with the natural world. The course explores seven areas of study that include *Earth systems and resources, the "living world," population, land and water use, energy resources and consumption, pollution and global change*. Identification and analysis are employed with scientific methods as students take on the role of citizen scientists. Problems, risks and policies in developing stewardship and promoting sustainability of the planet Earth are explored. Students are required to take the Advanced Placement Environmental Science Exam in order to receive Advanced Placement credit. Students who successfully complete this assessment and receive a satisfactory score on the Advanced Placement Exam may receive college credit at participating colleges.

AP ENVIRONMENTAL SCIENCE LABORATORY

(0.5 credits) Requisite: Concurrent enrollment in AP Environmental Science

All students enrolled in AP Environmental Science must take this semester course. This laboratory course complements AP Environmental Science by utilizing extensive laboratory work and inquiry, as outlined by the College Board Curriculum, to further develop and communicate understanding of environmental science concepts. Field trips are an essential part of the course and include explorations in pollution, field studies, population studies, and local natural resources. Students will develop skills and techniques to achieve competency in performing laboratory investigations.

AP PHYSICS I

(1 credit) Prerequisites: Completion of Geometry, science teacher recommendation, and signed student contract

Requisite: Concurrent enrollment in AP Physics I Laboratory (0.5 credits)

Advanced Placement Physics I is designed to be the equivalent of a first-semester, introductory college course in algebra-based physics. The course presents topics in classical physics, including *Newtonian mechanics; work, energy, and power; mechanical waves and sound*, and an introduction to *electric circuits*. Competency in algebra and basic trigonometry is required for the course. Students are required to participate in the Advanced Placement Physics I exam in order to receive Advance Placement credit. Students who successfully complete this course and receive a satisfactory score on the Advanced Placement Exam may receive college credit at participating institutions.

AP PHYSICS I LABORATORY (0.5 credits)

Requisite: Concurrent enrollment in AP Physics I

All students enrolled in AP Physics I must take this semester course. This laboratory course complements AP Physics I by utilizing extensive laboratory work and inquiry, as outlined by the College Board Curriculum, to further develop and communicate understanding of physical concepts. Students will develop skills and techniques to achieve competency in performing laboratory investigations.

ELECTIVES

(presented alphabetically)

Students should be aware that they might not get their first elective choice due to over or under enrollment.

ANATOMY & PHYSIOLOGY

(1 credit) Prerequisites: Completion of Biology

Anatomy & Physiology is a college preparatory course designed as an elective for those students who wish to pursue further study in health fields or who wish to learn more about the human body. This course stresses structural and functional features of the human body, from the molecular level to the whole organism. Laboratory activity is designed to

reinforce ideas, develop concepts and stimulate thinking. This course will explore in depth the Anatomy and Physiology Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*.

BIOLOGY MCAS ENRICHMENT

(0.5 credits) Prerequisites: Completion of Biology

Biology MCAS Enrichment is an elective course designed as a support for students of grades 11 and 12 that need to meet the MCAS science requirement in Biology. This course will review and explore critical Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*.

BOTANY

(0.5 credits) Prerequisites: Completion of Biology

Botany is offered as a half-year elective course designed to expose students to the anatomy and physiology of a wide variety of organisms in the plant kingdom. This course will study the structure, function, growth and classification of plants and the role of plants in the living world, the recycling of nutrients and the conversion of energy in the ecosystem. Plant science is explored in the school greenhouse, the lab, and the field, as well as in the classroom. Students will propagate plants, research and classify plants, conduct plant experiments and create projects that support the understanding of the plant world. This course will explore in depth related Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*.

EARTH & SPACE SCIENCE

(1 credit) Prerequisites: Completion of Introductory Physics and Biology

Earth & Space Science is a college preparatory course designed as an elective for students who want to learn more about the world around them. The course includes the Earth & Space Science standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework* and explores topics including matter and energy in the Earth system, energy resources in the Earth system, Earth processes and cycles, and the origin and evolution of the universe. Hands-on laboratory activities, demonstrations and individual projects are an integral part of this course.

ECOLOGY

(0.5 credits) Prerequisites: Completion of Biology

Ecology is a college preparatory course designed as an elective that studies the interrelationships between organisms and their physical and biological environment. Topics include nutrient cycling, energy, populations, communities and ecosystems. The course will also examine human impact on ecosystems and evaluate practices that insure the sustainability and biodiversity of the earth. Laboratory exercises and fieldwork are an integral part of this course. This course will explore in depth related Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*.

HUMAN BIOLOGY

(1 credit) Prerequisites: Completion of Biology

Human Biology is a college preparatory course designed as an elective for those students who wish to learn more about the human body. This course explores structural and functional features of the human body, from the molecular level to the whole organism. Laboratory activity is designed to reinforce ideas, develop concepts and stimulate thinking. This course will explore in depth the Anatomy and Physiology Biology standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*.

INTRODUCTORY PHYSICS MCAS ENRICHMENT

(0.5 credits)

Introductory Physics MCAS Enrichment is an elective course for students currently enrolled in Introductory Physics that may need additional support to meet the MCAS science requirement in Introductory Physics. This course will review and explore critical Introductory Physics standards of the *Massachusetts Science and Technology/Engineering Curriculum Framework*.

SOCIAL STUDIES

WORLD HISTORY

(1 credit)

This course is designed for students reading and writing at or above grade level who wish to advance their skills. This is the first phase of a three-year requirement in a study exploring the rich content of history. The goal of this three-year requirement is to enable students to develop a common core of historical knowledge, which they can use to enrich their lives. This course covers the period of the rise of Christianity and the fall of Rome through the Age of Imperialism. The remainder of the year focuses on the end of the Roman Republic through the Enlightenment. Emphasis is placed on the political, economic, geographic, social and cultural contributions of the world's major civilizations. In addition, traditional social studies skills are continually reinforced. At the end of this course students will have developed an understanding and appreciation of the diversity of peoples, ethics and religions that have shaped our world.

WORLD HISTORY HONORS

(1 credit) Prerequisite: a grade of B or better in English and an A in Social Studies, approval of Social Studies instructor and Social Studies Department Head

World History is the first phase of a three-year requirement in a study exploring the rich content of history. This course covers the period of the rise of Christianity and the Fall of Rome through the Age of Imperialism. Critical and logical thinking is emphasized with analysis of information made evident through discussion and various methods of assessment. Emphasis will be placed on mastering research techniques including, written and oral communication skills. Independent study and written reports are other areas of mastery for the student. Upon completion of this course, students will have an understanding of the diverse contribution of ethnic groups, races, religions and obtain a global perspective of the events that have influenced and continue to shape our world. The successful completion of a summer assignment is required. This assignment is due the first class of the school year.

WORLD HISTORY PRE-AP

(1 credit) Prerequisites: Teacher recommendation

For the more advanced learner, that enjoys a challenge and the study of history. This course covers the same major historical content and themes that are found in the CP and honors level World History courses. However, PRE-AP moves at a much faster pace with an emphasis on the analysis and comprehension of primary source documents. Frequent assessment and open response questions will be given. Upon completion student may opt for AP World History or US History 1 Pre-AP.

US HISTORY 1

(1 credit)

This is the second phase of the history sequence, which begins in grade nine. The course focuses on the political and intellectual origins of the American nation through the Civil War and Reconstruction. Historical information is studied and analyzed through the use of various materials such as primary and secondary sources, graphs, maps and charts. The impact of Geography on our past is also stressed. Writing essays and taking notes are an integral part of this course. In addition, students reading and oral communications skills are further developed. An attempt is made to instill democratic values in students and the important of becoming an active American citizen.

US HISTORY 1 HONORS

(1 credit) Prerequisites: A grade of B or better in English and an A in World History; and approval of the Social Studies instructor and Social Studies Dept. Head

This is the second phase of the History sequence, which begins in the ninth grade. This course covers the same material as U.S. History support and college prep, however the honors course includes considerable independent study and requires many written reports. Emphasis will be placed on mastering basic research techniques such as reading, and oral and written communication. The successful completion of a summer assignment is required. This assignment is due the first class of the school year.

US HISTORY 1 PRE-AP

(1 credit) Prerequisites: Teacher recommendation

For the more advanced, self-motivated learner, that enjoys a challenge and the study of history. This course covers the same major historical content and themes that are found in the CP and honors level US History 1 courses. However, PRE-AP moves at a much faster pace with a focus on the analysis and comprehension of primary source documents. Frequent assessment and open response questions will be given as part of the exam schedule. Research papers, oral presentations, and current events will be emphasized.

US HISTORY 2

(1 credit)

This is the final phase of the history sequence, which begins in grade nine. This course focuses on the growth of our nation from the Industrialization of the present. Emphasis is placed upon the political social, economic, and cultural development of our nation. Historical information is studied and analyzed through the use of various materials such as, primary and secondary sources, graphs, maps, and charts. The impact of geography of our past is also stressed. Writing essays and taking notes are an integral part of this course. In addition, students reading and oral communication skills are further developed. Focus is also given to modern problems confronting America and its role in today's changing world. An attempt is made to instill democratic values in students and the importance of becoming an active American citizen.

US HISTORY 2 HONORS

(1 credit) Prerequisites: A grade of B or better in English and an A in Social Studies; and approval of the Social Studies instructor and Social Studies Dept. Head.

This is the final phase of the history sequence, which begins in grade nine. This course covers the same content area as U.S. History; however the honors course includes considerable independent study and requires many written reports. Emphasis will be placed on mastering basic research techniques such as reading, and oral and written communication. The successful completion of a summer assignment is required. This assignment is due the first class of the school year.

US HISTORY 2 PRE-AP

(1 credit) Prerequisites: Teacher Recommendation

For the more advanced, self-motivated learner, that enjoys a challenge and the study of history. This course covers the same major historical content and themes that are found in the CP and honors level US History 2 courses. However, PRE-AP moves at a much faster pace with a focus on the analysis and comprehension of primary source documents. Frequent assessment and open response questions will be given as part of the exam schedule. Research papers, oral presentations, and current events will be emphasized.

SOCIAL STUDIES ELECTIVES

Students should be aware that they might not get their first elective choice due to over or under enrollment.

ANCIENT HISTORY

(1 credit)

This comprehensive study of the ancient world begins with the prehistory of Europe, Asia and Africa, and the origins of Civilization. The history and development of Egypt, Babylonia, Antoiia, Greece, and Rome are dealt with in depth. Special reports, museum visits, the handling of actual artifacts, and use of videos give the student an opportunity to study the ancient world more effectively. Students will have an understanding of what we have gained from the "Ancients" and an analysis of how the present day world has built on the past.

PRACTICAL ECONOMICS

(0.5 credit)

This course is designed to give the student an understanding of consumer and economic education. It will cover four areas of concern to all individuals: decision-making, financial management, resource management, and economic understanding. Students will have an understanding of fundamental economic concepts, tools of analysis, such as charts, graphs,

statistics and economic performance measurements. Critical thinking, problem solving, and responsible decision making skills will be stressed

ECONOMICS AP

(1 credit) Prerequisite: Teacher recommendation

AP Economics is a yearlong course divided into two major components: Microeconomics and Macroeconomics.

The first section, Microeconomics studies market behavior of individual consumers and firms in an attempt to understand the decision-making process of consumers and business. It is concerned with the interaction between individual buyers and sellers and the factors that influence their choice. Microeconomics focuses on supply, demand, and price determination.

The second section, Macroeconomics, is the primary focus of the second semester. The main areas of concentration include the following economic concepts: national income, price stabilization levels, economic growth and international economics. Students are expected not only to know the material but also to apply critical thinking skills to the units covered.

Students are required to take two AP examinations in May – AP Macroeconomics and AP Microeconomics

SOCIOLOGY

(1 credit)

Students study the basic concepts of sociology including culture, social structure, and the institutions of society, communities, socialization and social problems. Students are expected to work independently on outside projects as well as projects within the classroom setting, which will allow them to perfect their critical thinking skills. They will learn how to synthesize and apply data, work within a cooperative learning setting, and, in general, learn to respect the values and opinions of others in order to become productive and effective citizens in our society.

AFRICAN AMERICAN HISTORY

(1 credit) Prerequisite: US History; recommendation of US History teacher

This course is an introduction to the history of the Afro-American in America. By the end of this course students will be able to critically analyze the historical and contemporary elements that have played a part in the formation of the African American community in the United States. Emphasis will be on the continuous struggle of African Americans from the time of their capture in Africa to their present attempts today to gain the equality promised to every citizen of the United States by the Constitution. Upon completion of this course, students will be able to define, evaluate and compare the concepts of racism, discrimination, prejudice and stereotype. They will further be able to identify numerous

examples of each of the key concepts from topics covered such as Plantation slavery, Reconstruction, Abolitionism, Jim Crow, etc. Students will be able to demonstrate a working knowledge of the correlation of the key concepts to the present plight of the Afro-American. Finally, they will be able to identify new issues as they arise and be able to analyze and investigate possible solutions to some of the problems that have plagued this country since the inception of slavery.

AMERICAN GOVERNMENT

(1 credit) Prerequisite: US History; recommendation of US History teacher

This course is an introduction to the study of American Government. By the end of this course all students will demonstrate their ability to understand the meaning of and apply political terms. They will be able to compare the basic theories of government using political and economic implications. They will demonstrate that they understand the historical development and present legal function of principles, institutions and processes of political and legal systems. They will demonstrate that they have mastered basic research techniques such as reading, oral and written communication, the interpretation of political news articles and cartoons, charts, graphs and tables in or gather, classify, interpret, evaluate and present data. This course studies the principles behind the American Government and the American political process. This course will study in depth the legislative, executive and judicial branches of the American Government. Among the topics studied are separation of powers, checks and balances, the structure of government, and other aspects of American Government.

PRACTICAL LAW

(0.5 credit)

This course is designed to study the many aspects of the American jurisprudence system and how high school students can use this knowledge in a practical way. This course will give students the opportunity to demonstrate that they understand the historical development and present legal function of the principles, institutions, and processes of the American legal system. The areas of study for this half-year course will include: historical basis of our legal system, criminal law, consumer law, case studies and current legal issues. Class discussions and critical thinking topics will be stressed as an important part of the grading process.

PSYCHOLOGY

(1 credit)

This course is an introduction to the study of Psychology. By the end of this course all students will demonstrate their ability to compare the various theories of psychology, which have been reviewed during this course. Basic Psychological concepts will be studied to further the student's ability to analyze the reasons for a person's behavior/actions. This presentation includes an investigation of the origins of personality and a view into the intricacies and differences in human behavior.

By the end of this course all students will demonstrate that they have mastered basic research techniques such as reading, oral and written communication, the interpretation of charts, graphs and tables in order to gather, classify, interpret, evaluate and present data. Students should be able to demonstrate a working understanding of such topics as perception, learning, thinking, intelligence and the cycle of life (infancy to death and dying) upon completion of the course.

PSYCHOLOGY AP

(1 credit) Prerequisite: Teacher recommendation

The AP Psychology course introduces students to the systematic and scientific study of human behavior and mental processes. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal behavior, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, analyze bias, evaluate claims and evidence, and effectively communicate ideas.

CAREER DEVELOPMENT

(0.5 credit)

This course gives students the opportunity to explore work, careers, and educational opportunities after high school. Students will research and evaluate careers to determine which ones they intend to pursue.

Resumes, cover letters, and interviewing techniques will be required as part of the job search section of the class. Students will also learn rules, behaviors, and requirements of the modern workforce. Speakers from the military, colleges, and career schools will present material and discuss career options.

COMPARATIVE GOVERNMENT AND POLITICS AP

(1 credit) Prerequisites: Teacher Recommendations

The AP course in Comparative Government and Politics introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of country settings. The course aims to illustrate the rich diversity of political life, to show available institutional alternatives, to explain differences in processes and policy outcomes, and to communicate to students the importance of global political and economic changes. The course uses a comparative approach to examine the political structures; policies; and the political, economic, and social challenges among six selected countries: Great Britain, Mexico, Russia, Iran, China, and Nigeria. Additionally, students examine how different governments solve similar problems by comparing the effectiveness of approaches to many global issues. Comparison assists both in identifying problems and in analyzing policymaking. By using these six countries, the course can move the discussion

of concepts from abstract definition to concrete example, noting that not all concepts will be equally useful in all country settings.

WORLD HISTORY AP

(1 credit) Prerequisite: Teacher recommendation

The AP World History course content is structured around the investigation of five course themes and 19 key concepts in six different chronological periods, from approximately 8000 B.C.E. to the present. This course covers the following themes, periods, and concepts, interaction between humans and the environment, development and interaction of cultures, state-building, expansion, and conflict, creation, expansion, and interaction of economic systems, and development and transformation of social structures

US HISTORY AP

(1 credit) Prerequisite: a grade of B in English and USA History, demonstrated advanced abilities; approval of the Social Studies instructor and Social Studies department head

This course is designed specifically to prepare students for the Advanced Placement Exam. The history of the United States is reviewed from the age of exploration to the present day. Throughout the year extensive independent reading and writing activities are required. A summer reading project is also included. All students will be required to take the Advanced Placement Exam in order to receive Advanced Placement credit.

FOREIGN LANGUAGE

CHINESE I

(1 credit)

This beginning course in Chinese emphasizes listening and speaking skills within a framework of basic grammatical structure. The inflectional nature of the language and the acquisition of Chinese characters are developed. Computer technology is used to enhance the learning of Chinese characters. Chinese culture is an important aspect of this course.

CHINESE II

(1 credit) Prerequisite: Completion of Chinese I

This second course in Chinese continues to develop the skills introduced in Chinese 1 within an ever-increasing framework of grammatical structure. Computer technology is used to supplement learning, and reading and writing skills are developed to a greater extent Chinese culture is also an important aspect of the course.

CHINESE II HONORS

(1 credit) Prerequisites: Recommendation of the Chinese instructor and Foreign Language Department Head, as well as a final grade of B+ or better in Chinese I

Students continue to further develop and improve listening, speaking, reading and writing skills. Emphasis is placed on comprehension of Chinese, as well as, reading and writing practice in the target language using a variety of activities incorporating familiar vocabulary and structures. Supplementary materials are introduced to enhance language use.

Aspects of Chinese culture are introduced through the use of media, games, and adapted readings and in small or large group discussions. In addition to written/oral tests and quizzes, students are assessed using a variety of formats: oral dialogues, presentations, written compositions and other means. Homework assignments are an integral part of this course as they not only reinforce concepts and skills that are introduced in class, but also enable students to participate in class discussions. Completion of homework assignments is essential to success in this course. In an effort to better prepare students for Advanced Placement Course, it is imperative that students in Level 1 exhibit diligence with regard to attitude and work ethic. Continuous effort to use the target language is essential. Active participation is a must!

CHINESE III

(1 credit) Prerequisite: Completion of Chinese II.

Students in Chinese 3 will continue to develop the skills of listening, speaking, reading, and writing to a more advanced degree. They will refine their writing skills using a Chinese

word-processing program. An in-depth understanding of Chinese culture is an important aspect of this course.

CHINESE IV HONORS

(1 credit) Prerequisites: Recommendation of the Chinese instructor.

This course is designed for students who want to continue their sequential study of Chinese. The course will offer a variety of interesting topics such as literary topics, current events, and popular literature that will serve as a basis for oral discussion and analysis. Computer software will be used to refine students' reading and writing skills.

CHINESE AP

(1 credit) Prerequisites: Approval of the Foreign Language Department and the Chinese Teacher is required, as well as a final grade of B+ or better in Chinese IVH.

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

FRENCH I

(1 credit)

The main emphasis in French I is on the development of the listening and speaking, grammar, reading and writing skills and cultural awareness. Computer technology and telecommunications are used to facilitate the learning process.

FRENCH II

(1 credit) Prerequisites: Completion of French I.

French II is a continuing course for those who have successfully completed French I. The listening/speaking skills are again emphasized, and there is greater opportunity to strengthen the reading and writing skills and to increase the vocabulary. The texts, workbook, and related audio-visual aids are used to enhance the learning process along with the use of computer technology and the Internet.

FRENCH II HONORS

(1 credit) Prerequisites: Recommendation of the French

This honors course for highly motivated students covers all of the material taught in French 2 but utilizes more challenging examples of each concept. Student will start to experience the fine points and subtleties of written and oral expression. The volume and specificity of the work required will establish a solid foundation for advanced study.

FRENCH III

(1 credit) Prerequisites: Completion of French II.

This third level course continues to build upon the foundation of French II. Students continue to develop the skills of listening, reading, and writing at a more advanced level within an increased structural and cultural framework. French is used almost exclusively at this level. Students use text, workbook, and computer software and audio visual aids. There is greater emphasis on the culture and literature of French-speaking countries. Students will use authentic French materials obtained from the Internet.

FRENCH III HONORS

(1 credit) Prerequisites: Recommendation of the French instructor.

This honors course includes an in-depth study of grammar with greater emphasis on the development of listening and speaking skills. Discussion materials and written work will be used as tools for expressing ideas in French. Reading material of a more difficult nature will provide the base for oral expression and culture in the French language.

FRENCH IV

(1 credit) Prerequisites: Completion of French III.

French IV is for students who have successfully completed French III. The course emphasizes correct usage through grammatical review and vocabulary development. A range of French literature will serve as basis for communication. As the goal of the course is to develop the language skills of listening, speaking, reading, and writing, French will be used extensively at this level.

FRENCH IV HONORS

(1 credit) Prerequisites: Recommendation of the French.

This honors course provides intensive work in the language skill areas of listening, speaking, reading, and writing. Students read full-length selections and shorter works which are representative of the French-speaking world. Writing and speaking activities flow from the reading and class discussions. Grammar review is incorporated as needed for skill development. Students will speak French in class and use a variety of recorded materials for listening practice.

FRENCH V AP

(1 credit) Prerequisites: Approval of the Foreign Language Department and the French Teacher is required.

The Advanced Placement Program in French Language is designed for highly motivated and committed students who are willing to commit themselves to a college level course demanding considerable time and effort. A research project may be required. Students prepare to take the Advanced Placement French Language Examination administered by the College Entrance Board. Mandatory taking of AP exam as part of the assessment for the course.

GERMAN I

(1 credit)

German 1 for Beginners is designed to help develop communicative proficiency in the six language skills: *listening, speaking, reading, writing, grammar & translation*. Students will be introduced to more cultural aspects of the German-speaking world through readings, discussions, videos and photos. Language skills develop largely in two ways: through acquisition and learning. "Acquired" linguistic knowledge develops from practical communication experiences. It is the "feel" for the language and is the unconscious language knowledge applied in communication. "Learned" knowledge comes from studying. Thus, this course will provide you with "real" communication experiences--which is why the teacher will convey many things in German during instruction--and factual information will be part of the course material, as well. Videos, which will be viewed in class, will be accompanied by a worksheet. Class periods will be devoted mostly to communicative and interactive exercises. In order to participate actively in these activities, preparation at home and regular class attendance are essential. Though the main focus in class will not be on grammar structures, these are nonetheless an important part of language learning, as is the memorization of vocabulary. Like in all the classes, students are expected to work hard and independently. In return, they will reap the rewards: by the end of the year students will be able to talk about: birthdays, family, hobbies, food, weather, colors, geography, nationalities, and professions. Students will know the grammatical structures and vocabulary to express themselves adequately for these kinds of personal conversations. In addition, students will learn and appreciate some cultural differences between the US and Germany, such as ways of greeting, concepts of time and space, and attitudes towards multiculturalism and diversity.

GERMAN II

(1 credit) Prerequisite: completion of German I

German 2 Intermediate Low is a continuation of German 1 Beginning Novice. Students continue refining their listening, speaking, reading, writing, grammatical, and translation skills. There is a heavier concentration on reading and writing than in the previous level. Students also study the people and culture of the countries in which German is spoken. First marking period will serve as a refresher course to familiarize students with basic grammar and other concepts. Second marking period will concentrate more on video

lessons, difficult grammar usage, more culture, and students will be expected to speak in German during the entire lesson. German 2 is designed to help develop communicative proficiency in the six language skills: listening, speaking, reading, writing, grammar & translation. Language skills develop largely in two ways: through acquisition and learning. "Acquired" linguistic knowledge develops from practical communication experiences. It is the "feel" for the language and is the unconscious language knowledge applied in communication. "Learned" knowledge comes from studying. Thus, this course will provide students with "real" communication experiences--which is why the teacher will convey many things in German during instruction--and factual information will be part of the course material, as well. Videos, which will be viewed in class, will be accompanied by a worksheet. Class periods will be devoted mostly to communicative and interactive exercises. In order to participate actively in these activities, preparation at home and regular class attendance are essential. Though the main focus in class will not be on grammar structures, these are nonetheless an important part of language learning, as is the memorization of vocabulary. Like in all the classes at this school, students are expected to work hard and independently. In return, students will reap the rewards: by the end of the year students will be able to talk about their birthday, family, hobbies, food, weather, colors, geography, nationalities, and professions. Students will learn some grammatical structures and vocabulary to express themselves adequately for these kinds of personal conversations. In addition, they will learn and appreciate some cultural differences between the US and Germany, such as ways of greeting, concepts of time and space, and attitudes towards multiculturalism and diversity.

GERMAN III

(1 credit) Prerequisite: Completion of German II.

Students in German 3 will continue to develop the skills of listening, speaking, reading, and writing, grammar, and translation to a more advanced degree. They will refine their writing skills using a German word-processing program, reading more advanced literature (fiction and non-fiction) and watching television ads, films, cartoons, and or soap operas. An in-depth understanding of German culture is an important aspect of this course.

GERMAN IV

(1 credit) Prerequisite: Completion of German III and teacher recommendation.

German 4 is a continuation of German 3 Intermediate High. At the end of the year students are highly encouraged to take the Advanced Placement Test. Passing the test with a 3 or better could earn the student college credit depending on the college or university. Students continue refining their listening, speaking, reading, writing, grammatical, and translation skills. There is a heavier concentration on grammar, speaking, reading and writing than in previous levels. Students will learn vocabulary that will enable them to discuss German history, geography, art, architecture, and everyday life and activities. Students will study the following cultural items: 20th century German art and architecture, life in current-day Germany, and current events. Students will read and study selected poems and short stories by German speaking authors. In addition students will learn skills to think critically and express themselves on topics relevant to German culture. This fourth

level will include authentic texts, current culture, and literature from Germany, Austria, and Switzerland. \ units will focus on a particular region or city from these areas; these will include such things as culture, tourism, and current events. Students will learn vocabulary, grammar skills, and cultural competency to express themselves on a variety of topics in German. Cultural topics include: contemporary and classical music, expressing opinion, German history, transportation, family, weekend travel, free time activities, youth and technology, multiculturalism, holidays, education, career, and travel in a foreign country. This course is aligned to the national ACTFL Foreign Language standards and provides a way to focus on the five aspects of foreign language instruction: communication, culture, connections, comparisons, and community. These are the "Five C's of the Foreign Language Education" as outlined in *Standards for Foreign Language Learning: Preparing for the 21st Century*. No text required.

SPANISH I

(1 credit)

The major objective of the course is to develop proficiency in the speaking, reading, writing and listening comprehension skills of the students on a continuing basis. The culture and customs of the various Hispanic countries are also introduced. Native speakers should not enroll in this class. (Please refer to the course offering for native speakers.)

SPANISH II

(1 credit) Prerequisites: Completion of Spanish I.

In Spanish II, students who successfully completed Spanish I continue to develop their listening and speaking skills with greater opportunity to strengthen their reading and writing skills. During the entire year, the teacher includes daily warm-up and review activities. Students will utilize computer technology in the classroom and in the lab.

SPANISH II HONORS

(1 credit) Prerequisites: Recommendation from Spanish instructor

This Honors course covers all of the material taught in Spanish II but utilizes more challenging examples of each concept. Students start to experience the fine points and subtleties of written and oral expression. The volume and specificity of the work required establishes a solid foundation for advanced study.

SPANISH III

(1 credit) Prerequisites: Completion of Spanish II.

In Spanish 3, students who successfully completed Spanish 2 continue to develop the skills of listening comprehension, speaking, reading and writing at a more advanced level. Spanish is used extensively at this level. The students learn more about Spanish-speaking countries and read 'lectures' which deal with Hispanic traditions and life styles.

SPANISH III HONORS

(1 credit) Prerequisites: Recommendation of Spanish II and teacher recommendation. This honors course includes an in-depth study of grammar with greater emphasis on the development of listening and speaking skills. The reading of materials of a more difficult nature will provide the base for oral expression.

SPANISH IV

(1 credit) Prerequisites: Completion of Spanish III.

Students in this course have successfully completed Spanish III. This fourth level course emphasizes listening and speaking practice, the culture of major Spanish-speaking areas, reading of various Hispanic writers and grammar review. The four language skills of listening, speaking, reading and writing are evaluated regularly. The target language will be used to a great extent.

SPANISH IV HONORS

(1 credit) Prerequisites: Recommendation of the Spanish instructor

This honors course provides intensive work on language skills areas: listening, speaking, reading, and writing. Students read full-length selections and shorter works which are representative of the Spanish-speaking world. Writing and speaking activities at an advanced level flow from the reading and class discussions. Students will review grammar, as it is necessary for skill development. Students will speak Spanish in class and will use a variety of recorded materials for listening.

SPANISH V

(1 credit) Prerequisites: Completion of Spanish IV.

This course is designed for students to continue to develop their sequential language skills of listening, speaking, reading and writing. In addition, students will enrich their study of culture. Students will work on a variety of interesting topics, using current materials and traditional literature. Students will use computer technology to integrate their language experience.

SPANISH V HONORS

(1 credit) Prerequisites: Recommendation of Spanish instructor

This honors course provides an accelerated pace and intensive work in the four language areas. Students will concentrate on a thorough review of grammar, read works of literature, and produce various types of writing and present oral-written research projects relative to culture appreciation. A variety of recording materials are used for oral comprehension and speaking stimulus. Some components of Spanish AP are used. Spanish is spoken exclusively.

SPANISH LANGUAGE VERBAL AP

(1 credit) Prerequisites: Approval of the Foreign Language Department Head is required, as well as recommendation of Spanish.

The Advanced Placement Program in Spanish Language is designed for highly motivated and academically talented students who are willing to commit themselves to a college level course demanding considerable time and effort as well as superior listening, speaking, reading and writing skills. A research project may be required. The course of study is established by the Advanced Placement Program of the College Entrance Examination Board. Taking the AP examination is mandatory as part of the assessment of the course.

HERITAGE SPEAKERS I SP/HER SPK I

(1 credit)

ALL native speakers must take a test to determine appropriate placement in Native Speaker Program. *Heritage speakers of Spanish are strongly encouraged to broaden their language abilities by enrollment in German, French, and Chinese.

This course is designed for students who are fairly fluent orally in Spanish but lack reading and writing skills. Reading and writing skills are developed through a variety of activities such as dictation, simple directed compositions, letter writing, grammar exercises and simple projects.

HERITAGE SPEAKERS II SP/HER SPK II

(1 credit) Prerequisites: Completion of level 1.

Continued emphasis will be placed on the mastery of grammatical structures and focus on the writing process. An anthology of short stories and essays surveying literary themes, important grammar points and vocabulary building will be used. There will also be discussions and composition assignments dialogue with culture (relationships, mannerisms and traditions of the Hispanic world). Students are also required to do several projects during the year demonstrating competence in the language.

PHYSICAL EDUCATION AND HEALTH

HEALTH

(0.5 credit)

Health is a state of complete physical, mental, and social well-being not merely the absence of disease or infirmity. Recognizing the various needs, the Health Program was implemented in an attempt to increase the students' scientific knowledge, to help students develop proper attitudes, and ultimately to establish correct behavior.

PHYSICAL EDUCATION 9

(0.5 credit)

The model and design of the ninth grade program is very different from the Elementary; and Middle level. Modules are conceived to allow students the time; practice, and opportunity needed to become competent in the core activity module. The contents within a module are sequential and progressive. Students have the opportunity to master specific sport skills. For the first time, students begin to play with the "real" rules and are held accountable for the knowledge of those rules. ,

PHYSICAL EDUCATION 10

(0.5 credit)

The program includes units of instruction that will develop an interest and desire to participate in lifetime physical activities. The students refine skillful and effective movements through participation in the individual and team sport units. Students are introduced to the decision-making process offered to grade 11 students.

PHYSICAL EDUCATION 11

(0.5 credit)

Lifetime and team sports are emphasized throughout the Grade 11 program. Activities are designed which contribute to the development of the individual through physical activity. Emphasis is placed on development, growth and behavior needs of each student.

PHYSICAL EDUCATION 12

(0.5 credit)

The grade 12 program attempts to provide students exposure to a variety of lifetime and team sports. The intention is to encourage and assist each student in developing an interest and a desire to participate in lifetime activities.

FITNESS FOR LIFE

(0.5 credit)

Fitness for Life is meant to complement the physical education program by using a conceptual approach to provide a basis for understanding the place for exercise and activity in relation to being fit and healthy for a lifetime. Students will have a better understanding of the value of exercise and sport. This course will provide both cognitive and physical experience. This course does not count as a physical education credit.

COMPUTER EDUCATION

Students should be aware that they might not get their first elective choice due to over or under enrollment.

WEB PAGE DESIGN

(1 credit)

Students in this course will create, publish, and maintain web pages using HTML code and site creation and management software such as FrontPage. The Internet, World Wide Web, and Web Pages will be introduced to students. Cascading Style Sheets (CSS), JavaScript, and VBScript will be used to create dynamic Web pages. Java Applets will also be introduced.

1st semester -Students will create web pages using web page editors and HTML code. Students will analyze and adopt techniques used to make professional pages. Research skills will be heavily emphasized and several projects requiring electronic research for web page content will be assigned. Students will be required to use scanners and digital cameras in preparing their web page for the Intranet.

2nd Semester- Interface design and aesthetics will be covered extensively. Cascading Style Sheet (CSS) and JavaScript will be used for presentation control on web projects. A special emphasis will be placed on Universal Design concepts for creating accessible web sites for alternate Internet appliances. This course will not be confined to one HTML authoring tool, but several popular software packages will be discussed. Support applications such as Adobe Photoshop and Macromedia Flash will be showcased.

JAVA PROGRAMMING

(1 credit) Prerequisite: C or better in Algebra 1

The Java course will introduce Java Applets and Java Applications. Students will study J++ selection structures, repetition actions, Java methods, arrays, and strings. Object oriented programming will be introduced along with graphics and advanced windows graphics routines.

MOBILE APPLICATION DEVELOPMENT

(1 credit) Prerequisite: Demonstrated Photo editing skills or Successful completion of Graphics Design I

This 21st century course will teach the basics of mobile application development using software (e.g., Adobe CS5, Photoshop, and Illustrator). Projects will focus on 1) Software Architecture, 2) Code Development, 3) Interface Layout, and 4) User Interaction. In this course, students will build device-ready applications and have the skills needed to prepare for work in this fastest-growing technical career field. The main components of creating the apps that will be used are HTML, CSS and JavaScript. The combination of these components allow a programmer to design an application, set the style and size

automatically for the devices that will use the app and create a way for the user to interact with device being used. The goal of the course is to produce, real, working applications.

AP COMPUTER SCIENCE

(1 credit) Prerequisite: Teacher recommendation

AP Computer Science A is equivalent to a first-semester, college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities

APPLICATIONS OF TECHNOLOGY I Grades 9, 10, 11, 12

(0.5 credit)

This introductory course will provide a better understanding of technology, its functionality, its history, and its involvement in society. An emphasis will be placed on showing students how technology can be used as a tool that will affect future courses and careers. Students will learn to use the wide variety of technical resources available to them in the school. Topics covered will include electronic research, the Internet, and the Microsoft Office productivity suite, including word processing (Microsoft Word), spreadsheet (Microsoft Excel), and database (Microsoft Access), and presentation software (Microsoft PowerPoint). The emphasis will be placed on learning concepts and skills, which can be used in other subject areas.

APPLICATIONS OF TECHNOLOGY II Grades 9, 10, 11, 12

(0.5 credit) Prerequisite: C

This course will explore more advanced topics from Applications of Technology I. It will include study of advanced features of Microsoft Office with an increased emphasis on databases. Projects will be an integral part of this course.

TECHNOLOGY ENGINEERING

Students should be aware that they might not get their first elective choice due to over or under enrollment.

SET DESIGN AND CONSTRUCTION

(1 credit) This course is also listed under art courses and can count as an art credit.

In this full year course students will design and construct sets and furnishing for theatrical, musical, and video productions.

TECHNOLOGY/ENGINEERING I

(1 credit) This course is also listed under science courses and can count as a science credit.

The Technology/Engineering course is an introduction to Technology/Engineering, which covers all of the Technology/Engineering standards from the *Massachusetts Science and Technology/Engineering Curriculum Framework*. Topics include engineering design, construction technology, energy and power technology (fluid, thermal and electrical systems), communication technologies and manufacturing technologies. Students will be provided with hands on opportunities to gain experience with the engineering design process.

TECHNOLOGY/ENGINEERING II / ROBOTICS

(1 credit) Prerequisites: Completion of Technology/Engineering. This course is also listed under the science course

The Technology/Engineering II course builds on the concepts introduced in Technology/Engineering I. The course further explores the Technology/Engineering standards from the *Massachusetts Science and Technology/Engineering Curriculum Framework*. Topics include engineering design, construction technology, energy and power technology (fluid, thermal and electrical systems), communication technologies, and manufacturing technologies. Additionally, the topic of Robotics will be a significant focus of the course. The exploration of Robotics will include designing, constructing and programming robotic systems. Students will be provided with hands on opportunities to gain experience with the engineering design process.

VISUAL ARTS

Students should be aware that they might not get their first elective choice due to over or under enrollment.

FOUNDATIONS OF ART Grades 9-12

(0.5 credit)

In this introductory course covering drawing, design, color and 3-dimensional forms, students are introduced to a wide range of materials and techniques. This is the Art Department prerequisite for all other art courses. Homework is required. Tests are given. Students are responsible for their pencils and sketch pads.

DRAWING AND PAINTING

(0.5 credit) Prerequisite: Passing grade in Foundations of Art

This is an intermediate two dimensional course for the developing art student. More advanced techniques in drawing and painting will be explored and related artists and art movements will be studied and connected to lessons. Drawing and painting from observation and references as well as students' imaginations will be taught. Traditional subject matter such as the portrait, landscape and still life will be explored and used to create preliminary portfolio pieces. A sketchbook is required and homework is required.

Advanced DRAWING AND PAINTING HONORS (With recommendation of instructor)

(1 credit) Pre-requisite: Foundations of Art, Drawing and Painting

This course is for advanced students who are serious about their art and want to continue to solve problems of two-dimensional design and representation. The emphasis is on developing more complex, unified compositions through careful observation, reference, and imagination as well as the use of traditional and contemporary themes. Famous painters and art movements will inform students' development in the course. A sketchbook is required and homework is required.

SCULPTURE

(0.5 credit) Prerequisite: Passing grade in Foundations of Art.

This course is devoted to the exploration and development of 3-dimensional art forms, related terminology and art history. A variety of materials will be used, such as paper, plaster, wire, cardboard, Plexiglas, stone and found objects. Subtractive and additive techniques will be studied. Three Dimensional Artists as well as sculpture in art history will be discussed. Tests are given, homework is required. Students are responsible for their pencils and sketchpads.

CERAMICS

(0.5 credit) Prerequisite: Passing grade in Foundations of Art.

This course is designed to introduce students to the basic forming techniques: coil, slab, pinch and molds. The student will gain familiarity with a variety of ceramic materials and processes. Emphasis will be on good construction, creativity and exploring surface design. Ceramics' place in art history and culture will be discussed. Tests are given, homework is required. Students are responsible for their pencils and sketchpads.

CERAMICS II

(0.5 credit) Prerequisite: Passing grade in Ceramics I and teacher recommendation

The students will revisit the basic hand-building techniques learned in Ceramics I in creative and independent work. Students will work to develop skill on the potter's wheel, adding handles, lids, spouts and feet to their wares. Glaze mixing may be covered. Tests are given and homework is required. Students are responsible for their pencils and sketchpads.

ILLUSTRATION Grades 11, 12 (10 with recommendation)

(0.5 credit) Prerequisites: Foundations of Art I/II and Drawing and Painting

Students will gain a mastery of digital and traditional techniques, including drawing and an understanding of the figure; concepts and storytelling; the use of color to convey feeling and mood; and perspective and composition. It will also include the exploration of philosophies of the twentieth and twenty-first century leaders in design and their application in contemporary illustration practice. Strong focus on content within the context of projects that reflect current illustration markets (Editorial/Advertising, Children's Book Illustration, Graphic Novels/Storyboarding [for stories, comics, and movies/television], Medical/Botanical Illustration, and Fashion Illustration) with an eye towards how that model may be changing.

STUDIO ART AP

(1 credit) Prerequisite: Approval of the Art Dept. and counselor; final grade of B in Drawing and Painting Honors

This course, for the highly motivated and talented art student, requires a lot of independent work, commitment and study and is not for the casually interested. It concentrates on the development of a personal portfolio emphasizing quality, breadth and concentration of each individual student's work. This is a standard course established and evaluated by the Advanced Placement Program of the College Entrance Examination Board.

SEQUENTIAL ART AND THE GRAPHIC NOVEL

(0.5 credit) Prerequisite: successful completion of Foundation of Art

This course focuses on visual storytelling within the framework of comic books, graphic novels, and manga (sequential art). In plotting, writing, scripting, composing, drawing, inking, and coloring, each student will learn to synthesize these skills to produce a completed sequential piece of work. There will be a focus on figure drawing, perspective,

3D objects, light, color, & shading along with writing and communication skills. Sequential art's place in visual history will be discussed. Homework is required. The prerequisites for this course are passing Foundations of Art and at least one passing semester of 9th Grade English.

PRINTMAKING Grades 10, 11, 12

(0.5 credit) Prerequisite: C or better in Foundations of Art and approval of instructor

This course is an introduction to basic printmaking techniques, including monoprints, callograph, lithography, relief painting and photo transfer using an experimental approach to the graphic media. Emphasis is on investigating visual structure, color, design, and drawing, by the means of the print process. The class provides an introduction to the breadth of printmaking media. Course specific art history will be a focus. Students will be given weekly written and drawn homework. All students are required to have a sketchpad and a pencil.

ANALOG PHOTOGRAPHY Grades 10, 11, 12

(0.5 credit)

This first level course is designed to combine basic theory with hands-on work. This course introduces the student to the 35 mm manual film camera, the steel reel and tank method of processing black and white film, and the process of printing both contact sheets and black and white prints in the traditional wet darkroom.

MURAL PAINTING Grades 10, 11, 12

(0.5 credit) Prerequisite: C or better in Foundations of Art

This is a course that is devoted to designing, drawing, and painting murals for school and community presentation. Historical and stylistic techniques for mural painting will be covered and a number of painting media will be employed. Students taking this course must be willing to have their work exhibited in public spaces. Weekly homework is assigned and a pencil and sketchbook are required.

ANALOG PHOTOGRAPHY II Grades 11, 12

(1 credit) Prerequisite: Analog Photography I with a C or better

This second level course is designed to build on what the student learned in Analog Photography I course. The student will continue to shoot, develop, and print film and will also explore alternative process of creating a final print. Sandwiching negatives, double exposures both in the camera and in the darkroom, toning and hand coloring will be investigated. Students will also focus on presentation of work, spotting, dry-mounting and matting.

DIGITAL IMAGING

(0.5 credit) Prerequisite: Analog Photography I & II with a passing grade

This course is designed to utilize Digital Single Lens Reflex (DSLR) cameras in both program mode as well as manual mode. Students will create digital negatives and learn what a digital workflow is and how to implement it to process the images in Adobe Bridge.

COMPUTER ART I Grades 10, 11, 12
(0.5 credit)

In this introductory course, students will learn the fundamentals of creating images on the computer. We will be introducing the elements and principles of art, composition and color theory. These building blocks of art will be reinforced through basic instruction of Adobe Photoshop, with students creating hands-on computer generated projects.

COMPUTER ART II Grades 11, 12
(1 credit) Prerequisite: Computer Art I with a C or better

In this second level course, students will expand on knowledge and skills of Computer Art I, continuing with the elements of art and principles of design. This course will expand on Photoshop skills, as well as introduce vector drawing and working with paths, with hands-on activities and basic instruction of Adobe Illustrator.

PERFORMING ARTS

Students should be aware that they might not get their first elective choice due to over or under enrollment.

INTRODUCTION TO DANCE Grades 9, 10, 11, 12

(0.5 credit)

This course provides a basis for students to understand and develop an appreciation of dance as an art form. Through active participation students explore fundamental movement principles and modern dance techniques. Incorporated into this course is the study of all the major dance genres and dance history, as well as the study of anatomy. Structured improvisation and choreography allow the students to manipulate abstract ideas, and develop their creativity. No previous dance experience required. Students will be required to provide/wear appropriate dance attire for all classes and performances.

DANCE II Grades 10, 11, 12

(0.5 credit) Prerequisites: Intro to Dance

Description: Students will continue their practice of the dance forms studied in Intro to Dance. Warm ups, stretching and movement exercises will begin each class, followed by any of the following; teacher and student led choreography, improvisation workshops, dance theory and dance history lessons. In addition, students will explore the work of a choreographer by creating their own choreographic work. This is a performance-based class and participation in dance concerts, both in and outside of school hours is required.

INTRODUCTION TO BAND

(1 credit) Prerequisite: Successful participation in grade 8 instrumental music program, or the equivalent and permission from the Instructor.

Students in this course will study and perform a variety of representative music for concert band. Sight reading, listening, and instrumental performance skills are taught. Individual responsibilities are stressed and practice outside of school is a major requirement for success. There is one written assignment at the end of each semester.

CONCERT BAND

(1 credit) Prerequisite: Successful participation in grade 8 instrumental music program or the equivalent.

Students in this course will study and perform a variety of representative music for orchestra. Sight-reading, listening and evaluation skills are taught. Music theory is taught in rehearsals, and via written assignments. Time outside of school hours is required for performances.

JAZZ BAND

(1 credit) Prerequisite: Audition and consent of the instructor

Students in this course will study and perform jazz music in a variety of styles. Listening, evaluation, sight-reading and improvisational skills are taught. Individual responsibilities are stressed. Time outside of school hours is required for performances.

*Honors level available with teacher approval.

PERCUSSION ENSEMBLE

(1 credit)

This ensemble consists entirely of percussion instruments of both definite and indefinite pitch. The course includes sight-reading, music theory, and ensemble skills, while exposing students to percussion literature featuring various stylistic elements. This is a performing group, which requires in-school and out-of-school rehearsals and performances.

*Honors level available with teacher approval.

PERCUSSION ENSEMBLE II

(1 credit)

This advanced ensemble is made up entirely of percussion instruments of both definite and indefinite pitch. Auditions are required. The course further develops sight reading ability, music theory, and ensemble skills, while exposing students to percussion literature featuring various stylistic elements. This is a performing group which requires in-school and out-of-school rehearsals and performances.

*Honors level available with teacher approval.

MEN'S CHORUS

(0.5 credit)

This is a one-semester course. It is a vocal ensemble for men that are open to any student without audition. The group performs music of a variety of styles from classical to contemporary pop. Concert Choral participates in at least three major performances a year outside of class. Sight reading, listening and vocal performance techniques are taught and there is one written assignment at the end of each semester.

WOMEN'S CHORUS

(0.5 credit)

This is a one-semester course. It is a vocal ensemble for men that are open to any student without audition. The group performs music of a variety of styles from classical to contemporary pop. Concert Choral participates in at least three major performances a year outside of class. Sight reading, listening and vocal performance techniques are taught and there is one written assignment at the end of each semester.

INTERMEZZO SINGERS Grades 10, 11, 12

(1 credit) Prerequisites: A signature from the chorus director is required.

Intermezzo Singers is a mixed choral group and is open to any student grades 10-12 with previous singing experience in either women's or men's choir. A variety of musical styles will be performed in two, three, and four parts. Study of vocal production, ensemble singing, and music notation will be continued. No audition is necessary.

MADRIGAL SINGERS

(1 credit) Prerequisite: Vocal Audition and permission of instructor Limit: 35 students

A select mixed group of about twenty voices, the Madrigal Singers is open to vocally and personally mature choral singers through audition. Previous choral experience and sight reading ability are preferred but not mandatory. Students will perform a wide variety of A Capella literature from the 16th century to contemporary works at many public and civic functions, and on radio and television. Students should be able to critically listen to and evaluate their own performances as well as that of others in a mature and musically intelligent manor. Music reading skills will also be taught and focused upon as well. This is a full year course.

*Honors level available with teacher approval.

SHOW CHOIR

(1 credit) Prerequisite: Vocal audition AND permission of the instructor. Limit: 40 students

A select group of mature singers and dancers, the show choir performs works that are largely created by the students themselves. There is a great deal of artistic freedom give to those students who show that they have the maturity to work responsibly. Students choose the songs and choreography the dances. Direction and supervision are provided by the instructor, but the students are given many opportunities to be creative. The group performs at school concerts and sometimes at outside events. This is a full year course

SET DESIGN AND CONSTRUCTION

(1 credit)

In this full year course students will design and construct sets and furnishing for theatrical, musical, and video productions.

MUSIC THEORY

(0.5 credit) Prerequisite: Fundamentals of Music and consent of the Instructor.

This course builds on students' previous theory knowledge and allows them to analyze harmonic structures of songs. We will study counterpoint, figured bass, and different method of chord analysis. Students must supply a notebook. This course requires a great deal of outside work in order to allow for productive class time.

MUSIC THEORY AP

(1 credit) Prerequisite: Consent of the instructor

An advanced placement, college preparatory course in music theory and traditional harmony. Students will master four part harmony, inversions of triads, dominant and non-dominant seventh chords, non-harmonic tones, modulation, 16th and 18th century counterpoint, form, and analysis. Ear training, sight-singing, and dictation are done throughout the year. Students will be evaluated by taking the Advanced Placement Music Theory Examination in order to receive Advanced Placement credit.

English Language Learners/Sheltered English Immersion

This is a college preparatory program. It offers high school students the opportunity to complete graduation requirements while learning English as a second language. All the courses in the program follow content and guidelines of their counterpart in the monolingual English curriculum. The textbooks are all in English.

The following courses are offered for ELL and SEI students and the course descriptions can be found in the subsequent sections of this catalog:

- English 9
- English 10
- English 11
- English 12
- ELA Intervention
- Read 180
- Reading and Writing Enrichment
- Algebra 1
- Geometry
- Math Applications 1
- Algebra 2
- Intro to Physics
- Biology
- Chemistry
- World History
- United States History I
- United States History II

ESOL I

(1 credit)

In this course, students will build upon their reading and writing skills in English. The emphasis is on increasing comprehension, and vocabulary skills. Literature adapted for ESL students will be introduced. Research techniques will be reviewed or introduced. The writing skills will include guided compositions. Oral presentations are required.

ESOL II

(1 credit)

In this course, students will continue to improve reading strategies in order to increase comprehension, vocabulary and grammar and will begin to master basic paragraph structure. Literature adapted for ESL students will be introduced. The writing skills involve simple and complex guided compositions. Oral presentations and written reports (2-3 pages) are required.

ESOL III

(1 credit)

Conversational skills will include participation in conversations and debates, organization and presentation of oral reports on a variety of topics and participation in circle time to discuss current issues in American society. Students will continue to develop skills for increasing comprehension of reading materials. Emphasis is on summarizing and paraphrasing and comparing and contrasting. The focus in reading is on reading critically a variety of adapted literature including novels, plays, essays and autobiographies. The writing activities include keeping a journal and working on a research paper.

ESOL IV

(1 credit)

This course will improve student's ability to speak in English on topics on current interest. Students will prepare and give oral presentations on a variety of topics. This course also emphasizes reading critically a variety of adapted, literature including novels, plays, autobiographies, and essays. The writing skills will include keeping a journal and working on a research paper

AEROSPACE SCIENCE

AEROSPACE SCIENCE I Grade: 9/10 (11 by interview with Senior Instructor) (1 credit)

Introductory Aerospace Science and Leadership Education provide an initial exploration of aerospace activities and leadership techniques, including familiarization with aircraft and spacecraft plus an orientation to the U.S. Air Force, its customs and courtesies. Course topics include history of flight, the aerospace community and military aerospace vehicles. Leadership topics will include introduction to cadet and military ranks, basic training in Drill and Ceremonies, proper wearing of the uniform, history of military uniforms, introduction to military discipline, history of aviation and the military services, and learning to work as a team. We also teach personal behavior, personal responsibility, the flag of the United States, and citizenship.

AEROSPACE SCIENCE II Grades 10, 11 (1 credit)

Prerequisite: successful completion of Aerospace Science 1 Science of Flight and Leadership 2 examines selected areas of aeronautics, the components, of aerospace power, and developing leadership abilities as a cadet NCO. The course topics include theory of flight, aircraft propulsion system, air navigation, civil aviation facilities and military aircraft systems. Leadership topics will include fundamentals of leadership, communication, discipline, planning Drill and Ceremonies, cadet NCO responsibilities, briefing techniques, military law, and management techniques, understanding individual behavior, and understanding group behavior.

AEROSPACE SCIENCE III Grades 11, 12 (1 credit) Prerequisite: successful completion of Aerospace Science 2 and instructor's recommendation

Space Exploration, National Defense Structure, and Flying Fundamentals/Advance Leadership examine the space programs, the national defense structure and the fundamentals of flight aircraft flying. The course topics including lunar/planetary exploration, guidance and control of space vehicles, and development of the military services, basic flight techniques, instrumentation and manipulation of aircraft controls. Leadership Education block includes instruction in resumes writing and job interviews and Financial Management. Graduating cadets are prepared to compete actively for selection to a service academy or an ROTC scholarship, offered by civilian colleges and universities.

Leadership topics will include cadet officer level training in Drill and Ceremonies, communication, briefing, planning, chairing meetings, writing reports, military law, and supervision and managing personnel.

AEROSPACE SCIENCE IV HONORS Grade 12

(1 credit) Prerequisite: successful completion of Aerospace Science 3 and instructor's recommendation

This honors course includes leadership topics on training subordinates, assisting the Air Science Instructors, teaching Drill and Ceremonies, planning ceremonies and extracurricular activities for the unit and managing the cadet corps.

FAA AEROSPACE SCIENCE HONORS

(1 credit) Prerequisite: High academic standing in both AS I and 2 with senior instructor's recommendations. Strong background in math and science is also required.

This course prepares top aerospace science students to pass the FAA private pilot written examination which is a prerequisite for earning a private pilot's license. Additionally students may receive up to five flight-training hours of instructions.