

THE COLORADO SPRINGS SCHOOL
**UPPER SCHOOL CURRICULUM
GUIDE 2009-2010**

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EDUCATIONAL PHILOSOPHY

Learning is grounded in experience. By delivering challenging academic material through traditional and experiential settings, The Colorado Springs School offers our students opportunities to learn information more thoroughly, to retain it longer, and to apply it to new settings. This deliberate approach to teaching also offers students opportunities to learn more about themselves, others, and the world. Building on strong, supportive relationships afforded by small classes and a safe environment, we advance each student's personal and academic growth.

A broad and demanding liberal arts curriculum offers our students the best opportunities to understand themselves and the wonders around them. At the same time, a strong liberal arts approach provides the best foundation for further study and for life. Our PS-12 curriculum is ordered to provide enthusiastic readiness for challenging university programs.

Small classes orchestrated by outstanding teachers deepen the success and the learning potential of each student. Our teachers are studied professionals committed to developing resourceful, independent, and responsible young people. Close personal relationships permit frequent encounters for teachers, parents, and students to know one another well.

A CSS education is a partnership between home and school. When teachers and parents communicate clearly about our students, student achievement rises. Mutual respect for the profession of teaching as well as for the calling of parenting underlies this important relationship. Parents, teachers, and administrators understand that it is in our students' interest that we create a safe, challenging, and supportive environment.

This entire framework—pedagogy, curriculum, careful and caring teaching, and the home-school partnership—exists to outfit our students with the knowledge and the inventive, flexible minds they will need to be active citizens of an increasingly diverse nation and an increasingly interdependent world. It is also our intent to develop in them the sense of responsibility to contribute to the challenges and opportunities they will face as adults. It is our expectation that an education at our school will help them generate the aims and methods by which their further experiences will “grow in ordered richness.”

UPPER SCHOOL GRADUATION REQUIREMENTS

Classes of 2009, 2010*, 2011

To receive a diploma, students must complete a minimum of 29.00 credits in grades 9-12.

DEPARTMENT	UNITS	SPECIFICS
ENGLISH	4	2 units with writing emphasis and 2 units with literature emphasis
MATHEMATICS	3	Through Algebra II
(Class of 2010 and beyond)	4	
HISTORY	3	Including World, European, and U.S. History
FOREIGN LANGUAGE	3	Completion of three units of one language
SCIENCE	3	Must include Biology & Chemistry
ARTS	2	Including courses in Art, Music, Photography, and Theatre
ATHLETICS/ACTIVITIES	4	Includes team sports and P.E. options
ECS	4	One each year
ELECTIVES	2	Students choose classes from Math, History, Foreign Language, Science or the Arts.
OTHER	0.25	College Overview
	0.25	Speech

24 hours Community Service

A note on "honors" courses: The Upper School curriculum is demanding and rigorously academic. Courses are not designated as "honors" courses, nor are course grade points "weighted" because the whole curriculum is designed and taught on a college preparatory level that is equal to or more demanding than honors programs.

ADVANCED PLACEMENT COURSES

CSS is proud to be able to offer Advanced Placement (AP) courses in several fields of study. Students and their parents need to be aware that these are college-level courses that are very demanding of the student's time. A student should not expect to be able to handle more than two AP courses if he or she is also involved in team sports or a theatre production, especially during Term IV when AP exams are given. A student wishing to be involved in AP courses along with sports and/or theatre productions must gain the written approval of his or her advisor, parents, the Upper School Head, and the College Counselor.

AP Policies and Procedures

- A. Students must be juniors or seniors. Two literature-intensive classes are generally not allowed.
- B. Students must demonstrate readiness for college level work. In general, students must have a cumulative GPA of 3.0 to be considered.
- C. Other requirements specific to given departments are also considered. The prerequisites are listed with the course description.
- D. Students are notified of their eligibility to enroll in a given AP class by an invitation from that department/teacher. Parents of eligible students are also notified of this invitation.
- E. Upon invitation, students meet with the AP teacher regarding course content and expectations. A student who is highly motivated, but has not been recommended for a particular AP course may petition the instructor for special approval. This may or may not be granted, depending upon the student and the course.
- F. During the pre-registration period, students meet with a faculty member for a review of the proposed academic year schedule, including athletic, theatrical, and other commitments.
- G. At the beginning of the next year, parents of students in AP classes attend a mandatory AP information meeting.
- H. Students enrolled in AP courses at the start of classes must be committed by the end of the drop/add period in Term I. After this time, students may drop an AP class, but may no longer add one.

EXPERIENCE CENTERED SEMINARS

ECSes fall into four categories: cross-cultural (including homestays and language immersion), community service, internships, and core discipline (science, art, history, etc.). Five foci of all seminars are: the complex nature of the question at the core of the experience; research from primary sources; immersion in the subject; cooperative learning, team building, and trust; and synthesis and reporting of information and data. Each of the four categories named above places a unique stress upon the central purpose of the seminar, but all are primarily academic. That is, even in community service or internship seminars, syllabi are written to describe the academic material, scope, and objectives of the course, as well as reporting formats and evaluative criteria. All ECSs earn one credit.

Performance Objectives

- A. To understand that persistent, complex questions do not have easy answers, and must be examined open-mindedly from all sides
- B. To learn to outline sensible approaches to complex questions
- C. To learn access and use of primary sources in research projects
- D. To learn to bring disparate aspects of a problem into a sensible, logical construct
- E. To appreciate the value of charitable service and/or cross-cultural exposure
- F. To learn to organize a small team and to work effectively within it

ATHLETICS / ACTIVITIES CREDIT

Four units of credit, one each school year, and preferably a half unit each semester, are required in the area of athletics/activities to graduate from CSS. The school provides a variety of options to achieve this unit of credit:

- A. Team sport participation for .5 unit of credit each season and/or after school physical education courses offered for .5 unit of credit each semester
- B. Participation in a theatre production for .5 unit of credit once during a school year
- C. Participation in vocal or instrumental music for .5 unit of credit once during a school year (may be used as an athletics/activities credit or fine art credit, but not both)
- D. Participation in an established community service program with a minimum of 50 clock hours of participation for .5 unit of credit
- E. Independent course of study for physical education (50 hours = .5 credit)

ENGLISH DEPARTMENT

WORLD LITERATURE (GRADE 9)

1 CREDIT

This course explores some of the earliest and longest standing stories from the western and non-western traditions, as well as a sampling of modern literature from around the globe. From the drama of ancient Greece to the Twentieth Century novel, students will examine the following questions: Why do we need stories in our lives, both personally and as a society? What forms do our stories take? What are the tools that the storyteller uses to bring those stories to life? Students also use these texts to build their vocabulary and expand their sentence skills. Focused grammar instruction also helps students write clearly and effectively. In the fall and winter, students practice writing in the narrative, descriptive, comparison/contrast, and persuasive modes. In the spring term students can expect to work on a more wide-ranging research project.

EUROPEAN LITERATURE AND COMPOSITION (GRADE 10) 1 CREDIT

European Literature and Composition intersperses the study of proper composition tools, including the writing process, editing skills, and in-class essay writing, with the study of literature from Europe. From epic, narrative, and lyric poetry to Shakespearean drama to satire and short stories, we explore the literature from a variety of European countries, exploring elements unique to each culture as well as many universal and timeless connections to humanity as a whole. We practice and study a variety of writing styles including narrative, expository, persuasive, and descriptive while developing vocabulary and standard English usage.

AMERICAN LITERATURE AND COMPOSITION (ENGLISH 11) 1 CREDIT

This course builds upon both World Literature and European Literature courses while focusing specifically on American Literature. Organized around essential questions about our diverse American society, the course examines the development of American literature from chronological, thematic and socio-historic perspectives. The readings expose students to both traditional “classics” and more recent American voices as it prepares students for more selective literary study in the senior year and beyond. Vocabulary lists are taken from the literature. Students develop their writing through formal instruction in sentence development and continued practice writing in a variety of rhetorical modes. Students should take this course in conjunction with American History, if possible.

SENIOR SEMINAR: TOPICS IN LITERATURE (ENGLISH 12) 1 CREDIT

This course offers seniors a sequence of two seminars, one in the fall, one in the spring, on selected literary topics. Topics vary from year to year, and may include the study of a literary genre, the work of one or two authors, a theme, or a historical period. Possible seminar topics: Medieval Literature; Shakespeare’s history plays; Tolstoy and Dostoevsky; the American short story; classicism vs. romanticism; and modern drama. These seminars are devoted to student-led discussion and intensive preparation for college-level writing and research.

CREATIVE WRITING

.5 CREDIT

This elective course encompasses units in fiction, poetry, and creative nonfiction writing. Using professional and student readings for discussion starters and models, students experiment with writing from a number of prompts—exploring varying points of view and

other techniques. Regular use of peer response groups, as well as full class “workshops,” provides students with feedback on their works-in-progress. Each student builds a portfolio and submits at least one piece for external publication. A willingness to take risks, regular attendance, and class participation are essential to the success of the individual student, and to the course as a whole. This course is open to seniors and juniors.

PUBLIC SPEAKING

.25 CREDIT

Prerequisite: Junior status

This required speech course is designed to reinforce public speaking skills through the study of theory; the reading, listening, and observing of famous speeches; and the repeated practice of public speaking. Through active participation and feedback, students gain the knowledge and confidence to deliver a successful and effective speech.

ADVANCED PLACEMENT LITERATURE AND COMPOSITION 1 CREDIT

AP Literature and Composition engages students in the careful reading and critical analysis of English literature (poetry, fiction, and drama) from the 16th century through contemporary times. We approach the study of literature from several popular critical theories, which are considered along with the works’ structures, styles, themes, and uses of language and tone. Students who successfully challenge the AP exam may receive credit from the college or university that they attend.

AMERICAN LITERATURE AND ADVANCED PLACEMENT LANGUAGE AND COMPOSITION 1 CREDIT

This intensive course combines the study of American Literature with the national AP Language and Composition Curriculum which prepares students for the AP Exam in May, and may qualify for college credit (see American Literature course description above.) The AP curriculum focuses specifically on developing skilled readers and writers of prose, with an emphasis on identifying and manipulating audience expectations, writer’s purpose, tone, and generic conventions in a variety of rhetorical modes. Students who sign up for the course must be motivated to write frequently, revise often, and read intensively. Open to juniors who have been recommended by their sophomore English teacher.

ADVANCED CREATIVE WRITING

.5 CREDIT

This course is designed for the student who has already taken the semester-long Creative Writing elective and wishes to pursue further writing options in a more focused genre or genres. Advanced students would be a part of the regular Creative Writing class, but would be able to design (along with the instructor) a pertinent, focused curriculum to better meet individual needs and desires. Students would still have the advantage of a workshop atmosphere while being able to explore their writing more deeply and broadly. Ultimately, each Advanced student would be required to submit work to a major publication and/or contest, such as the Scholastic Writing Awards, in addition to producing pieces for our own CSS Arts Journal.

JOURNALISM

.5 or 1 CREDIT

What is journalism? Why does it exist, and what social functions does it serve? How is technology changing journalism, and what is its future in the age of “new media,” such as blogs, list-serves and social networking sites? These are some of the questions students explore in this course while learning the art and craft of getting and writing a story and

producing a newspaper of their own. They also explore how traditional news outlets function and the challenges they face in a world dominated by the Internet. This course is writing intensive. Students may enroll for one semester (.5 credits) or for a full year (1 credit).

FILM STUDIES

.5 CREDIT

This course tackles several films from major filmmakers, such as David Lynch (American), Ingmar Bergman (Swedish), David Lean and Alfred Hitchcock (British). This approach looks at the connective influences of early films upon later films, examining how certain themes and ideas present in earlier films from different periods are appropriated by subsequent filmmakers and made new. This is approached much like a literature study, with an emphasis upon themes, character development, plot, and structure. The course also analyzes visual arrangement, methods for establishing a mood, the use of camera angle, and the use of color. The study helps students to recognize film as an influential art form, and to value and distinguish such an art form from the mainstream blockbuster. The course gives students another medium through which they can learn to think, analyze, perceive, and critique.

FINE ARTS DEPARTMENT

(* Indicates an elective course offered on a rotating basis)

ART FOUNDATIONS

.25 CREDIT

Art Foundations is a required course for freshman and students new to CSS. It includes a rigorous survey of Art History that is tied directly to hands-on studio art production. A wide variety of media are explored as students make real connections to specific artists and art movements. Visiting artists work with the class and provide professional art shows that relate directly to the course work. Students develop foundations in concept, design and communication while they solidify skills in drawing, composition, color use and 3D materials. Group projects help students to refine art concepts, communicate more effectively and begin the critique process. This course prepares students to engage art electives with established skills and an ability to apply art concepts as they successfully express their own ideas.

ADVANCED ART

1 CREDIT

Prerequisite: Art Foundations and teacher recommendation

Advanced Art (suggested for juniors) is for exceptional art students who have been recommended to work towards developing a personal portfolio. Students have the opportunity to pursue more refinement in their skills, explore new areas of art, and intensely study previously experienced art forms. This course allows access to a wide variety of materials and techniques, establishes portfolio and art reviews, and creates a dialogue with professional artists. Classroom interaction and critiques strengthen the student's artistic voice, vision and ability to communicate effectively. The development of a personal portfolio through consistent and thorough creative studies has far reaching effects into any future pursuits. Students may use their portfolio at the annual art school portfolio review to determine collegiate choices, compete in scholastic awards, and prepare materials for the AP Studio Art Exam. They are informed about and encouraged to enter various art shows and competitions, and to submit for publication.

BRONZE CASTING*.5 CREDIT**

Prerequisite: Art Foundations

In this course students develop wax models, learn mold-making, pour molten bronze into their creations and finish their sculptures with classic patinas. Three-dimensional design concepts are practiced using models of various materials, leading to both freestanding sculptures and reliefs. Bronze works from ancient Greece through contemporary artists are explored with lectures and research projects on specific artists. Aspects of metallurgy and chemistry of metals are explored and culminate in a final written exam. Students are required to keep a sketchbook with their notes and drawings as they work their way through the many materials and techniques that must be learned to produce their bronze sculptures.

DRAWING*.5 CREDIT**

Prerequisite: Art Foundations

In this course the student learns to draw various subjects using a variety of drawing media. The elements and principles of art are presented and used to create drawings of quality. Different approaches to drawing are explored. Homework assignments are designed to enhance the classroom projects and develop proficiency. Research of artists who are famous for their drawings will be completed in written form and presented to the class orally. The student learns about artists of the past and present, the historical development of drawing media, and the categories of drawing. Through demonstrations, exercises and completed works the student exhibits growth in drawing skills. In writing critical analyses of completed works the student will evaluate his/her own success and develop an understanding of the language of art.

FIGURE DRAWING*.5 CREDIT**

Prerequisite: Art Foundations

Drawing the human figure requires learning to see and practice. In this course the student is led through traditional exercises to develop skills in both. Through the execution of projects using various media and styles the student learns to present the human figure in different perspectives through several art systems. Weekly homework assignments are designed to enhance class work and develop skills further. In the writing of a research paper on a past or present figurative artist the student learns how artists have developed varied approaches in representing the human figure. Oral presentation of findings in the research provides the student with a wide knowledge of artists past and present. The final written exam will cover those artists presented to the class.

GLASS: TORCHWORKING AND FUSING*.25 CREDIT**

Prerequisite: Art Foundations

This course explores a wide range of historical and contemporary methods of glass working. The class begins the challenging process of learning how to handle molten glass by working with torches to create small-scale works, beginning with bead making. Other torch-based projects include small animal sculptures and small blown objects. The class also explores the less dexterously demanding area of kiln-based fusing and slumping, which often requires more deliberate planning and forethought. Students create research presentations covering different historical periods of glass usage from a variety of cultures and periods.

GLASS SCULPTURE*.25 CREDIT**

Prerequisite: Art Foundations

This course explores several specialized methods of glass working. The class creates small sculptural projects using the *pate de verre* process of working crushed glass in molds and the creation of clay slumping molds for fusing projects, both of which will be fired in the kiln. Using sketchbooks and the maquette process, students grapple with creating small sculptures with torches using borosilicate and soft colored glass. The class also explores the challenging arena of neon construction and studies the science (chemistry and electricity) behind the process of fluorescing the noble gases. Students create research presentations covering contemporary artists working in glass.

***ADVANCED GLASS SCULPTURE**

.25 CREDIT

Prerequisite: Art Foundations *and* Glass Sculpture or Glass: Torch working and Fusing. Advanced students expand their abilities for glass torch working as they focus on subject matter and content of artworks. The class creates numerous sculptural projects using borosilicate glass, blown glass, and neon tubing. Each individual project assigned is tailored to expand the student's ability to express ideas and overcome technical challenges. Students are required to assist each other with larger artworks, participate in daily critiques, and offer ideas for improved technique and content. Using sketchbooks, prototypes, board diagrams, and the maquette process, students ultimately create their 3D sculptures. Students study the science (chemistry and electricity) behind the process of fluorescing the noble gases, and participate in hands-on visits to a neon producing facility as required for their projects. Students research contemporary artists working in glass, and present their findings to the class while incorporating those designs and techniques into their artworks.

***GLASS: NEON AND PATE DE VERRE**

.25 CREDIT

Prerequisite: Art Foundations

This course explores several specialized methods of glass working. The class begins by exploring the challenging arena of neon construction. Using sketchbooks and the maquette process, students grapple with creating small sculptures with neon tubing, and study the science and electricity behind the process of fluorescing the noble gases. The class also creates small sculptural projects using the *pate de verre* process of working crushed glass in molds and then firing in the kiln. Students create research presentations covering contemporary artists working in glass.

***METAL SCULPTURE**

.25 CREDIT

Prerequisite: Art Foundations

This course explores the diverse and challenging world of 3D design and fabrication. Beginning with small-scale projects, students explore some of the methods and means of expression available using existing 3D materials, including bending, curving, stretching and armature. From this foundation, the class begins to work with metal skins of different media, and applications of the many possibilities of color and texture created by patinas. Students are also introduced to welding methods as well as traditional blacksmithing techniques. Each student creates at least one research presentation and a variety of sculptural projects. Keeping an active sketchbook is an important component of this class.

***MIXED MEDIA**

.5 CREDIT

Prerequisite: Art Foundations

In this course the student explores the possibilities of various visual effects that can be achieved through the use of combining media. Assignments in class and homework assignments begin with problems concentrating on the use of the elements and principles of art. As more experiences are achieved the assignments become more involved and include 3D problems. The student uses the following media in different combinations: pencil, pastel, temper, ink and inkwash, color pencil, oil pastel, gesso, collage materials, and found objects. Specific color schemes for exercising color theory and the expression of emotional impact are used. Written critiques of each finished piece done in class create the understanding of the language of art. The student determines the grades for each project through these analyses. The historical development of using mixed media is researched. Artists of the present and past are examined and shared with the class through oral presentations. The final written exam covers the artists that are researched and the elements and principles of art.

***OIL PAINTING**

.5 CREDIT

Prerequisite: Art Foundations

This course explores a broad range of materials and techniques that operate within an oil based medium. Some of these media are familiar to many, such as linseed or solvent-based oils, while others are less so, such as encaustic, oil sticks or even batik. Even though these media are some of the simplest forms of pigment vehicle, they each have their own specialized techniques, many of which are tied to specific periods and places in history. Students explore these diverse forms of painting as media and technique, and learn their historical contexts. Students create research presentations on artists or periods associated with these media. A wide variety of projects are completed while practicing painting technique and color theory.

***PORTFOLIO STUDIO**

1 CREDIT

Prerequisite: Art Foundation and teacher recommendation

Portfolio Studio (suggested for seniors) is for students who are completing their portfolios for college application, competing for awards and scholarships, taking the AP Studio Art Exam, and/or for personal growth. Students in this course must be self-motivated, adaptable to all art concepts and materials, able to express refined ideas and in possession of strong artistic vision. This course allows access to a wide variety of materials and techniques, establishes portfolio and art reviews, and creates a dialogue with professional artists who also work with each student individually. Classroom interaction and critiques strengthen the student's artistic voice, vision and ability to communicate effectively. Students may produce artwork and portfolios for juried exhibitions, gallery showings and eventual representation, whether as a professional artist or simply as an extension of well-developed character. Students gain in-depth experience in documenting, displaying, evaluating and writing about their artwork. They are informed about and encouraged to enter various art shows and competitions and to submit for publication.

***PORTRAITURE**

.5 CREDIT

Prerequisite: Art Foundations

In this course the student explores various styles and media in the creation of portraits. Portraits are presented in various media. They can be drawn, painted, printed and sculpted. Through research, the historical development of portraiture is studied. Oral presentations of the research projects allow the class to share the findings. Homework assignments are

designed to reinforce class work and develop individual skills. There is a final written exam to reflect the student's understanding of concepts presented in this course.

***POTTERY**

.5 CREDIT

Prerequisite: Art Foundations

This course introduces the student to working with clay. Through lectures, demonstrations and hands on activities, the student learns the following techniques in creating pottery: slab, coil, pinch, press mold, and wheel-thrown. Firing procedures, glazing and other decorating techniques, caring for works in progress, and studio maintenance are also presented. Various styles of pottery making are researched. The historical background of these styles is offered to the class through oral presentations. Projects done in various styles enhance the understanding of historical pottery making techniques. Visits to local pottery studios to witness professional potters in action reveal personal styles and different techniques. A lab notebook with notes from lectures, demonstrations, oral presentations and personal progress on projects is required. There is a final written exam covering the vocabulary of pottery making and the research projects presented to the class.

***PRINTMAKING**

.5 CREDIT

Prerequisite: Art Foundations

Printmaking is the multiplication of images. Historically it dates back to the Paleolithic Period when man printed his hand on cave walls. In this course the student explores the two kinds of prints: the multi-unit print and the self-contained print. The student creates at least one print in each of the four processes of printmaking: intaglio, relief, serigraph, and lithograph. Homework assignments provide a source of ideas for class work and are essential to understanding the different processes of printmaking. There are many artists who have used printing as their medium. Each student writes a research paper and presents findings to the class. There is a final written exam covering printmaking terms and the information presented about the artists researched. The student also writes a critical analysis for each finished edition.

***STONE CARVING**

.5 CREDIT

Prerequisite: Art Foundations

In this course, students create sculptures in stone using both modern and classical techniques. Three-dimensional composition is developed while surveying the rich history of working in hard and soft stone. Sketchbooks, clay models, paper, plaster, and foam forms created while researching various artists and historical works in stone lead to the production of several stone sculptures and reliefs. Hammers and chisels, power grinders and sandblasting, and various finishing techniques are explored. Students give presentations on their research projects and display their finished stone works around the campus.

***TEXTILES**

.5 CREDIT

Prerequisite: Art Foundations

This course is designed to give the student an opportunity to explore the making and decoration of textiles. Not only is weaving one form of creating textiles but cultures of the past have created interlaced materials for utilitarian and decorative objects using macramé, quilting, basketry, and leather interlacing. The historical background of weaving from various cultures is studied. Decorative processes such as batik, stitchery, silkscreen, printing, beading, embroidery, and latchhooking are explored. The student is required to research a specific

textile process of a certain culture and present the findings to the class orally. Through the creation of projects using the various textile processes and decorating these in a technique as described above, the student gains an appreciation for the vast array of historical methods of creating textile products. Contemporary applications of these techniques are also discovered.

***WATERBASED PAINTING**

.5 CREDIT

Prerequisite: Art Foundations

This course explores a broad range of materials and techniques that operate within an aqueous medium. Some of these media are familiar to many, such as watercolor or acrylic painting, while others are less so, such as dyeing, fresco, or egg tempera. Even though these media are some of the simplest forms of pigment vehicle, they each have their own specialized techniques, many of which are tied to specific periods and places in history. Students explore these diverse forms of painting as media and technique, as well as in historical context. Students create research presentations on artists or periods associated with these media. A wide variety of projects are completed while practicing painting technique and color theory.

***MURALS**

.5 CREDIT

The Murals course uses brush and spray painting, sand, and mosaic to explore the concept behind the creation of murals as group projects composed and produced for public spaces. A survey of historical of mural types informs the class discussions that range from Ancient Egypt all the way up to modern Graffiti. Students are encouraged to design, present and complete a mural in the community as a culmination of this course.

DRAMA COURSES

FOUNDATIONS FOR THEATRE

.25 CREDIT

Foundations for Theater is a **PRE-REQUISITE TO ALL OTHER COURSES** other than technical theater, musical theater, or makeup. This course is designed to give students an introductory understanding of the foundations of many theatrical forms. Students examine primary and critical texts from early theatrical forms of Kabuki, various Greek traditions, works from the Elizabethan era, the Renaissance, the Romantic period and into the 20th century and modern works. The course works from early time periods to the present in a historical time line. Students also explore the basics of stage presence, stage direction and nomenclature for the stage and how to prepare a dialogue for performance as well as introduce primary technical aspects. This course is intended to help students determine what area of interest they may want to pursue in theater.

***TECHNICAL THEATER**

.5 CREDIT

This course exposes students to the world of technical theater. They learn about stage management, lighting, sound, props, set design, set construction, publicity, makeup and costumes. Students become skilled with the different elements and see how they fit together to make a show successful. Students learn about the scene shop, the various tools involved, and scene shop safety. All of the skills involved in this class will be valuable to the student regardless of whether he/she chooses a career in theater or not. Most of the work is done in class, with a commitment to be involved in either the winter or spring play.

THE AUDITION*.25 CREDIT**

Prerequisite: Foundations of Theatre/Theatre Theory

This course introduces students to the art of the audition. A skill entirely separate from performance, students are exposed to cold reading, the conventions of the audition process (what do in the waiting room), the actor slate, how to read the casting directors/assistants, and the differences between the theatrical and camera auditions, including reading commercial copy. This class is not only for those interested in pursuing a performance career, but also teaches and hones basic rapport building, communication and public speaking skills that are beneficial in all relationships, business and personal.

SCENE STUDY*.25 CREDIT**

Prerequisite: Foundations of Theatre/Theatre Theory

This course is designed to give students the tools to properly analyze, deconstruct and reconstruct a scene. Students are paired or grouped and examine one or two scenes over the duration of the course. During this time, the students examine various techniques, including Stanislavski, Meissner and various works by Uta Hagen, to name a few. Students also learn how to critically analyze the performances of others in a constructive manner and begin to develop an understanding of what it takes to direct a performance piece.

THE ENSEMBLE PROCESS*.25 CREDIT**

Prerequisite: Foundations of Theatre/Theatre Theory

This course introduces students to the Playwright's process as well as ensemble production work. Students study the elements of the play as well as the screenplay (exposition, conflict vs. dramatic conflict, climax, resolution, etc). Students learn the structure, and write and revise scenes, culminating in the presentation of a single production or several shorter works, depending on whether or not they are writing in groups. Students also explore what it takes to work as a collaborative cast, developing an introductory understanding of the production process, working on everything from lighting and sound to costumes, props and graphic design/promotional work.

ADVANCED ACTING /DIRECTING*.5 CREDIT**

Prerequisite: Foundations of Theatre/Theatre Theory; Junior or Senior status.

This course is designed for advanced theatre students. Augmenting the skills developed in prior courses, these students cast, direct, and act in a "mature audiences" performance, allowing more experienced students the opportunity to tackle more difficult subject matter, develop professional role inventory, and prepare for higher education programs.

SHORT FORM IMPROVIZATION*.25 CREDIT**

Prerequisite: Foundations of Theatre/Theatre Theory

This course introduces students to the elements of the improvisational stage. Students develop their quick thinking skills and begin to understand the concepts and elements that are necessary to properly construct and participate in an improvisational performance.

LONG FORM IMPROVIZATION*.25 CREDIT**

Prerequisite: Foundations of Theatre/Theatre Theory

This class gives students the tools to develop character inventory and a more extensive understanding of this unique type of critical character analysis. Students have the opportunity to work with accents, one man/woman shows, extensive back-story development, and their

work culminates in an introduction/interview with all of the character archetypes they have developed in the form of a one man/woman show or structured ensemble improvisation.

***PERFORMANCE PORTFOLIO**

.5 CREDIT

Performance Portfolio is designed to offer the serious theater student an advanced perspective of acting, scene work and the professional audition process. This is an asset to seniors desiring to audition for theater scholarships and should be taken in their fall semester or sooner. Using the Stanislavski method, brief teachings of Uta Hagen, and professional theater protocol, students engage in diagramming the monologue, critiquing peer scene work, and preparing a resume and headshot for an audition, for both college and professional use.

***STAGE MAKEUP / COSTUMING**

.5 CREDIT

Stage makeup / costuming prepares the student who has an interest in this technical theater venue. This course explores the different time periods, how fashion has influenced society and how it has played into period plays as well as modern day costuming. Students compile a morgue as a “fashion catalogue”. Students are also required to develop a makeup morgue for seven different makeup styles including clown, facial hair application, masks, applying putty or prosthetics, and face and hair color. The class is concentrated and uses hands on learning.

***ADVANCED ACTING / DIRECTING**

.25 CREDIT

Juniors and seniors only. Prerequisite: Foundations; Performance Portfolio is also helpful but not mandatory.

This course is designed for the advanced and mature theater student. With concentration on augmenting prior skills, students learn directing techniques and casting, and direct and act in chosen performances that are guided by the instructor. This allows the more experienced students to tackle more difficult subject matter, and to develop professional roles/monologues in preparation for a college or professional portfolio.

***MUSICAL THEATRE AND STAGE MOVEMENT**

.5 CREDIT

In Musical Theater and Stage Movement students learn the history of the musical theater in the United States as well as the development in Europe. Students explore the musical theater in changing times and the influence that society and culture have on musical theater and vice versa. This class is also designed to give students a basic understanding of stage movement and dance as well as singing while dancing. Students also learn the great authors and composers of the early days of musical theater from Rodgers and Hammerstein to Cole Porter, Sondheim, and Andrew Lloyd Webber, and learn to appreciate the great dances by Astair and Fosse. Come prepared to move and have fun while learning!

***ACTING / SCREENPLAY FOR THE CAMERA**

.25 CREDIT

Acting/Screenplay for the Camera is a foundational class offered for the student who may be interested in how to act or write for film or commercials. This course is meant for sophomores, juniors and seniors. Foundations is a pre-requisite for this class and is offered one term every other year. Students explore and understand the basics of headshots, midshots, full body takes with the camera, and scope the meaning of different camera shots and how they influence the viewer and enhance the storytelling process. Students also explore the basics of the screenplay and how the writing influences every aspect of what the camera sees. The class is given the opportunity to either act or write for a small short film, and produce it.

PHOTOGRAPHY & DIGITAL MEDIA COURSES

VISUAL LITERACY

.25 CREDIT

This class examines three areas of visual communication: 1) fundamental design principles and visual literacy; 2) basic skills in a variety of communications media; 3) critical media studies of our modern media environment and culture. Through a series of assignments, the class examines and practices a range of principles for good visual communication. These principles are studied and applied during the process of learning different multi-media presentation modes. These include Power Point or other types of “slide shows,” web pages, video, and other media. The class also engages in critical evaluation of the role of media in our modern environment. Students read and discuss a wide range of texts and write at least one short paper examining the role of media in our society.

***DARKROOM PHOTOGRAPHY (previously Beginning Photography) .5 CREDIT**

Prerequisite: Visual Literacy

In Darkroom Photography students gain a thorough understanding of camera mechanics, 35mm black & white film developing, and black & white printing. The history of photography is briefly covered, mostly in context of the innovations necessary for the invention of the modern process of photography. Students complete a series of assignments that explore fundamental characteristics of camera vision as an art form. Emphasis is placed on creating the best possible image quality.

***ADVANCED PHOTOGRAPHY – DARKROOM**

.25 CREDIT

Prerequisite: Visual Literacy & Darkroom Photography (or Beginning Photography)

Advanced Photography introduces students to a wide range of alternative photographic processes. Students work on individual projects emphasizing a particular style, subject, or genre they wish to explore. Past techniques have included color photography, non-silver hand-made emulsions, black & white transparencies, photographic stained glass, large-format black & white photography, photographs on fabric, photographic objects, and photograms. Each student prepares a research paper on a significant photographer’s work and photographic processes.

***ADVANCED PHOTOGRAPHY – DIGITAL**

.25 CREDIT

Prerequisite: Visual Literacy & Darkroom Photography (or Beginning Photography)

Advanced Photography – Digital introduces students to the many new methods available to a modern digitally-based photographer. Students work in depth in Adobe Photoshop and explore some of the many ways the digital revolution has expanded the range of what a photograph can capture and express. Some advanced techniques covered include color management, sharpening methods, high dynamic range, time-lapse and stop-motion work, and panoramic imaging. Students research contemporary photographers and their methods.

***GRAPHIC DESIGN – DRAWING**

.25 CREDIT

Prerequisite: Visual Literacy

Graphic Design introduces students to one of the more challenging software programs – Adobe Illustrator. Fundamental concepts include the difference between drawing (vector-based) programs and painting (bitmap-based) programs, and the role of vectors in much

design and animation work. Font design and usage are also examined, and each student creates his or her own font. Basic design fundamentals are introduced and practiced, including Contrast, Repetition, Alignment, and Proximity. Each student interviews a working graphic design professional, and makes an oral and written presentation to the class. The class also makes field visits to observe different elements of the graphic design industry first-hand.

***GRAPHIC DESIGN – PAINTING**

.25 CREDIT

Prerequisite: Visual Literacy

This class works exclusively with the continuous-tone photographic imagery associated with pixel-based image design. In Adobe Photoshop, the class explores many basic forms of image editing and manipulation. Layers, blending modes, filters, image correction, image resolution, file formats and animation are also covered. Basic design fundamentals are introduced and practiced, including Contrast, Repetition, Alignment, and Proximity. Each student must interview a working graphic design professional, and make an oral and written presentation to the class. The class also makes field visits to observe different elements of the graphic design industry on site.

***HANDS-ON HISTORY OF PHOTOGRAPHY**

.25 CREDIT

Prerequisite: Visual Literacy

In this class we explore the story of the invention and refinement of one of the most magical, powerful and dominant forms of communication in human history. Utilizing hands-on experiments and assignments, the class explores a series of pivotal moments in the history of photography by using the different technologies that defined them. Using small, medium and gigantic cameras the class covers many influential media from the 19th and 20th Centuries. Some processes could include Daguerreotype, Cyanotype, Salted Paper, Collodion Wet Plates, Albumen papers, tin types, large-format press cameras, 35mm cameras, microfilm, and, perhaps, digital cameras. Discussions and research consider not only technical, but also more fundamental questions concerning the limitations and the strengths of different photographic processes, as well as how their characteristics affected how our world was seen, recorded and experienced.

YEARBOOK

.25 CREDIT

Prerequisite: Visual Literacy

The Yearbook class is responsible for creating each year's edition of *Et Après*, the CSS yearbook. The class begins by brainstorming possible ideas for yearbook pages and concepts. Each student chooses his or her assignment via a lottery system. Students are responsible for initiating, organizing, and photographing assignments using their own or the school's digital cameras. All pages are created using Photoshop, with which students become familiar. Finally, each student must sell 1-2 pages of advertisements to help offset the printing cost of the publication.

***VIDEO PRODUCTION – BEYOND iMOVIE**

.25 CREDIT

Prerequisite: Visual Literacy

Students learn the fundamentals of independent digital video (DV) production, including simple steps to dramatically improve camerawork, sound, lighting and editing. The class learns and explores Final Cut Pro, Apple's professional video editing software. Students work on small groups projects as well as on portions of the end-of-year Upper School video. Individual video cameras are not required, but are helpful.

MUSIC COURSES

BAND

1 CREDIT

This course places emphasis on the student's continual skill development with his/her chosen instrument. The focus of study is on a wide range of music literature that includes (but is not limited to) classical, jazz, and pop. Students gain greater control of instrumental fundamentals, basic musicianship, music reading, intonation, development of style, and teamwork. Students participate in the concerts given throughout the year (including BFL Band Day, the CSS Spring Concert and at the School's Graduation Ceremony) and may participate in Solo & Ensemble and Large Group Adjudicated Events.

CHOIR

1 CREDIT

Drawing on repertoire from diverse traditions, including Western classical music, world folk music, and jazz, this course explores the art of ensemble singing. This course is open to all students in grades 9-12. Although some background in music is helpful, prior experience or training is not required. There is no audition.

MUSIC APPRECIATION

.5 CREDIT

This course is offered to the student who is interested in becoming a better listener and who wants to broaden his/her knowledge of various kinds of music, including, but not limited to, choral, instrumental, jazz, musicals, gospel, ethnic, and cultural. Through listening and class projects students are given a chance to acquire new tastes and appreciation of music.

FOREIGN LANGUAGE DEPARTMENT

(* Indicates an elective course offered on a rotating basis)

FRENCH COURSES

FRENCH I

1 CREDIT

French I introduces basic language structure and the fundamentals of written usage and conversation. The development of language acquisition and speaking skills is emphasized. Students learn to be descriptive and begin to learn language construction and grammar. Dialogue reading, writing, speaking and comprehension are stressed as the course progresses. Students work on written and oral presentations throughout the year.

FRENCH II

1 CREDIT

French II fosters fluency in listening and speaking, reinforces the basic structural patterns learned in French I, enhances writing and reading skills, and arouses awareness and understanding of cultural differences. Students continue to accumulate new vocabulary and begin to use idiomatic phrases and are expected to use French in all class discussions and activities.

FRENCH III**1 CREDIT**

French III builds the student's proficiency in French listening, speaking, and writing skills on an increasingly sophisticated level. Discussion topics revolve around articles, literary excerpts and the novel written by Antoine St. Exupéry, *Le Petit Prince*. By the completion of this course students will have been exposed to the majority of the grammatical concepts and a large selection of vocabulary.

FRENCH IV**1 CREDIT**

French IV is a simultaneous study in French of the history and the literature of France. Each chapter in the text depicts an era in French history and supplements the historical perspective with literary selections appropriate to that era. In addition, students review the major grammatical concepts learned in French I-III. Writing skills, in particular, are stressed.

***FRENCH V/ADVANCED PLACEMENT FRENCH LANGUAGE 1 CREDIT**

Prerequisites: French 3; Grade of B or higher in French classes; Teacher recommendation. AP French Language is an advanced level course in which students hone their French language skills. The course focuses mainly on the structure of the French language and the way it is used in formal, informal, and idiomatic situations. Students strive for fluency in their reading, writing, listening and speaking skills. The course is equivalent to an advanced second year college grammar course. Students who successfully challenge the AP exam may receive credit from the college or university that they attend.

SPANISH COURSES**SPANISH I****1 CREDIT**

Spanish I introduces basic language structure, Hispanic culture, fundamentals of usage, and conversation. The development of language acquisition in the context of culture is emphasized. Students acquire a wide range of useful vocabulary words, as well as study basic grammatical and structural patterns.

SPANISH II**1 CREDIT**

Prerequisite: Spanish I or Intermediate and Advanced Spanish at the Middle School. Spanish II fosters fluency in listening and speaking, reinforces basic structural patterns in the language, develops writing and reading skills, and increases awareness and appreciation of cultural differences. Students are expected to use Spanish in all class discussions and activities.

SPANISH III**1 CREDIT**

Spanish III hones communication skills in all areas of language acquisition: listening, speaking, reading and writing. New grammatical structures are introduced and emphasized in context. Vocabulary is expanded, and conversational ability improves.

SPANISH IV – GRAMMAR AND COMPOSITION**1 CREDIT**

Grammar and Composition is a year-long course, which reviews and reinforces all four skills of language acquisition. Complex verb tenses are utilized and practiced on a regular basis in writing and speaking exercises. Mastery of Spanish I - III concepts is expected.

***SPANISH V/ADVANCED PLACEMENT SPANISH LANGUAGE 1 CREDIT**

Prerequisite: Spanish III or IV; Teacher recommendation

AP Spanish Language is a year-long course, which reviews and reinforces all four skills of language acquisition. Mastery of Spanish I- III concepts is expected. Occasional cultural, political or current event projects are assigned. Students who successfully challenge the AP exam may receive credit from the college or university that they attend.

***SPANISH LITERATURE AND COMPOSITON 1 CREDIT**

Prerequisite: Fluency in Spanish and teacher recommendation

This course is designed for very advanced students who would like to explore, study, analyze, and expand their vocabulary by reading short stories, essays, poems, articles, and books from variety of sources from Latina American and Spanish Literature.

HISTORY DEPARTMENT

(* Indicates an elective course offered on a rotating basis)

HISTORY, GOVERNMENT, HUMANITIES, AND ECONOMICS COURSES

GLOBAL STUDIES (GRADE 9) 1 CREDIT

Global Studies is a two-part survey course that focuses on understanding, analysis, and comparisons of the people and institutions of the world from both historical and ethical perspectives. Emphasis is placed on themes regarding change, conflict, socio-economic development, religion, and culture. The course material is supplemented by primary sources to allow students to benefit from hearing how people in previous times have defined themselves and defined the world around them. In the course of the first semester, students get acquainted with historical events starting with the fall of the Roman Empire, whereas the second semester is dedicated to learning about modern history in the light of ethical dilemmas that have affected its course.

WESTERN CIVILIZATIONS (GRADE 10) 1 CREDIT

Emphasis is on the general narrative of European history from 1450 to the present. Thematic emphasis is placed on the intellectual, cultural, and socio-economic history of Europe. Reading a diverse selection of primary source materials allows the students to confront difficult issues directly and encourages the development of critical thinking skills. Students are required to do more than master chronology; they are required to interpret, critique and analyze history. Advance placement preparation skills such as document-based essay writing and exposure to primary sources are emphasized as methods of assessment.

UNITED STATES HISTORY / GEOGRAPHY (GRADE 11) 1 CREDIT

United States History / Geography is a narrative course that focuses on understanding, analysis, and comparisons of the people and institutions of the United States from 1400 to the present. Emphasis is on the themes of change, conflict, and socio-economic development in the United States. The course material is supplemented by primary sources to allow students to benefit from hearing how people in previous times have defined themselves and the world around them.

ADVANCED PLACEMENT US HISTORY**1 CREDIT**

Prerequisite: Completion of Global Studies and Western Civilizations; Teacher recommendation

AP United States History is designed to provide students with a college-level course in United States History. This course is intended to offer the student a college-level curriculum in the high school environment. Students enrolled in AP History will experience an intensive preparation in critical and evaluative analytical skills, essay writing, and communication. AP US History focuses on understanding, analysis, and comparisons of the people, institutions, and themes of United States History. The course material is extensively supplemented by primary sources to allow students to benefit from hearing how people in previous times have defined themselves and the world around them. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

INTRODUCTION TO HISTORY OF PHILOSOPHY*.5 CREDIT**

This course introduces students to the tradition of western political thought from the time of Socrates and Plato to such modern thinkers as Fukuyama and Oakeshott. Students are expected to go beyond the conventional wisdoms of our time into the historical depth of various philosophical ideas to challenge and expand their critical and analytical skills. Special attention is paid to the continuity of philosophical development over time, and its impact on modern political and social reality. Critical reading and writing are essential for this class. Students are required to deeply investigate primary sources and to render their original ideas coherently and logically in written form.

COMPARATIVE GOV'T AND POLITICS/AP COMPARATIVE GOV'T AND POLITICS*.5 CREDIT**

This course is a college level introduction to the field of Political Science. It covers topics that are extremely pertinent to the current state of world affairs. The focus is on England, Mexico, Iran, China, Russia and Nigeria and will examine for each: political institutions, international relations, Economic issues, Societal and Cultural issues, and public policy. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

ETHICS*.5 CREDIT**

This junior- and senior-level elective addresses various moral dilemmas through the study of great literary works. While analyzing a wide range of primary sources, students experience the complexity of ethical values. The course presents students with numerous opportunities to expand their horizons and deepen their philosophical awareness. At the end of the course, students create their personal value systems and write individual ethical codes. Students are expected to look below the surface of socially accepted values to investigate the forces that took part in their formation and to seek reasons for their existence. Advanced placement skills, such as extensive writing and active critical reading of primary sources from various times and cultures, are practiced as methods of assessment.

INTRODUCTION TO PSYCHOLOGY*.5 CREDIT**

This course examines some of the most influential theorists in the field of psychology. Beginning at the start of the 20th century, the course considers psychoanalysis through Freud's theory of personality development, as well as through the works of Carl Jung and

Erik Erikson. From there the course moves to Behaviorism and conditioning through the work of B.F. Skinner and his descendants in the field. Then theories of social, moral and gender development are considered. Moving into the Twenty-first century, the course examines the rapidly expanding field of neuroscience and its impact on our understanding of psychology. Finally, a large portion of time is spent in the field of social psychology, studying conformity, persuasion, aggression, and attraction.

***MODERN AFRICAN STUDIES**

1 CREDIT

This history course focuses on the narrative of African history from the start of European Colonialism and the scramble for Africa in the late Nineteenth century up until the modern era. We will also do a brief introduction of Pre-colonial African history, examining the great states and stateless societies of Africa from the Third to Eighteenth century. Special attention is paid to the following themes: oral history and folk tales, African Independence movements, development studies, conflict and genocide, and other contemporary challenges that are faced in Africa today.

MICROECONOMICS

.5 CREDIT

This course is a study of how individuals and firms make economic decisions. Demand and supply analysis is developed to analyze how market prices are determined, how an economy allocates productive resources, and how goods and services are distributed throughout the economy. Economic decision-makers are evaluated through the concepts of efficiency and equity. In addition, the effects of governmental intervention and the provision of public goods are examined. This is an interdisciplinary course that requires analytical thinking using the tools of graphs and mathematics, combined with reading and writing on economic conditions and public policy.

ADVANCED PLACEMENT MICROECONOMICS

.5 CREDIT

Prerequisite: Senior; Minimum of B in FST; Consent of instructor; Exceptions are considered for the student who has an exceptional interest/knowledge in a similar subject (for example, political science)

This course covers the same content as Microeconomics but prepares students for the AP Exam. General expectations for student performance are higher and this course requires additional homework. Students who successfully challenge the AP exam may receive credit from the college or university that they attend.

MACROECONOMICS

.5 CREDIT

In contrast to microeconomics, macroeconomics focuses on how economic decisions impact the economy as a whole. Fundamental to this course is the impact fiscal and monetary policy has on aggregate measures such as employment, price stability, and economic growth. Competing theories and models are evaluated through readings and gathering historical data. Among the diverse topics covered in this course are: the Federal Reserve, inflation, Classical and Keynesian viewpoints, and the business cycle. This course helps students develop an ability to present well-reasoned, logical arguments.

ADVANCED PLACEMENT MACROECONOMICS

.5 CREDIT

Prerequisites: Senior; Minimum of B for semesters in FST; Consent of instructor; Exceptions are considered for the student who has an exceptional interest/knowledge in a similar subject (for example, political science)

This course covers the same content as Macroeconomics but prepares students for the AP Exam. General expectations for student performance are higher and this course requires additional homework. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

MATHEMATICS DEPARTMENT

(* Indicates an elective course offered on a rotating basis)

ALGEBRA 1

1 CREDIT

Algebra introduces students to the use of variables in order to solve problems. This course is wider in scope than many algebra courses because it teaches various functions by way of statistics, probability, and geometry. Current technology and hands-on activities allow the student to focus on problem-solving skills and strategies. Learning and explaining mathematics through reading, writing, and speaking to others is essential to success in the course.

GEOMETRY

1 CREDIT

Geometry emphasizes the study of shapes and solids in order to discover underlying patterns found throughout mathematics. Properties of polygons and circles are investigated, and the concepts of congruency and similarity are established, mainly by studying transformations (translations, reflections, rotations, and enlargements) of these figures. Students are also introduced to a much more rigorous use of logic than in previous math courses. Beginning with a few undefined terms and postulates, a large number of theorems are proven. Algebra skills are reinforced throughout the course, with the calculations of angles, areas of plane figures, and volumes of three-dimensional objects.

ALGEBRA 2

1 CREDIT

Prerequisites: Algebra 1 and Geometry

Algebra 2 incorporates virtually all of the areas of mathematics studied in previous courses, including geometry and fundamental mathematical calculations. Students develop stronger and more advanced skills in the manipulation of variables in formulas, solving equations, graphing, and finding mathematical models that approximate real-world data. A variety of functional forms are studied, including linear, exponential, quadratic, and trigonometric. Among the applications using these functional forms are direct and inverse variation, exponential growth and decay, and parabolic motion. These traditional topics are supplemented with units on matrices, conic sections, roots and powers, solving systems of equations, and logarithms.

FUNCTIONS, STATISTICS, AND TRIGONOMETRY (FST)

1 CREDIT

Prerequisite: Algebra 2

This course integrates functions with data analysis and probability. Technology such as the TI-83 calculator and computer are used more extensively than in any prior mathematics

course. By working with different types of data, students enhance their understanding of regression analysis and functional form. Topics that are emphasized in this course include trigonometry, logarithms, and circular functions. In addition, the interesting and challenging topic of probability and simulation is explored extensively. Virtually all major strands of mathematics are found throughout this course.

PRECALCULUS AND DISCRETE MATHEMATICS **1 CREDIT**

Prerequisites: Functions, Statistics, and Geometry; Teacher recommendation

The content of this course gives students a broad foundation of all mathematics needed for calculus. Precocious topics include advanced properties of functions, polar coordinates, complex numbers, and introductions to the derivative and integral. Complementing these topics are several areas of discrete mathematics, such as vectors, graphs, recursion, induction, and combinatorics. While many of these topics are studied in detail for the first time (e.g. the formalization of logic), other topics extend their understanding of material in prior courses (e.g. trigonometry). Mathematical thinking and formal logic are skills that are regularly developed and tested throughout this course.

ADVANCED PLACEMENT CALCULUS AB OR BC **1 CREDIT**

Prerequisite: Senior; B or better in Pre-calculus (both semesters); Consent of instructor.

AP Calculus AB or BC focuses on the mathematics of changing quantities, developing the concepts of limits and continuity, and proceeds through differentiation and integration of transcendental functions students have studied up to this point. Students do not learn new functions; rather students acquire the skills of differential and integral calculus to give the familiar functions new breadth and an essential tool to this end. Students take the AB or BC level Calculus Advanced Placement exam in May. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

STATISTICS/ ADVANCED PLACEMENT STATISTICS **1 CREDIT**

Statistics includes an in-depth study of the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students examine four broad conceptual themes: exploratory analysis of data, sampling and experimentation, anticipating patterns and statistical inference. In the first section of this course students construct and interpret graphical displays, summarize and compare univariate data, compare distributions and are introduced to statistical techniques involving categorical data. The second portion of the course requires the study of planning and conducting a study. Among the areas studied are census data, surveys, and random sampling. Interpreting probability from a sampling distribution leads to the study of the t-distribution and Chi-square distribution. The course finishes with students studying statistical inference. This section of the course examines testing hypotheses, estimating parameters and confidence intervals. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

SCIENCE DEPARTMENT

(* Indicates an elective course offered on a rotating basis)

BIOLOGY**1 CREDIT**

The course is approached from an ecological perspective, beginning with large-scale, easily observed phenomena such as interactions of organisms, structure of communities, population size and density, and the biotic and abiotic components of ecosystems. The first half of the course progressively drops to the cellular and macromolecular level. During the first term, the course pursues biological continuity in terms of ecosystems, populations, reproduction, cell division, genetics, heredity, and evolution. It is here that the student learns cellular ultrastructure and biochemical processes such as photosynthesis and cellular respiration, and the structure, properties, and activity of the four classes of macromolecules (carbohydrates, lipids, proteins, and nucleic acids). In the second term, the course covers two broad areas: human biology and the processes relating to the history of life. The former focuses on studies of the circulatory, immune, and digestive systems, and includes dissections of invertebrate and vertebrate specimens. The latter includes evolutionary processes (speciation, biogeography, extinction, and the paleontological record), lower and higher classification, and the six kingdoms. As time permits, evolutionary features of primitive and advanced plant groups are compared and contrasted.

ADVANCED PLACEMENT BIOLOGY*1 CREDIT**

Prerequisites: Biology and Chemistry

Advanced Placement Biology follows the syllabus written by the College Board. Twenty-five percent of the course involves a review of chemistry, the nature of water, classes of macromolecules, and cell structure and function. Another 25% of the course covers heredity and evolution, including molecular genetics and the effects of mutation on macroevolution. The remaining 50% of the course, lumped under ecology, involves organisms, populations, reproduction, development, anatomy, behavior, and classification. Laboratory exercises teach experimental design and technique and provide enhancements to specific concepts. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

CHEMISTRY**1 CREDIT**

Chemistry focuses on lab-oriented studies where students gather experimental results in an effort to discover regularities that lead to an understanding of the chemical properties of matter and the chemical changes that occur in the composition of matter. Readings and class discussion supplement laboratory work and help develop a detailed descriptive and quantitative understanding of the physical and chemical properties of matter, atomic structure, and chemical reactions.

ADVANCED CHEMISTRY*1 CREDIT**

Prerequisite: Chemistry

Advanced Chemistry involves the study of most of the concepts taught in introductory college chemistry, including the necessary mathematics, but without the pressure of teaching specifically to the Advanced Placement Exam. The AP Exam can be challenged if the student is deemed capable of handling it at a grade of 3 or higher as measured by practice exams. The first semester of Advanced Chemistry addresses a quick review of Chemistry, which is a prerequisite course. Thermochemistry (including heat capacity, specific heat, Hess's Law, and enthalpy of formation) is studied, followed by nuclear chemistry, the chemistry of bonds and bonding, intermolecular forces, and the physics of phase changes. In the second semester,

students study chemical kinetics, chemical equilibria, acids and bases, solubility and precipitation, entropy and freeenergy, and electrochemistry. The final exam is a combination of text-oriented questions and AP exam questions from previous years. Students who successfully challenge the AP exam may receive credit from a college or university that they attend.

PHYSICS

1 CREDIT

Prerequisite: Biology, Chemistry, and Precalculus

Physics starts by covering the basic concepts of motion as a precursor to Newton's laws. After an intensive study of Newton's laws, the conservation laws of linear momentum, energy, and angular momentum are developed in light of Newton's laws. Once the study of Newtonian physics is completed, attention turns to the four fundamental forces of nature. The force laws of gravity and electricity/magnetism are studied in conceptual and mathematical detail, all the while invoking Newton's laws for justification and clarification. The strong nuclear force and the weak nuclear force are studied conceptually, with an understanding and appreciation of the central role of Newton's laws.

***ANATOMY AND PHYSIOLOGY**

.5 CREDIT

Prerequisite: Biology and Chemistry

This course takes students on an in-depth tour of human form and function. Students study the major systems of the body, such as nervous, muscular, skeletal, digestive, reproductive, endocrine, cardiovascular and how they are interrelated. All topics in the course are studied in conjunction with current events and ethical issues in the news. Students have an opportunity to meet with physicians and travel outside the classroom to witness anatomy and physiology procedures. Lab opportunities to augment class work are a part of the course, including a mammal dissection and blood typing.

***BOTANY**

.5 CREDIT

Prerequisite: Biology and Chemistry

Botany is taught as a 45-minute course for one semester. The course considers Botany from many perspectives, from cellular ultrastructure to economics and illustration. Physiology, anatomy, evolutionary trends, genetics, and the cultural uses of plants are studied. Students learn to identify, collect, preserve, illustrate, and use plants. A portion of the course is directed at helping students relate to the plant world on a daily basis, appreciating garden flowers, landscape architecture, and agriculture.

***EARTH, AIR, FIRE AND WATER**

.5 CREDIT

Prerequisite: Biology and Chemistry

This course connects multiple scientific disciplines and hits many of the state and national science education benchmarks that many students miss by taking specific, focused electives such as astronomy or botany. This course is a challenging and useful elective for non-science majors, and it utilizes the expertise of two CSS science teachers – one term each.

***AP ENVIRONMENTAL SCIENCE**

1 CREDIT

Prerequisite: Biology, Chemistry, and teacher recommendation

Advanced Placement Environmental Science considers the environment in which humans live, discovering what makes our habitat suitable and sustainable as well as what makes it

unhealthy and deteriorating. The course is roughly broken into parts as follows. About 25% of the content considers the interdependence of Earth's systems; about 10% covers population dynamics especially involving human populations; about 15% covers renewable and nonrenewable resources; about 20% covers environmental quality and effects of pollutants; about 20% covers global changes in the atmosphere, oceans, and among animals; and about 10% covers the environment in relation to decision making, laws, and ethics. Numerous labs are conducted to gather and analyze data. Students taking this course may challenge the AP test in May. Students who earn a 4 or a 5 on the AP exam may receive credit from the college or university that they attend.

***GEOLOGY**

.5 CREDIT

Prerequisite: Biology and Chemistry

Geology deals with earth materials and processes. The course begins with the chemistry and identification of minerals and the main rock types. This section also includes sidelights on precious and semiprecious gemstones, their occurrence, and the physical features that make them valuable. The course then takes up the processes by which the main rock types are made. This includes units on volcanism, metamorphism, and sedimentation. Geomorphology naturally follows, as most earth forms result from movement and metamorphism of the earth's crust. Tectonic theory is introduced to explain patterns of geologic features. The course ends with units on erosional agents such as wind, water, and ice, and the landforms associated with these processes. Students are taught to use topographic maps, and local geologic sheets are used for reference in the field. This course is highly visual, involves a number of regional field trips (students sometimes get dirty!), and includes some of the most practical and useful pieces of science that most students encounter at the high school level.

***MOLECULAR SCIENCE**

.5 CREDIT

Prerequisite: Biology and Chemistry

Molecular Science is a biology course dealing with many of the most hotly debated topics in the public arena today. Cloning, stem cells, gene therapy and recombinant organisms are all topics that are treated in the course. Background topics covered include: cellular processes, membrane functions, restriction enzymes, Mendelian principles of inheritance, chromosomal aberrations, genetic disorders, the molecular basis of genetics, genetic manipulation, monoclonal antibody preparation, and developmental biology. Pedigree analysis and probability calculations are applied to simulated and actual data. Laboratory exercises include enzyme digests, genetic manipulation, bacterial transformation, human DNA fingerprinting, and the raising and crossing of *Drosophila* (fruit flies).

GREAT IDEAS IN SCIENCE

.5 CREDIT

Prerequisite: Biology and Chemistry

Great Ideas in Science is a course designed for students who are not science-oriented thinkers. The course addresses historically important advances in science, but without the expectation of deep technical background. It is a course rich in activity-based exercises, and includes experiments and investigations from the perspective of the artist as well as the scientist. Students should be prepared for active, hands-on exploration of concepts, and should expect to participate in the designs of experiments, and to create reports, models, and displays using their greatest strengths. The subject matter of the course ranges from astronomy and physical science to biology and the environment. In each exploration, the process of science is stressed equally with the subjects addressed.

