

Christian Brothers Academy Course Descriptions 2015

All courses described maintain the sequence of subjects recommended by the N.J. State Department of Education, affording the student the widest possible selection and the ability to meet college admission requirements.

Course Levels

Standard	This indicates a course suitable for the majority of students. Indicated by an S in the last place of the course code.
Honors	This indicates a course for students who have demonstrated extraordinary proficiency and interest in the subject area. Indicated by an H in the last place of the course code
Accelerated	This indicates a course in which more than the usual one year syllabus is covered. Indicated by an A in the last place of the course code.
Advanced Placement	This indicates a course that is college level and follows the AP syllabus Indicated by an A in the last place of the course code.

Please note: Courses that meet fewer than four times in the six-day cycle are denoted by a three-place course code.

Graduation Requirements

Service Program	4 years	English	4 years
Religion	4 years	World Languages	3 years
History	3 years	Physical Education	3 years
Health	3 years	Science	3 years
Mathematics	3 years	Computer Science	2 years

Credits

Each credit represents 40 minutes of class time per week. A course carrying, for example, 5 credits would meet for 200 minutes each week (5 credits is equivalent to 1 unit).

Course Load

All students must carry a course load of at least 30 credits each year (36 class periods/semester).

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The Service Program

Each student is required to perform a total of 50 hours of volunteer service to the community before graduation. Credit will be awarded for the successful completion of each phase of the program. A grade of either P (Pass) or INC (Incomplete) will be assigned each year and will appear on Report Cards and Transcripts.

(010) Freshman Service 0.4 credits

Each Freshman is required to perform 10 hours of service to the community.

(020) Sophomore Service 0.6 credits

Each Sophomore is required to perform 15 hours of service to the community.

(030) Junior Service 0.6 credits

Each Junior is required to perform 15 hours of service to the community.

(040) Senior Service 0.4 credits

Each Senior is required to perform 10 hours of service to the community.

The Scholars Program

The Scholars Program is open to select Juniors and Seniors and permits them to explore advanced topics and research beyond the parameters of the traditional classroom. During junior year, the scholars will undertake an intensive interdisciplinary seminar designed to enrich their knowledge of a particular historical era and will include presentations by CBA faculty and recognized outside authorities in their fields. During senior year, the scholars will develop an independent project that permits them to explore, in-depth, areas of individual interest under the direction of a personal mentor who may be from the CBA faculty or the private sector. The program may conclude with a directed trip during Spring of senior year. The program will allow the selected students to pursue and demonstrate scholarly study and research on a university level and enhance their profile for the college admission process. Successful completion of the Scholars Program will be noted on transcripts and at graduation.

(930A) Junior Scholars Program 5.0 credits

Accelerated

(940A) Senior Scholars Program 5.0 credits

Accelerated

Religious Studies Department

(010S) Revelation-Christology 5.0 credits

Standard

Semester 1: Revelation

The purpose of this course is to give students a general knowledge and appreciation of the Sacred Scriptures. Through their study of the Bible, they will come to encounter the living Word of God, Jesus Christ. In the course they will learn about the Bible, authored by God through Inspiration, and its value to people throughout the world. If they have not been taught this earlier, they will learn how to read the Bible and will become familiar with the major sections of the Bible and the books included in each section. The students will pay particular attention to the Gospels, where they may grow to know and love Jesus Christ more personally.

Semester 2: Christology

The purpose of this course is to introduce students to the mystery of Jesus Christ, the living Word of God, the Second Person of the Blessed Trinity. In this course students will understand that Jesus Christ is the ultimate Revelation to us from God. In learning about who He is, the students will also learn who He calls them to be.

(020S) The Paschal Mystery/Church 5.0 credits

Standard

The primary text, *The Paschal Mystery*, focuses on the spiritual life of the individual as a member of the Body of Christ. Also, the course will serve as a precursor to semester two by discussing the sacraments, saints, and the mysteries of the Church made present through signs and symbols. Additionally, this one-semester course expands the student's understanding of prayer and his relationship with God. This course examines our relationship with self, others, and God. Its primary aim is to facilitate each student's spiritual growth toward maturity in Christ. The approach is both theoretical and experiential. Students are afforded opportunities to read from a handful of spiritual classics and experiment with a variety of prayer forms, and they are encouraged to write reflectively about their experiences. Ultimately, it leads into the second semester and the focus on morality, church history and liturgy.

The primary text, *The Church*, connects the spiritual and the physical through the explanation of liturgical celebrations and the use of Church as a moral lens to the world. Students will be able to better grasp the meaning behind liturgical celebrations, martyrology, Church hierarchy, and the fundamental beliefs of a unified Church in a pluralistic world. This one-semester course also serves as a general introduction to key principles and themes in Christian morality. It aims to help students recognize and accept that the moral life involves a personal commitment to ongoing conversion to Christian values. It includes guidance in the process of conscience formation and examination of the challenges inherent in living a Christian life. Additionally, we will discuss the parable of The Prodigal Son in great detail and its moral implications for believers in a world of hurt and sin. Ultimately, the goal of the sophomore-year course is to foster and encourage an appreciation of the beauty and mystery of the faith. The course follows the LaSallian tradition of teaching the whole person: touching both the mind and the heart in the formation of "Christian gentlemen."

(020H) The Paschal Mystery/Church 5.0 credits

Honors

The first semester of the course focuses on The Paschal Mystery and how this tremendous mystery has helped found an institution that has lasted over two millennia. It aims to help students recognize that the moral life involves an ongoing commitment and attempt to live out Christ's mission in our daily lives and that this commitment adds meaning to their very existence. It includes guidance in the process of conscience formation and how we as Christians can keep Christ alive to our self, others, and in the Church of today. Ultimately, we will focus on how the truth of The Paschal Mystery will impact the way we live our lives and how our lives will impact the world around us.

The second semester of this course will be spent expanding the student's relationship and knowledge of the Catholic Church as an institution and the spirit of its theology. Its primary aim is to facilitate each student's spiritual growth toward maturity in Christ through the liturgical life of the Church. The course examines our relationship with self, others, and God through the lens of Church life. The hope for the first semester is that each student is afforded the opportunity to gain a greater understanding of the liturgical life of the Church and how important their role is as the laity. All students are encouraged to write reflectively about their experiences and be involved in a dialogue with both teacher and other students.

(030S) Scripture-Sacraments 5.0 credits

Standard

During first semester, students will study Sacred Scripture and will learn basic principles for understanding and interpreting the Bible with special attention to Scripture's purpose and religious significance, the sense of the unity of the narrative for the divine plan of salvation, and the presence of God's action in this record of Revelation.

During second semester, students will study Sacraments and will learn to encounter Christ today in a full and real way in and through the sacraments, and especially through the Eucharist. Students will examine each of the sacraments in detail to learn how they may encounter Christ throughout life.

(030H) Scripture-Sacraments 5.0 credits

Honors

The first semester is devoted to an extensive study of the Sacred Scriptures. The course is designed to guide the student of the Bible through the text and its development, and enrich his understanding of the way the Bible came to be written. The first marking period is devoted to the Hebrew Scriptures. Here the student is introduced to contemporary biblical scholarship, including the use of the historical-critical method. The second marking period is devoted to the Christian Testament, with an emphasis on the Gospels. Readings are taken from college-level texts that offer the latest scholarship in Biblical studies (as learned in the first marking period).

The second semester is devoted to an extensive study of the Sacraments in the Catholic Church. The course will incorporate current readings in Ritual Studies and sacramental theology that see the sacraments as doors to the sacred. The course is designed to guide the students to an historical understanding of the sacraments. Readings will focus on the importance of rituals, how the sacraments developed as rituals in the early church, and how the Church adapted these sacraments to changing

historical circumstances while preserving their innate religious meaning. A particular emphasis will be placed on the sacraments of initiation in the Church. Readings are taken from college-level texts that offer the latest scholarship in sacramental theology.

(040S) Dimensions of Catholic Life 5.0 credits

Standard

This two-semester course affords the student the opportunity to explore in greater depth the history and central beliefs of the church (first semester) and Catholic personal morality and social justice (second semester). The students are invited to come to a deeper understanding of how these various dimensions of the Catholic faith relate to their own lives. In the second semester, students examine how the Church's social teachings impact the Church's stance on social and political issues. This course serves as both a summary of prior instruction and a preparation for living a Catholic life as adults.

(040H) Theological Inquiry 5.0 credits

Honors

This course is divided into two parts. In the first semester, the course examines Christian theology. It is an opportunity for the student to encounter the great theologians of the Christian tradition, to assess the strengths and weaknesses of theological positions, to develop his own ability to reason theologically, and to engage in verbal and written theological debate. In the second semester, the course deals with Christian theological ethics. In light of Christian theological claims, the course analyzes different types of moral reasoning and examines specific ethical issues.

(041H) Dynamics Of Peer Ministry/The Guru Program 5.0 credits

Honors

The purpose of this course is to help students understand that it is only through Christ that they can fully live out God's plans for their lives. Students are to learn the moral concepts and precepts that govern the lives of Christ's disciples.

Responding to the command of Jesus to "love one another," the seniors in the Peer Ministry Program provide opportunities for the freshmen to compare their values and attitudes with those of the Gospel. Through group dynamics and interpersonal relationships, the program challenges both the freshmen and seniors to grow on a variety of levels. The seniors are prepared to lead weekly meetings with small groups of freshmen. In an attempt to foster personal, social, religious, and relational growth in the freshmen, the seniors utilize a series of group exercises designed to both challenge and affirm the freshmen, with the Peer Minister lending direction and support. The seniors are challenged to be witnesses of faith in their sessions with the freshmen.

(042S) Christian Service Learning 5.0 credits

Standard

This two-semester option acknowledges the potential for learning inherent in volunteer community service. Students commit to serving at the same site on the order of two hours per week. Through required readings, journal-keeping, and group meetings, the volunteer is guided through reflection upon

his service involvement as a manifestation of his Baptismal commitment. The academic coursework marries Christian morality, particularly in light of the Ten Commandments, with social justice, focusing on traditional Catholic concepts such as the Seven Themes of Catholic Social Teaching.

English Department

(110S) English I 5.0 credits

Standard

This course provides a fundamental introduction to the responsibilities of college preparatory English work. Here, teachers stress grammar, basic genres of literature, critical reading skills, development of vocabulary, and writing. Upon completion, students in this course will have completed a comprehensive investigation of the principles of language, communication, and the mechanics of grammar.

(110H) English I-Honors 5.0 credits

Honors

This course introduces a group of carefully selected freshmen to the rigorous demands of the Honors English Program at Christian Brothers Academy. Students will read classic works from the major genres of literature, review crucial aspects of grammar, engage in extensive vocabulary development, and write increasingly more challenging compositions and essays. Personal expression, critical analysis, and research writing will prepare the students for success as they continue to study a high level of English at CBA.

(120S) English II 5.0 credits

Standard

This course covers three basic areas of English education. It emphasizes a literary survey of American literature, including a chronological and philosophical approach that offers insights into the American spirit. The course also presents exercises in expository, descriptive, and argumentative prose, with an introduction to the research essay. In addition, the course presents studies in vocabulary, spelling, and syntax. By the course's end, students should have a clear understanding of the American Spirit, as well as a developing understanding of argumentative writing with the ability to employ proper grammar, style, and vocabulary.

(120H) English II-Honors 5.0 credits

Honors

This course continues the Honors ability tracking into sophomore year. Students in this course will continue their detailed investigation of creative and expository writing, as well as participation in demanding reading and research assignments. These assignments will increase student awareness regarding the interplay between grammar and writing style. Students will take an in-depth look at the chronology, literature, and cultural realities of America. By the course's end, students should have a clear understanding of tenets of the American Spirit, as well as a demonstrative ability to write argumentatively with a focus on proper grammar, style, and vocabulary.

(130S) English III 5.0 credits

Standard

This course covers three basic areas of English education. First, the course surveys thousands of years

of British literature. Second, it emphasizes the fundamental principles of writing through various writing assignments, including a thorough research paper. Third, the course stresses the more complex and demanding areas of grammar, syntax, spelling, vocabulary and speech.

(130H) English III-Honors 5.0 credits

Honors

Structurally, this course differs little from the description outlined in English III; however, the intensity and complexity of the work is such that students enrolled in this course will receive an accelerated rating through their study of the intersection of British history and literature. Students should expect a greater quantity of abstract and analytical literary work. Finally, students will learn advanced writing techniques, through literary analysis and research.

(140S) English IV 5.0 credits

Standard

This course presents three areas of college preparatory English education. First, the course surveys world literature, entailing the study of the major literary and philosophical works throughout the Western tradition. Second, the course presents expository and argumentative writing assignments in the areas of prose and literary analysis. Third, the course stresses competency and creativity in editing, grammar, and other sophisticated linguistic skills. Students are expected to write at the college level by May.

(140A) Advanced Placement English Literature and Composition 5.0 Credits

Advanced Placement

This course offers students a class that not only seeks to analyze some of the most influential classic and current literature ever written, but it offers an intensive preparation for the AP Literature and Composition exam. The core purpose of the class is to prepared students for the AP exam, as well as any college level course that requires critical thought and analysis. (Students are required to take the AP Exam in May.)

(141A) Advanced Placement English Language and Composition 5.0 credits

Advanced Placement

This senior elective is designed to help students become skilled readers of prose written in a variety of rhetorical contexts and to become skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing. All students must take the AP Exam. (Students are required to take the AP Exam in May.)

(141H) Creative Writing 5.0 Credits

Honorshis senior elective is designed to educate students in methods of writing creative fiction, creative non-fiction, and screenwriting. Students are also asked to examine the role of the written word in not

only world culture, but their own lives. The class is centered around the workshop: an entire class period dedicated to each student's individual creative work. The main purpose of the elective is not only to encourage creativity and independent thought, but also to foster a unique and intellectual approach to the spiritual side of the world.

(142S) Creative Media 5.0 credits

Standard

In this class, students will learn how to use various forms of media and technology to most effectively communicate ideas, encourage positive public behavior, promote institutions and places of interest as well as sell products. Collaboration and problem solving will be main focus of class in honing a more diverse skillset for college and the workplace. In addition, students will be encouraged to explore their own ideas and personal interests. Class time will be used primarily for work shopping to plan, create, and evaluate products, but also for teacher-directed activities and student discussion.

(143H) Norse and Anglo Mythology 5.0 credits

Honors

This course will delve into the depths of Tolkien's inspiration for his oeuvre. Although Tolkien's work almost singlehandedly created modern high fantasy or at the very least rejuvenated the genre, he drew on several different resources to create his myth canon. We will explore those Norse and Anglo mythological influences before moving to his own creations.

There will be a massive amount of reading as this is an honors class. You will be expected to write two major papers at the end of each of semester. Along with the massive reading component and the less massive writing component, I have designed a few class trips designed to broaden your knowledge of this topic.

Finally, we will explore Tolkien's hold on popular culture and as such, we will watch *The Hobbit* and *The Lord of the Rings* films as well as interviews with Tolkien and those he influenced.

(144S) Studies in Alternative Narrative 5.0 credits

Standard

This senior elective offers a full-year survey of the development of the motion picture. Students view over thirty full-length films in order to understand the cultural and technical elements of the American and world film industry. They will deepen their knowledge through class discussion, verbal and written analysis, and explanatory readings. At the end of the course, students should consider themselves astute critics of the major motion picture.

(146S) College Writing Workshop 5.0 credits

Standard

This senior elective provides the college-bound student with an additional level of writing instruction, particularly on the elements of composition with hands-on, in-class practice in writing college-level

prose. The student will demonstrate a developed clarity of expression through diagnosis and response to persistent problems in rhetoric.

Mathematics Department

Calculator Requirement

For higher level courses students are encouraged to acquire a TI-84 Plus graphing calculator. The calculator will be used on some tests, quizzes, homework assignments and in-class demonstrations. The use of a calculator will be prohibited on many tests. Teachers use the TI-84 Plus with an overhead projection unit.

(210S)Algebra I 5.0 credits

Standard

This is the standard beginning course in high school mathematics. Topics studied include: an introduction to Algebra, working with real numbers, solving linear equations and word problems, polynomials, factoring, rational expressions and rational equations, systems of linear equations, an introduction to functions, linear inequalities, rational and irrational numbers and quadratic equations.

(210H)Algebra I - Honors 5.0 credits

Honors

This is the standard beginning course in high school mathematics. Topics studied include: an introduction to Algebra, working with real numbers, solving linear equations and word problems, polynomials, factoring, rational expressions and rational equations, systems of linear equations, an introduction to functions, linear inequalities, rational and irrational numbers and quadratic equations. Honors further covers set theory, additional matrix topics, basic probability, more advanced completing the square, and trigonometric ratios.

(220S) Geometry 5.0 credits

Standard

This is the standard high school course in Geometry. General topics include logic and reasoning, angle relationships, parallel and perpendicular lines, congruence and similarity in geometric figures (particularly congruent triangles), circles and their arcs and right triangles. An introduction to three-dimensional geometry will include a discussion of surface area and volume. The three trigonometric ratios will be introduced, as well as applications of trigonometry. Supplementary topics include set operations, number systems, probability, and an introduction to basic statistics.

(220H)Geometry -- Honors 5.0 credits

Honors

This is the standard high school course in Geometry. General topics include logic and reasoning, angle

relationships, parallel and perpendicular lines, congruence and similarity in geometric figures (particularly congruent triangles), circles and their arcs and right triangles. An introduction to three-dimensional geometry will include a discussion of surface area and volume. The six trigonometric ratios will be introduced, as well as applications of trigonometry. Supplementary topics include set operations, number systems, probability, an introduction to basic statistics, quadratic equations, completing the square, graphing a parabola, and SAT preparation.

(220A) Geometry-Algebra II 5.0 credits

Accelerated

An accelerated course combining the content of both Honors Geometry and the Honors Algebra II into a single year. Trigonometry is not covered in this course. Students study trigonometry in the next course Trigonometry/Analysis. This course is intended for the strongest students in mathematics. Enrollment is limited.

(230S) Algebra II-Trigonometry 5.0 credits

Standard

This course includes a review of elementary Algebra. Advanced topics in Algebra and Trigonometry are then studied. Topics include functions and relations, quadratics, matrices, systems of equations and inequalities, linear programming, irrational numbers, conic sections, polynomial, rational, radical, exponential and logarithmic functions, and the six trigonometric functions and their graphs.

(230H) Algebra II-Trigonometry 5.0 credits

Honors

This course includes a review of elementary Algebra. Advanced topics in Algebra and Trigonometry are then studied. Topics include functions and relations, quadratics, matrices, systems of equations and inequalities, linear programming, irrational numbers, conic sections, polynomial, rational, radical, exponential and logarithmic functions, and the six trigonometric functions and their graphs. Additional topics are graphing rational functions, trigonometric identities, trigonometric equations, Pascal's triangle, binomial theorem, probability, sequences, series, systems of three equations, and additional matrix topics.

(230A) Trigonometry-Analysis 5.0 credits

Accelerated

An accelerated course combining the content of both Honors Trigonometry and Pre-Calculus into a single year. This is intended as a sequel to the Accelerated Geometry-Algebra II course and thus enables the strongest students to complete three years of mathematics in two years as a preparation for the Calculus course.

(230) Junior Varsity Math Team 1.0 credit

The J.V. Math team meets once a cycle during which the students compete in the New Jersey State League, Monmouth County Shore League, and the Continental Calculus League. Team members compete against each other in an intramural league. Each year, the Math Team participates in the American Math Competition and the Association of Math Teachers of NJ Contest. These competitions challenge the student's creativity and will also help prepare them for the College Board Subject Tests in Math. It is recommended for the more talented math students, and is taken as a supplement to the regular Math Curriculum. Department approval is required.

(240) Varsity Math Team 1.0 credit

The Varsity Math team meets once a cycle during which the students compete in the New Jersey State League, Monmouth County Shore League, and the Continental Calculus League. Team members compete against each other in an intramural league. Each year, the Math Team participates in the American Math Competition and the Association of Math Teachers of NJ Contest. These competitions challenge the student's creativity and will also help prepare them for the College Board Subject Tests in Math. It is recommended for the more talented math students, and is taken as a supplement to the regular Math Curriculum. Department approval is required.

(240S)Pre-Calculus 5.0 credits

Standard

This course prepares students for the study of Calculus. All major areas covered in Algebra II are reinforced in a greater depth with additional applications aided by the use of calculators. Problems are approached from a variety of perspectives, including graphical, numerical, verbal, and algebraic. The topics require students to exhibit critical thinking skills as they analyze a variety of problems, create functions from a problem situation, and solve optimization problems using those functions. Topics include functions, solving equations and systems of equations, series, sequences, matrices, complex numbers, conic sections, trigonometry and applications of trigonometry, and an introduction to Calculus. Types of functions studied include (but not limited to) linear, quadratic, higher order polynomials, radical, absolute value, rational, trigonometric, inverse trigonometric, exponential, and logarithmic.

(240H)Pre-Calculus - Honors 5.0 credits

Honors

This course prepares students for the study of Calculus. All major areas covered in Algebra II are reinforced in a greater depth with additional applications aided by the use of calculators. Problems are approached from a variety of perspectives, including graphical, numerical, verbal, and algebraic. The topics require students to exhibit critical thinking skills as they analyze a variety of problems, create functions from a problem situation, and solve optimization problems using those functions. Topics include functions, solving equations and systems of equations, series, sequences, matrices, complex numbers, conic sections, polar and parametric equations, vectors, trigonometry and applications of trigonometry, and an introduction to Calculus. Types of functions studied include (but not limited to) linear, quadratic, higher order polynomials, radical, absolute value, rational, trigonometric, inverse trigonometric, exponential, and logarithmic.

(241S) College Algebra 5.0 credits

Standard

The student will develop further skills in Algebra. Topics covered include real numbers, linear equations and inequalities in one variable, absolute value equations and inequalities, linear equations and inequalities in two variables, functions, systems of linear equations, exponents, polynomials, factoring, rational expressions, radicals, complex numbers, quadratic equations, quadratic, exponential, logarithmic, and trigonometric functions.

(241H) Calculus I - Honors 5.0 credits

Honors

This course provides a multitude of Calculus topics. The course focuses on the study of Calculus of a Single Variable. Topics include a brief review of polynomials, trigonometric, exponential, and logarithmic functions, followed by limits, derivatives, applications of differential calculus to a variety of real-world problems. It also includes integration and applications of integration. Derivatives and integrals of trigonometric functions are covered.

(240A) Advanced Placement Calculus I (AB) 5.0 credits

Advanced Placement

This course consists of a thorough first-year college-level study of the Differential and Integral Calculus. Students are prepared to take the College Board Advanced Placement Calculus AB examination. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(242H) Calculus II - Honors 5.0 credits

Honors

This course is the second part of a two-year sequence which completes the study of Calculus of a Single Variable. Important elements from Calculus I are reviewed and explored in greater depth with more challenging problems. Topics in derivative and integral calculus that were covered in the first part of the sequence are expanded upon and used in a greater variety of applications. The course concludes with advanced integration techniques, improper integrals, and sequences and series.

(241A) Advanced Placement Calculus II (BC) 5.0 credits

Advanced Placement

Second course of a two-year sequence in Calculus for those students who take A.P. Calculus AB in the prior year. Students will be prepared to take the Advanced Placement BC Calculus examination. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(242S) Statistics 5.0 credits

Standard

This course is an introduction to statistics and probability. Topics covered include data analysis, the Normal, Binomial, Geometric, Poisson and Uniform distributions, theoretical probability, experimental probability and inference. The inference covers both confidence and hypothesis testing. The TI-83 or TI-84 calculator is required.

(242A) Advanced Placement Statistics 5.0 credits

Advanced Placement

This course is equivalent to a college-level, non-Calculus Statistics class. Topics covered include data analysis, experimental design, simulation of experiments, probability, inference, confidence intervals and hypothesis testing. The Normal, Binomial, Geometric and Chi-Square distributions are discussed. Students will be prepared to take the A.P. exam. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(250A) Linear Algebra

Accelerated

This course gives an introductory treatment of linear algebra that is typical for a first or second year undergraduate course. Its aim is to present the fundamentals in a manner consistent with the abilities of a well-qualified high school student. Topics include systems of linear equations and their solutions, matrices and matrix algebra, inverse matrices; determinants and permutations; general (real) vector spaces; inner products (dot products), orthogonality, cross products, and their geometric applications; eigenvectors, eigenvalues, matrix diagonalization; linear transformations. Some applications of linear algebra will be discussed as appropriate. Linear Algebra is covered during the first semester and Differential Equations is the second semester.

(251A) Differential Equations

Accelerated

This course is designed to introduce the students to differential equations with a single unknown function and a single independent variable. First order differential equations are discussed including separable, linear, and exact equations as well as the use of integrating factors and change of variable techniques. Second order differential equations are discussed including homogeneous and nonhomogeneous equations, those with constant coefficients, and the process of variation of parameters. Students will learn how to find general solutions as well as specific solutions for problems from the sciences.

World Languages Department

In today's globally interconnected world, all students are best served by the study of world languages. Our language classes develop proficiency and the ability to use language via a meaningful, functional process. Classes begin with guided instruction and proceed to personal, open-ended communication. Students feel free to express ideas and take risks in the target language. Students are also made aware of other cultures so that they can have a greater understanding of the cultural heritage of others.

(311S) Spanish I 5.0 credits

Standard

Develops the four language skills of listening, speaking, reading and writing. Students communicate in Spanish and explore the differences and similarities between themselves and the Hispanic world.

(321S) Spanish II 5.0 credits

Standard

Strengthens vocabulary and grammar through listening, speaking, reading and writing. Emphasis is placed on improving the ability to communicate in Spanish. Thematic units incorporate history, traditions and customs of the Hispanic world

(321H) Spanish II-Honors 5.0 credits

Honors

A review and extension of the structures and themes taught in Spanish I. The course continues to stress vocabulary expansion, oral and written expression and the reading of literature and cultural topics in Spanish.

(331S) Spanish III 5.0 credits

Standard

All four language skills are reinforced within a contextual approach. Vocabulary needed to converse effectively in the Spanish language on everyday topics is fortified. Emphasis is placed on improving speaking and writing communicative skills. Supplementary materials and activities encourage an appreciation and understanding of Latino culture and history.

(331H) Spanish III-Honors 5.0 credits

Honors

Emphasizes oral and written Spanish fluency. Creative speaking and writing, student presentations and intensive grammar exercises are practiced. Listening skills, reading skills and cultural understanding are fostered through literature. Grammar practice, structured and sequential, stresses precision of the spoken and written word.

(341S) Spanish IV 5.0 credits

Standard

A fourth-level course designed to raise Spanish proficiency in listening, speaking, reading and writing. Vocabulary and basic grammatical structures are reinforced by reading stories, writing compositions, presenting oral reports and the use of audio visual aides. Thematic units incorporate the history, art and culture of the Hispanic world.

(341H)Spanish IV-Honors 5.0 credits

Honors

Designed for those students who exhibit a high degree of Spanish proficiency in listening, speaking, reading and writing skills. Emphasis is placed on reading comprehension and literary analysis. Grammatical structures are reviewed through oral and written practice and compositions. Thematic units incorporate the art and culture of the Spanish-speaking world.

(351S) Spanish Conversation And Composition 5.0 credits

Standard

A fifth-level course extending the themes taught in Spanish IV Standard. Its goals are to improve comprehension in listening and reading and to develop expression in speaking and writing. Grammar is reviewed with an emphasis on more advanced structures, conversational topics and Spanish language literary readings. Audio-visual aides are utilized to support class content.

(351H)Advanced Spanish Conversation And Composition 5.0 credits

Honors

An upper-level fourth and fifth year course focusing on the major communicative functions of description, comparisons, narration in the past, expressing preferences, hypothesizing, and speaking of the future. These functions are used simultaneously, thereby engaging in the full range of natural language.

(343S) Spanish IV/V Advanced Topics 5.0 credits

Standard

A fourth and fifth level course strengthening students' solid Spanish studies background to overcome language and cultural barriers often encountered by people doing business in the Spanish-speaking world. The practice of oral and written communicative skills fosters effective interaction while conducting trade and commerce. Practical concepts such as budgets, insurance, importing/exporting, taxation and business travel are introduced. Along with vocabulary expansion and grammar review, social customs, protocol, and common business practices are explored.

(343H)Spanish IV/V Advanced Topics-Honors 5.0 credits

Honors

A fourth and fifth level course studying commerce and trade in the Hispanic world, focusing on cross-cultural understanding as a key to business success. While examining solutions to common grammar errors, critical thinking skills are employed through authentic readings from Spanish-language publications. Essential communication skills are practiced through role-play and authentic, interactive activities.

(351A) Advanced Placement Spanish Language 5.0 credits

Advanced Placement

Develops proficiency in reading, listening, speaking and writing. Students who enroll in this college-level course should have a basic knowledge of the language and culture of Spanish-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading and writing. In addition to preparing the students to take the AP Spanish Language Exam, the course emphasizes oral skills for active communication, composition for written expression, an intense study of Spanish grammar and verbs, and a study of contemporary Spanish authors and selected writings. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(310S) French I 5.0 credits

Standard

Develops the four language skills of listening, speaking, reading and writing. Students communicate in French and explore the differences and similarities between themselves and the French-speaking world.

(320S) French II 5.0 credits

Standard

Centers on a strengthening of vocabulary and an expansion of the listening, speaking, reading and writing skills. Emphasis is placed on an ability to communicate. Cultural focus is integrated to further develop an appreciation of the French-speaking world.

(320H) French II-Honors 5.0 credits

Honors

Continues the stress on vocabulary expansion, oral and written expression, and reading stories on a variety of cultural and literary topics in French.

(330S) French III 5.0 credits

Standard

Provides the opportunity for continued study of French. Verbal communication is stressed. Discussion centers on various literary and cultural readings. Includes an intensive grammatical review of the first two years. Audio and video tapes supplement course work.

(330H) French III-Honors **5.0 credits**

Honors

Oral fluency and intensive grammar study are the goals of French III. Oral presentations are prepared and presented. Listening comprehension skills are further developed by the use of tapes and teacher exercises. A variety of reading materials is presented. Cultural exposure to literature is integrated in this course. Oral competency and comprehension in French are stressed as major objectives.

(340S) French IV **5.0 credits**

(350S) French V **5.0 credits**

Standard

Designed to continue the study of French with greater emphasis on the oral/aural skills. Vocabulary expansion, grammar review and competency in conversational situations are the goals of this course. Cultural samples are discussed to enhance the students' appreciation of French and the French-speaking world. A variety of materials and activities such as movies, tapes, debates, reports, skits, and projects are used to encourage self-confidence and self-expression of the language.

(340H) French IV-Honors **5.0 credits**

(350H) French V-Honors **5.0 credits**

Honors

French IV and French V are elective courses that refine and stress a high degree of proficiency in listening, speaking, reading and writing skills to strive for oral/aural competency that could lead to the AP French Language Exam. Listening comprehension exercises as well as oral presentations are required elements of the course. Novels and short stories are read and discussed and follow-up essays are written. Cultural and literary emphasis centers on 17th, 18th, 19th and 20th century literature. Thematic units incorporate the history, art and culture of the French-speaking world. Students who have demonstrated outstanding mastery of skills, with the recommendation of their teacher and the approval of the Department Chairperson and Associate Principal, may take the AP Exam.

(350A) Advanced Placement French **5.0 credits**

Advanced Placement

Students who have demonstrated outstanding mastery of skills in French IV/French V Honors, with the recommendation of their teacher and the approval of the Department Chairperson, may take the AP Exam.

(312S) Latin I **5.0 credits**

Standard

An introductory study of vocabulary, declensions and conjugations. Readings introduce aspects of Roman life, history and legend. An overview of the life and culture of ancient Rome is presented through lectures, discussions, and video presentations. Students become familiar with English derivatives of Latin words and Latin phrases commonly used in English.

(322S) Latin II 5.0 credits

Standard

Study of major grammatical points necessary for reading authentic passages of Latin authors. Readings introduce the student to early Roman history, the expansion of Roman rule, and the influence of Greece on Roman culture. Students continue to study the influence of Latin on English vocabulary.

(322H)Latin II-Honors 5.0 credits

Honors

Completes the study of major grammatical points necessary for reading authentic passages of Latin authors. Readings introduce the student to early Roman history, the expansion of Roman rule, and the influence of Greece on Roman culture. Students are trained to read Latin passages at sight and to focus on precise translation. Students continue to study the influence of Latin on English vocabulary and on the vocabulary and structure of the Romance languages.

(332S) Latin III 5.0 credits

Standard

Reviews grammar and readings from Latin authors. This course includes readings from Julius Caesar's *De Bello Gallico, Book I* and excerpts from other authors. Students focus on the organization of government and the military, and on the literary life of Rome. Special emphasis is placed on the formation of Latin words with an eye to improving English vocabulary. Students also study the influence of Latin on the Romance languages in written form.

(332H)Latin III-Honors 5.0 credits

Honors

Readings from Latin prose and poetry. Students read extensively from Caesar's *De Bello Gallico* and Ovid's *Metamorphoses*. Students learn elements important to prose and poetic style. Study of Roman culture focuses on the political situation in the late Republic and Early Empire, and on the literary history of Rome in the classical period. Mythology of the Greeks and Romans is studied separately and through literature. Students must read and translate at sight on a regular basis.

(342S) Latin IV 5.0 credits

Standard

Review of grammar and readings from Latin authors. Students sit in the same class with students from Latin III Standard. Readings studied differ from those studied in the previous year. Students are expected to bring a more refined understanding to the work of translation.

(342H)Latin IV Honors 5.0 credits

Honors

In a year in which AP is taught, students follow the AP Curriculum, but are graded according to a different standard. In a year in which there is no AP class, students, read a variety of works from Latin authors, including Cicero, Livy, Ovid, Horace and the Vulgate. Cultural topics include the moral and philosophical values of Romans and how these ideals are reflected in the works read.

(352A) Advanced Placement Latin 5.0 credits

Advanced Placement

Students who have demonstrated outstanding mastery of skills in Latin III or IV Honors may qualify for this AP course. AP Latin follows the syllabus established by the College Board.

Principal texts include Virgil's *Aeneid* and Caesar's *De Bello Gallico*. Students translate books that appear on the Latin Advanced Placement exam and read the remainder in translation. Students study Virgil's poetic style, the influence of Homer, and the genre of epic. They continue the previous year's study of Caesar, focusing on leadership style. Cultural topics include the moral and philosophical values of Romans and how these ideals are reflected in the works read. Students who have demonstrated outstanding mastery of skills, with the recommendation of their teacher and the approval of the Department Chairperson and Associate Principal, may take the AP Exam.

(344S)Arabic 5.0 credits

Standard

An introduction to classical Arabic for non-Arabic speakers. Studying basic vocabulary and grammar follow the learning of the Arabic alphabet. The four communicative skills (reading, writing, listening, speaking) are employed to initiate communication. A study of the history, geography and culture of the Arabic-speaking countries of Africa and Asia emphasizes the importance of Arabic on the world stage.

History Department

(410S) World History 5.0 credits

Standard

This course in World History presents the students with the principal movements in the development of man and nations. A greater emphasis is devoted to Europe than to Asia and Africa. The students are exercised in the skills of reading, writing, geography and the meaning of History for their own and future times.

(410H) World History-Honors 5.0 credits

Honors

Honors World History serves as an introduction into the Honors Program in the Social Studies Department. It is designed to challenge the more advanced student with a more comprehensive analysis of the significant events, movements, and ideologies that comprise the rise of civilization through the twentieth century. The course emphasizes the development of critical interpretive and written skills as well as the analysis of more advanced historical sources. Admission is based upon the placement exam and the recommendation of the Department Chairperson.

(420A) Advanced Placement Human Geography 5.0 credits

Advanced Placement

This is a college-level course in which students will master the fundamental concepts in Human Geography, which studies the interaction between humans and their environment. Topics covered include: Geography—Its Nature and Perspectives, Population, Cultural Patterns and Processes, Political Organization of Space, Agriculture and Rural Land Use, Industrialization and Economic Development, and Cities and Urban Land Use. The students will develop critical thinking skills, which include analyzing and synthesizing geographic information as well as applying theoretical models to real-world case studies. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(420S) United States History I 5.0 credits

Standard

This two-semester course surveys American History from the Age of Exploration and the Colonial Era to the beginning of the Gilded Age. In addition to learning about the important events, issues, and individuals of this period, emphasis is placed on developing the student's critical and analytical abilities regarding the historical process, including how to conduct research and write formal papers.

(420H) United States History I-Honors 5.0 credits

Honors

This two-semester course surveys American History from the Age of Exploration and the Colonial Era to the beginning of the Gilded Age. In addition to learning about the important events, issues, and

individuals of this period, emphasis is placed on developing the student's critical and analytical abilities regarding the historical process, including how to conduct research and write formal papers.

(421A) Advanced Placement World History 5.0 credits

Advanced Placement

The focus of the AP World History course is the examination of the major events and the historical themes which have shaped the Modern World from approximately 2,000 BCE through the 20th century. Presented in a global perspective, the student will be required to think and write analytically. The use of a textbook, research assignments, and ancillary readings at the college level requires the student to master advanced reading and writing skills. Each student is required to take the AP World History Exam to satisfy the course requirements. Admission is by special application.

(432S) United States History II 5.0 credits

Standard

United States History II course is a survey course which encompasses the development of the American Nation from the beginning of the Gilded Age to current political, social, economic and cultural American affairs. Emphasis will be placed upon America's role in foreign and domestic policy and the development of the country's industrial and social experience. Students will be required to complete a research project (oral or written) during the second semester that will enhance the students' research, analytical, and argumentative, skills. Major topics include World War I, World War II, the Cold War, the Korean Conflict, the Vietnam War and contemporary foreign and domestic political issues. Primary and secondary document analysis will be used on a regular basis to facilitate lectures

(432H) United States History II-Honors 5.0 credits

Honors

U.S. History II Honors is a continuation of the intensive examination of the salient events, movements and schools of historical inquiry begun in U.S. History I Honors. As such, the course requires challenging critical investigation into American History from the Gilded Age through the nation's emergence as a superpower in the post-war world into the present. The student will analyze the causes and effects of significant events (i.e. New Deal, New Freedom and Cold War) as well as the historical debates relevant to the period through substantial primary readings, interpretative essays, and seminar discussions. Consequently, the course demands excellent reading and writing skills.

(430A) Advanced Placement American History 5.0 credits

Advanced Placement

A two-semester course, which is the equivalent of a college freshman survey course. The purpose of the course is to prepare students for the AP exam given in May. This requires a comprehensive factual and analytical knowledge of American History from the colonial period into the twenty first century. It also requires the ability to write a coherent critical essay. Thus, the course demands are extensive with regard to both reading and writing. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(438S) The Civil War (1861-1865)**2.5 credits***Standard*

A single semester course that will study the main causes of our Civil War. Personalities of the time period and events that led up to the war will be covered in great detail. A strong emphasis will be placed on the military strategy and tactics of this great conflict.

(440A) Advanced Placement European History 5.0 credits*Advanced Placement*

This is a two-semester college level course in which the students are required to demonstrate a knowledge of basic chronology and the major events and trends from approximately 1450, the High Renaissance, through the post Cold War period. In addition, the students will develop an ability to analyze, interpret and synthesize historical evidence. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(441S) Psychology 2.5 credits*Standard*

This is a one-semester course which will give the college-bound students a solid introduction to many of the topics that will be encountered in college psychology courses. Psychology attempts to explain the “why” of our individual behavior and development. The course will help students become knowledgeable about principles and theories of modern psychology. The course will include small group interaction, and presentation of media that depict psychological behavior. Students will be required to complete a research project on a psychological condition and present their work to the class. Students will also learn how to properly utilize psychological journals to complete various assignments throughout the semester. Traditional methods of assessment will also be used to monitor the students’ level of comprehension of classroom material.

(441H) Psychology – Honors**5.0 credits***Honors*

Honors Psychology is an introductory study of the human mind and human behavior, which focuses on the fundamental facts and principles of psychology within the broader context of contemporary personal and social concerns. Topics may include the historical development of the discipline, scientific methodology, human development, motivational theory, consciousness, sensation and perception, learning, thinking, memory, emotions, exploring the brain, personality theory, social psychology, and abnormal psychology.

(441A) Advanced Placement Psychology 5.0 credits*Advanced Placement*

AP Psychology is a full-year college level course designed to introduce students to the scientific study of human behavior and mental processes. Along with preparation for the AP Psychology exam, the goals of this course are to immerse students in modern psychological investigation techniques, to accentuate the ethics and morality of human and animal research, and to emphasize scientific critical

thinking skills in application to the social sciences. This course highlights psychology as a diverse social and biological science with multiple perspectives and interpretations. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(640S) Introduction to Business 5.0 credits

Standard

This course provides a study of the role of business in our economic system and analyzes the changes occurring in business today. Topics explored in this course include basic economic principles, the world of finance and investment, accounting, government and taxes, and the impact of computers on all aspects of business.

(640H) Economics – Honors 5.0 credits

Honors

Honors Economics will offer an in depth analysis of Macroeconomic principles, achieved with a mixture of macro theory and real-world application. This is a full-year course designed to introduce the student to important fundamental economic topics such as Economic Growth, the concepts of Supply and Demand, Unemployment, Inflation, Money and Banking, Fiscal Policy and International Economics.

(443A) Advanced Placement Economics 5.0 credits

Advanced Placement

Advanced Placement Economics is a full-year course designed to provide the accelerated student with a college-level survey of macro and micro economics and prepare him for the AP exam given in May. The student will be expected to analyze economic models and theories as well as to demonstrate mastery of salient economic concepts and topics including fiscal policy, performance measures, and the demands of market economies. The course also requires the ability to read critically and to write a coherent interpretative essay. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(445S) American Government 2.5 credits

Standard

This one-semester course will explore the major themes in American Government today. The two great questions about politics: “Who governs?” and “To what ends?” will be a central focus throughout the course. Major topics explored will be: the Constitution, Federalism, the American political culture, political parties, the Presidency, public opinion, elections and campaigns, and the policy-making process.

(446H) International Relations 5.0 credits

Honors

This course offers an introductory survey of major topics in, and approaches to the study of, international relations. The readings explore how scholars in the field have sought to engage important

questions, such as why international cooperation on economic issues is so difficult, and why states sometimes go to war. The last part of the course applies the theories explored in the first two sections to current and emerging challenges—namely global health challenges and climate change. Analytical writing, research and class discussion are critical components to this course.

(447S) Twentieth Century History 2.5 credits

Standard

The course is directed toward the examination of the social, economic and political changes that have occurred throughout the Twentieth Century. Through the use of books and movies, the student will examine the specific events that have shaped the world over the course of this century of change. Some of the events that will be closely examined include: the First World War, the Second World War, the Cold War, and the collapse of the Iron Curtain. Each event will be studied from an American, European and Far-Eastern perspective and will provide the student with a well-rounded look at the events that have shaped the world in which they live.

(449A) Advanced Placement Art History 5.0 credits

Advanced Placement

This course aims to prepare students for the AP Art History Exam and provide students the equivalent of an introductory college course in the history of world art. The course covers the major developments in art, history, and works of art from the Paleolithic Era to contemporary 21st century. The main emphasis is on Western Art with some emphasis on the art, culture, religion and traditions of non-Western societies. Integrated into the course are required visits to New York and Philadelphia museums. No previous art experience is required. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

Science Department

Courses marked with an asterisk(*) have a Lab.

(510S) *Biology 6.0 credits

Standard

A survey course in Biology with laboratory covering the nature of life, cell structure and function, classification, genetics, evolution, plants, the unity and diversity of living things, and human biology.

(510H) *Biology-Honors 6.0 credits

Honors

A survey of Biology, including laboratory, with instruction and investigation designed to explore in a more intensive way the unity of life, microbiology, multicellular, molecular and cellular aspects of living things, structure and function in plants and animals, genetics, evolution, human biology, ecology, plant and animal diversity and principles of classification. There is an emphasis on preparation for the SAT II Exam in Biology using both ecological and molecular approaches.

(520S) *Chemistry 6.0 credits

Standard

A survey of Chemistry with laboratory covering fundamentals of matter and its changes, atomic theory including elements of quantum theory, periodicity, chemical bonding, stoichiometry, the chemistry of gases, liquids and solids, acid-base theory, types of reactions, thermochemistry, nuclear chemistry, solution chemistry and the concepts of equilibrium.

(520H) *Chemistry-Honors 6.0 credits

Honors

An introductory Chemistry course with laboratory emphasizing how scientific information is obtained and how scientific models and theories are developed. The topics include periodicity, atomic structure, stoichiometry, thermodynamics, acid-base theory, oxidation-reduction reactions, carbon and radioactive compounds. Students will be responsible for chemistry and science-related outside readings. Experimentation and problem solving are stressed

(533S) *Physics 6.0 credits

Standard

A full year course in physics with laboratory that studies several physical principles. Topics covered include mechanics, the nature of fluids, waves, sound, optics and electromagnetism. This course is open to juniors only.

(530H) *Physics-Honors 6.0 credits

Honors

An advanced survey course in Physics with laboratory that studies energy in its various forms -- mechanical, light, sound, and electrical. Fluid mechanics are also studied. Experimentation, problem solving and mathematical applications are emphasized.

(532A) *Advanced Placement Physics 1 6.0 credits

Advanced Placement

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Experimentation and problem solving are emphasized. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(534A) *Advanced Placement Physics 2 6.0 credits

Advanced Placement

AP Physics 2 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(543A) *Advanced Placement Physics C 6.0 credits

Advanced Placement

A college-level introduction to physics, including laboratory, with the use of calculus in problem solving and derivations. The course will include in-depth study of mechanics, as well as electricity and magnetism. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(548S) *Environmental Science 6.0 credits

Standard

A full year course with laboratory introducing the basic interactions of man and his environment. Topics covered include ecology, geology, meteorology, the study of air and water resources, pollution and energy -- its risks, production and alternatives. The student is offered these topics through text, supplemental readings and laboratory investigations..

(542S) *Anatomy & Physiology With Lab 6.0 credits

Standard

This course will provide the students with a familiarity of the major systems of the human body through the study of their structure and function. This course also includes a lab component where students will observe the structure and function first hand through dissection and experimentation. The midterm and final exam also include a lab practical in which the students must demonstrate the knowledge gained during their laboratory investigations.

(542H) *Anatomy & Physiology With Lab-Honors 6.0 credits

Honors

This accelerated course will provide students with an in-depth understanding of all the major systems of the human body. Students will study each system's structure and function and understand how the two are related. The lab component of the course will enable students to observe how structure determines function first hand through dissection and experimentation. The midterm and final exam also include a lab practical in which students must demonstrate the knowledge gained during their laboratory investigations.

(540A) *Advanced Placement Biology 7.0 credits

Advanced Placement

This college-level course covers the Big Ideas in Biology: molecules and cells, genetics and evolution, organisms and populations, and ecological principles. Through required labs, the student will become more aware of the process of biological investigation. There are two double-lab periods in a six-day cycle. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(541A) *Advanced Placement Chemistry 6.0 credits

Advanced Placement

This college-level course covers the Big Ideas of Chemistry including concepts of atoms as the building blocks of matter, the structure of atoms, ions and molecules and the forces between them, chemical reactions, rate laws and the collision theory, thermodynamics and intermolecular interactions. An emphasis is on Inquiry Learning, both in the classroom and in the laboratory. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

NOTE: Select sophomores who meet the prerequisites of this course MUST take the summer enrichment chemistry course.

(544A) * Advanced Placement Environmental Science 6.0 credits

Advanced Placement

This course with laboratory is equivalent to a one-semester college Environmental Science course and will prepare the student for the AP Environmental Science exam. It is a one-year course in environmental science including topics in environmental law and ethics, ecology, population biology, geology, meteorology, soils and agriculture, energy (conventional and unconventional), air and water pollution, water and water resources as well as human impact on the environment. These topics are studied through a combination of lectures, critical thinking exercises, laboratory and field activities.

Each student is required to take the AP exam to satisfy course requirements. Admissin is by special application.

(545S) * Marine Biology 6.0 credits

Standard

An ecological approach is used in studying all aspects of the marine environment. Topics of study include geology, oceanography, human impact on ocean ecology, invertebrates, fish, and sharks, with emphasis on marine mammals. Mini-labs include water analysis, geology, beaches, and dissections.

(546S) Exercise Physiology 5.0 credits

Standard

A study in exercise and nutrition providing students with a background in basic anatomy and physiology systems. Emphasis on cardiovascular, respiratory, and musculoskeletal responses to exercise movements. Students will discover trends in exercise and relate nutrition's role in performance.

Topics include but not limited to: Vocabulary associated with physiology, description of cardiovascular fitness, aerobic v. anaerobic fitness, principles of strength and flexibility testing and training, muscle contractions and muscle fiber types, human motion terminology, descriptions of nutrition, calorie requirements, hydration, eating disorders, fad diets, body composition/types and testing, and the effects of supplements and steroids.

Students will design and implement personal nutrition and fitness plans

(530) Science Team 1.0 credit

The purpose of the course, which will meet one day a cycle, is to prepare students to participate in various science competitions on a state-wide level including NJ Science Bowl, Science Olympiad, Mouse Trap Car competitions, Team America Rocketry Challenge, individual research projects and other miscellaneous competitions.

Computer Science Department

(0610) Freshman Computer Seminar 2.0 credits

A course meant to introduce incoming students to the technology environment at CBA, and to ensure at least a minimum common level of competence using the software that is available for student use at CBA. Emphasis will be on using technology to communicate clearly and effectively, both orally and in writing. This course meets two times/cycle for the full year and is graded Pass/Fail.

(624S) Introduction To Computer Science 2.0 credits

Standard

This course will survey topics in computer science. Topics will include networking, HTML (web-page layout), computer logic, and the history and uses of technology. All topics are presented with an emphasis on real-world applicability. This course meets 5 times/cycle for one semester.

(624H)Introduction To Computer Science – Honors 2.0 credits

Honors

This course will introduce topics in computer science with a strong emphasis on computer programming. Other topics will include number/switching theory, and game design. ICS-H is an excellent preparation for the Advanced Placement Computer Science course and is recommended for those interested in scientific, mathematic or technical majors. This course meets five times/cycle for one semester. Departmental approval is required.

(642A)Advanced Placement Computer Science 5.0 credits

Advanced Placement

This course will prepare students to take the AP Computer Science Exam, as prescribed by the College Board. The College Board mandates the use of Java as the language platform. This course meets six times/cycle for two semesters. Each student is required to take the AP Exam to satisfy the course requirements. Admission is by special application.

(640S) Web Publishing 2.5 credits

Standard

This course will engage students in all the stages of design and publishing material on the World Wide Web. In addition to elements of design techniques and graphic preparation, students will learn to evaluate the different options (HTML, XML, ASP; GIF, JPEG; UNIX, PC; et al.) for designing and hosting web pages. This course meets six times/cycle for one semester.

(641S) Graphic Design 2.5 credits

Standard

This course will engage the students in preparing graphic and text-based materials for presentation purposes. Students will be taught solid layout techniques for various types of publications, including magazines, newspaper, newsletters, et al. Students will be engaged with image-manipulation software (e.g., Photoshop®) and page-layout software (e.g., PageMaker®), and instructed to use these applications efficiently and creatively. This course meets 6 times/cycle for one semester.

Physical Education Department

(0710) Freshman Health 1.0 credit

This course meets once per cycle for the entire year. It is a combination of traditional health, social development, and current fitness information. The main concept for the material presented is to promote and inspire our students to strive for the lifelong commitment of maintaining a healthy and physically active lifestyle. Also included in this course is a study skills unit to help prepare the students for the rigors of our academic environment. The classes are discussion oriented.

(0810) Freshman Physical Education 2.0 credits

This course meets twice per cycle for the entire year. It is an extension of the classroom discussions on maintaining healthy lifestyles through life-long fitness activities. Developing physical fitness and forming a “team” identity are important themes throughout the year. Each class begins with an active warm-up promoting strength and flexibility to ensure that all students are properly prepared for any athletic activity or physical task that follows.

(0720) Sophomore Health - Driver Education 1.0 credit

The Driver Education course meets three times per cycle for one semester. Its purpose is to help each student develop the proper driving attitude and to instill the knowledge and beginning skills that are important to becoming a safe driver. This goal is achieved through a sequence of interrelated experiences involving classroom instruction, limited car contact, and home assignments. In addition, students will use the N.J. Drivers manual to prepare for the permit test that is given at the end of the semester.

(0820) Sophomore Physical Education 1.0 credit

This is a one-semester course that meets two times per cycle. It is designed to provide for the particular needs of the students so as to include individual fitness, lifetime recreational activities, and team competition. Each class begins with a fitness program and has a variety of activities offered to encourage maximum participation. Activities are changed frequently to expose the students to a wide range of sports.

(0730) Junior Health-Group Guidance 1.0 credit

The Junior Guidance course focuses on the concept of finding good college matches for all students. To that end, students will take part in many activities designed to give them a comprehensive, experiential, realistic look at the college search and admissions processes. Students will employ online search engines and other important web tools to find good colleges, obtain career information, begin the application process and find out more about themselves. We will also discuss numerous related topics such as financial aid, college visits and interviews, the concept of a slotted athlete, and the transition to college from high school.

(0830) Junior/Senior Physical Education 2.0 credits

The physical education course is designed to provide for the particular needs of our students and are constructed to develop their physical aptitude as well as their health. Activities offered include opportunities to improve individual fitness, compete in team sports, and experience lifetime recreational skills. The classes are conducted two times per cycle and are mandatory for juniors, while seniors may elect to participate. The variety of sports chosen for this course make it a very enjoyable experience.

Music Department

(064H) Popular American Music **5.0 credits**

Honors

This course is intended to help students think creatively and critically about popular music. We will examine the most significant styles of American music in chronological order, beginning with roots in Minstrelsy: Stephen Foster, Brass Bands, Tin Pan Alley, Ragtime, Dance Music, Jazz Craze, Blues, Early Country Music, The Swing Era, Big Bands, Country Western Music, Rock and Roll, British Invasion, Motown, etc. through the present day.

We will explore several recurring themes throughout the course including: the interaction of European American, African American, and Latin American traditions; the influence of mass media and technology (printing, recording, radio, video, internet); and the role of popular music as a symbol of identity (race, class, gender generation). The course will enhance enjoyment and understanding of the music students already know, as well as introduce them to less familiar styles and genres. They will develop critical listening skills and become more informed consumers and producers of music.

(065S) Survey of Music **5.0 credits**

Standard

This class is designed to allow students to gain an increased appreciation of all music. This class seeks to enhance students' knowledge of music as a common thread and allow them to increase their potential for self-expression by giving them access to new terminology.

Students will be taught to distinguish the basic traits that differentiate the periods of western music; they will learn the technical vocabulary of music and basic notions of music theory, and they will explore in detail the genres and forms that have evolved in the different periods and the stylistic changes that occur in each of these era: Baroque period (1600 to 1750), Classical period (1750 to 1820), Romantic period (1820 to 1900), and Twentieth Century and beyond (1900 to 2012)