

FREDERICA ACADEMY UPPER SCHOOL

COURSE DESCRIPTIONS

	English	Foreign Lang.	Math	Science	Social Science	Fine Arts	PE and Electives
FA Expectations:	4	3 consec.	4	4	4	1	Health
All students must take 6 classes each semester (5 academic).				Honors Grads: 4/5 Electives must be academic			
GA University/State Reqs:	4: <input type="checkbox"/> World <input type="checkbox"/> US <input type="checkbox"/> <input type="checkbox"/>	2 of the same	4: <input type="checkbox"/> Alg I <input type="checkbox"/> Geom <input type="checkbox"/> Alg II <input type="checkbox"/> Adv Math	4: <input type="checkbox"/> Bio <input type="checkbox"/> Phys/Phys Sci <input type="checkbox"/> Chem <input type="checkbox"/>	3: <input type="checkbox"/> US Studies <input type="checkbox"/> World <input type="checkbox"/>	1	
HOPE Scholarship Reqs:	3.0 in Core subjects + Rigor Requirements by Year						
Zell Miller Reqs:	3.7 GPA in Core Subjects, 1200 SAT (Crit Read & Math) or 26 ACT on a single test date, + Rigor Requirements by Year						

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ENGLISH

ENGLISH CORE OFFERINGS

World Literature I (Full Year)

The ninth grade World Literature is designed both to introduce students to a high school level of reading and writing and to teach students how to think and speak about literature in a more mature way. While “World Literature” is a massive area, the texts students study are part of a larger conversation that represents the basis of modern literature, film, and advertising. Students will strive to decode the layers of meaning in each text and discuss how each work is part of the larger landscape of life and the human continuum of ideas. Furthermore, students will evaluate how the individual texts represent and reveal the mores of the cultures from which they originate. Students also will be given a thorough overview of how archetypes are used to connect the reader and text, as well as the writing process as it relates to creating literary analyses and arguments.

The student will:

- Demonstrate the ability to recognize, analyze, and evaluate the inclusion and purpose of literary patterns, allusions, and archetypes within and between texts.
- Analyze how authorial choices and the manipulation of language construct the thematic arguments of literary works representative of a variety of time periods, genres, and styles.
- Discuss their individual reading of literary works by participating in class discussion in a mature and respectful manner.
- Recognize and emulate elements of good writing, including but not limited to the adherence to grammatical and formatting expectations.
- Write coherent, well-developed essays that defend a clearly defined argument and are supported by effectively integrated textual evidence drawn from through the literary text.

Literature and Composition 9 (Full Year)

Ninth Grade Literature and Composition will continue to build on the reading and language curriculum established in middle school. Throughout this year-long course, students will have opportunities to develop and expand their knowledge of literature and language and demonstrate their mastery level of new learning through performance tasks and assessments. The main writing skills emphasized include:

- Paragraph and theme development.
- Mechanics, and sentence structure.
- Reinforcing fundamental reading, writing, speaking, and listening skills.
- Students will practice identifying parts of speech.
- Analyzing parts of a sentence.
- Writing in complete sentence structure.
- Reviewing and using the various rules that govern the written word, such as capitalization, punctuation, and spelling.

Additionally, students will also read and analyze poems, short stories, plays, graphic novels, and literary novels, and they will be asked to make personal connections to the varied literary pieces that they read.

World Literature II (Full Year)

This course offers an introduction to literature of the world from the Renaissance to the present day. A major goal of the course is to recognize the common experiences and threads that unite humanity across time and space. Students will also explore cultural and historical backgrounds in order to better understand the literature. Through the study of novels, short stories, plays, nonfiction essays, and poetry, students will examine both classic and less familiar authors. The course also focuses on developing strong academic skills through writing, research, and the study of vocabulary. Several analytical essays over major works will be assigned each semester. Students will continue to refine papers through an independent draft process and will focus on both refining grammatical errors and developing self-generated arguments and analysis. Class discussion will also be a major component of the course in order to hone critical thinking skills.

The student will:

- Continue to deepen analysis of literary themes, techniques, and archetypes across texts from a variety of cultures and time periods.
- Seek to understand the cultural/historical context in which literary works are created and popularized, including gaining an understanding of major literary movements from the Renaissance to the present.
- Undertake both individual and group projects that require outside research, synthesis, and creative presentation.
- Deepen understanding of literary analysis and argument through individually undertaking essays that require a strong thesis, clear textual support, and maturing investigation and evaluation of the text.
- Continue to use regular feedback to fine-tune self-directed editing, proofreading, and polishing skills for writing.
- Find enrichment and personal connections through literature.

American Literature (Full Year)

Beginning with the Puritans and working forward to modern literature, American Literature is a course designed to survey some of the most renowned authors of our country, to analyze some of the most compelling issues of our times, and to evaluate how our country's history has influenced and shaped the stories defining the times, places, and peoples of its nation. Our country is a land of many narratives and a multitude of voices. From the very beginning—the folklore, sermons, pamphlets, dairies, poetry, speeches, letters, short stories, novels, newspapers, and nonfiction—America's voice has been one defined by persuasion. Perhaps America has never stood behind a single podium nor used a single voice; indeed, absolute conformity and agreement run counter to the blood shed for her formation, protection, and survival. Persuasion is built upon

the knowing your subject, your audience, and the form of discourse. Understanding how language conveys meaning is essential in analyzing literature and in writing about literature. Therefore, in addition to evaluating good writing, we will concentrate on strengthening writing skills and grammar, focusing on analytical essays supported with textual evidence and analysis.

The student will:

- Discuss their individual reading of literary works by participating in class discussion in a mature and respectful manner.
- Write coherent, well-developed essays that defend a clearly defined argument and are supported by effectively textual evidence.
- Deepen analysis of literary themes, techniques, and literary devices across texts.
- Students will seek to understand the cultural/historical context in which literary works are written, including gaining an understanding of major literary movements from Puritanism to Modernism.

AP English Language and Composition (Full Year)

Students in the Advanced Placement English Language and Composition course read, analyze, and work with literature, essays, letters, speeches, and images to deepen their awareness of rhetoric and of how language works to construct persuasive arguments. Students should be prepared to read and analyze a wide range of texts and to write prose of sufficient richness and complexity to communicate effectively with mature readers. (*Prerequisite: teacher recommendation*)

The student will:

- Discuss their individual reading of literary works by participating in class discussion in a mature and respectful manner.
- Write coherent, well-developed essays that defend a clearly defined argument and are supported by effectively integrated textual evidence drawn from through the literary text.
- Deepen analysis of literary themes, techniques, and archetypes across texts.
- Students will seek to understand the cultural/historical context in which literary works are created and popularized, including gaining an understanding of major literary movements from Puritanism to Modernism.
- Evaluate how the rhetorical choices, structure, and narrative elements construct and convey textual arguments.
- Write essays that require a strong argument, effective textual support, and maturing evaluation and synthesis of the text.
- Continue to use regular feedback to fine-tune self-directed editing, proofreading, and polishing skills for writing.

AP English Literature and Composition (Full Year)

AP Literature and Composition engages in careful reading and critical analysis of literature; our literary analysis will consider a writer's style and the structure of the work. Students are expected to justify their interpretations of the readings by references to details and patterns in the text, to

compare their interpretations with those proposed by others (teachers, classmates, and literary scholars), and to be prepared to modify their own interpretations as they learn more and think more. Writing is a major emphasis in this course, and most of it will focus on analytic essays about literature and AP test preparation. The aim of the course is to prepare students for both the College Board exam in May and for the rigors of college work.

The student will:

- Read, discuss, and analyze poetry from the 16th century to the 21st century in order to evaluate not only the poet's craft but also to evaluate the richness of the poem in evoking both personal connection and empathetic understanding.
- Read, discuss, and analyze various works from different genres and periods in order to interpret and evaluate not only the author's choices in the work but also work's social relevance.
- Read texts, collecting textual clues, and making connections that lead to an interpretive meaning.
- Write essays that require a strong argument, effective textual support, and maturing evaluation and synthesis of the text.
- Continue to use regular feedback to fine-tune self-directed editing, proofreading, and polishing skills for writing.

Literature and Composition 12 (Full Year)

The focus for this senior level class is on the critical reading of both literary and non-literary texts. Students will study texts from various genres including the short story, poetry, novels, non-fiction articles/journals, and media advertisements/speeches. Works covered in this class may include: *Jump*, *Hamlet*, *1984*, *The Hitchhikers Guide to the Galaxy*, *A Modest Proposal*, *The Kite Runner*, and a selection of poetry by numerous poets and songwriters. Students in this course are expected to undertake a study of the literary elements of these works and will be required to complete a variety of written and oral assignments designed to hone their writing, oral and critical thinking skills. Students will be encouraged to work independently, researching issues and themes arising in the texts studied. This research affords students the opportunity to explore areas of interest beyond yet inspired by classic texts. The findings of such independent research and study will be presented to the class, using a medium and format of choice (Ex. artistic or musical representation, PowerPoint, podcast and/or written document). In this way, the multiple talents of students will be encouraged and students will have the opportunity to manage their own learning in preparation for their post-secondary studies.

In addition to exploring issues and themes of interest, students will also begin to understand and refine the craft of writing. We will work to acquire and enhance the skills needed to be successful with writing tasks in all classes. It is the aim of this course to prepare students for they types of writing that will be required throughout their post-secondary schooling including essays, reflections, reports, articles, and online discussion posts

FOREIGN LANGUAGE

SPANISH OFFERINGS

Spanish I (Full Year)

The first year course in Spanish language is based on the building blocks of the language. This course encourages students to use the vocabulary, language structures, and grammar they have learned and to apply the concepts through projects, skits, presentations, interviews, and story creation. This course also exposes students to Hispanic culture through readings and video presentations.

The student will:

- Communicate effectively in present tense.
- Understand native speakers in brief discourse.
- Read beginner level authentic texts.
- Write basic compositions in target language.
- Understand basic cultural traditions and customs.

Spanish II (Full Year) (*Honors Spanish II available for freshman students who have met prerequisites*)

Students will learn theme-based vocabulary and will integrate that vocabulary with grammatical concepts in real-life situations through writing stories, creating projects, performing skits, giving formal and informal presentations, and through image descriptions. The class is taught exclusively in Spanish and students are expected to participate orally every class period. (*Prerequisites: Spanish I*)

The student will:

- Communicate effectively in the past tense.
- Understand lengthier, more complex discourse.
- Read intermediate level authentic texts.
- Write compositions using past tense and more complex constructions.
- Develop further understanding of traditions and customs.

Spanish III (Full Year) (*Honors Spanish III available for sophomores who have met prerequisites*)

In Spanish III, students will continue to develop their communicative, written, and listening skills. Students are formally introduced to the study of Hispanic literature and culture. They use complex structures in Spanish and move from concrete to more abstract concepts. Students develop the

ability to discuss topics related to historical, art, and contemporary events through projects, videos, and movies, using only Spanish. (*Prerequisites: Spanish II*)

The student will:

- Communicate using future, conditional and present subjunctives.
- Understanding more complex discourse.
- Read intermediate level authentic text.
- Write significantly more complex compositions and utilize a variety of tenses.
- Develop further understanding of traditions and customs.

Honors Spanish IV (Full Year)

The fourth year in the Spanish sequence is designed to foster mastery of the remaining grammar structures. Spanish is used almost exclusively as the medium of communication in the classroom. Students will work on improving reading comprehension and writing skills at a more advanced level. Hispanic writers, YouTube videos, movies, and a multimedia text will be used to examine cultural topics. (*Prerequisites: Spanish III*)

The student will:

- Communicate using all tenses and complex constructions.
- Understand and interpret current events and global themes and advanced discourse.
- Read advanced texts from contemporary Hispanic authors.
- Write comfortably using advanced constructions and extensive vocabulary.

AP Spanish (Full Year)

The AP Spanish Language and Culture course, which is designed around themes, takes a holistic approach to language proficiency. Students are encouraged to learn language structures and to apply them in context through meaningful conversation. Students are required to take the AP exam at the conclusion of this course. (*Prerequisite: Spanish IV and teacher recommendation*)

The student will:

- Communicate using all tenses and complex constructions.
- Understand and interpret current events and global themes and advanced discourse.
- Read advanced texts from contemporary Hispanic authors.
- Write comfortably using advanced constructions and extensive vocabulary.
- Speak, read, write, and understand at an advanced level in accordance with the AP syllabus.

LATIN OFFERINGS

Latin I (Full Year)

The first year of Latin introduces students to the fundamentals of the Latin language and to ancient Roman culture. Over the course of the year, students will learn basic vocabulary, grammar, and syntax as they practice reading, writing, speaking and listening in Latin. At the end of the year, students will have mastered enough of the basics to proceed to more complex readings in their second year.

The student will:

- Read and comprehend beginner level texts.
- Write basic compositions in target language.
- Respond to verbal prompts and communicate using basic phrases and idioms.
- Understand Latin read aloud and spoken in short phrases.
- Understand basic cultural traditions and customs.

Latin II (Full Year) (*Honors Latin II available for freshman students who have met prerequisites*)

This course builds on the previous one in developing skills in reading, writing, speaking, and listening in Latin. In order to provide context for the language and its idioms, the secondary goal of this class is to continue to introduce students to the culture and history of the ancient Roman world. By the end of the year, students will have mastered the fundamentals of the language and be ready to advance to reading authentic Latin literature in the third year. (Prerequisite: Latin I)

The student will:

- Read and comprehend intermediate level texts.
- Write more complex compositions in target language.
- Respond to extemporaneous questions.
- Understand spoken Latin to a moderate degree of complexity.
- Develop further understanding of cultural traditions and customs.

Latin III (Full Year) (*Honors Latin III available for sophomores who have met prerequisites*)

In this course students practice the skills required for reading authentic Latin literature. Those include the ability to assess their own weaknesses and to learn how to solve problems on their own, with the aid of tools such as dictionaries and reference grammars as needed. Discussions of history and culture will now be specific to the chosen texts, to provide the necessary context. At the end of the year, students should be prepared for Latin IV and a deeper study of authentic Latin literature. (*Prerequisite: Latin II*)

The student will:

- Read authentic Latin prose and poetry.
- Navigate advanced grammar and vocabulary.
- Ask and answer basic questions about the text in the target language.
- Be able to summarize the content of a text while remaining in the target language.
- Develop further understanding of history and customs as they relate to the text.

Honors Latin IV (Full Year)

This course continues in the same vein as Latin III, including the reading of authentic Latin prose and poetry, but with more attention paid to nuances of style, genre, rhetoric and meter, and to the specific characteristics of individual authors. We will also consider the historical context of these authors and their works, as well as their legacy. Building on the skills cultivated in the third year, students will not only be expected to identify and solve problems on their own initiative, but also to take responsibility for a specific passage and be ready to guide their peers in a lesson.

(Prerequisite: Latin III)

The student will:

- Read and analyze authentic Latin prose and poetry.
- Navigate advanced grammar, vocabulary, and rhetorical and poetic conventions.
- Ask and answer basic questions about the text in the target language.
- Understand Latin read aloud and spoken.
- Develop further understanding of history and customs, especially as related to the texts.

AP Latin (Full Year)

This course is designed to complete the entire AP Latin syllabus as outlined in the AP Latin Course Description over the course of the year. Based on those requirements, students will read selections from Vergil's *Aeneid* and Caesar's *De Bello Gallico*, along with supplemental texts chosen by the teacher. Class time will also be devoted to analysis and critical interpretation of the required Latin passages as well as examination of the historical, social, cultural, and political context of these authors. Students will also practice reading unprepared passages in Latin, identifying the influence of Latin literature on the artistic achievements of the modern world, and responding to the types of questions found on the AP exam.

(Prerequisite: Latin IV and teacher recommendation)

The student will:

- Read the authentic text of Caesar, Vergil, and others.
- Discuss works from linguistic, literary, and historical standpoints.
- Ask and answer basic questions about the text in the target language

- Understand Latin read aloud and spoken.
- Develop further understanding of history and customs, especially as related to the texts.

MATHEMATICS

MATHEMATICS CORE OFFERINGS

Algebra I (Full Year)

This course is a study of the basic algebra concepts, with emphasis on simplifying numeric and algebraic expressions, solving equations, factoring techniques, and solving various types of word problems, including but not limited to percents and proportions. It is also an introduction to functions and graphing both linear and quadratic equations and inequalities. Solving and graphing systems of equations and inequalities are also introduced, as well as operations with radical and rational expressions. The final concepts deal with quadratic functions and formulas readily used to be successful in Geometry. *This course is for any student entering high school who has not passed Algebra I with an 85 or higher.*

The student will:

- Write, simplify and evaluate numeric and algebraic expressions: linear, quadratic, polynomial, rational, radical.
- Solve linear, quadratic rational and radical equations, linear inequalities and linear systems in two variables.
- Graph and interpret graphs of various equations and functions both with and without the calculator: linear, quadratic, inequalities, linear systems.
- Add, subtract, multiply, divide, and factor polynomials and functions.
- Exercise proficiency in calculator use of these mathematical concepts.
- Develop skills for added success in college entrance exams.

Geometry (Full Year) (*Honors Geometry available for freshman students who have met prerequisites*)

This is a two-semester sequential course that integrates the study of plane and solid geometry. The course reinforces the concepts of intermediate algebra through the solution of geometric problems. Units of study include inductive and deductive reasoning, formal proofs, angle relationships, perpendicular lines, parallel lines and planes, congruent triangles, properties of polygons and special quadrilaterals, similar polygons, similarity and right triangles, right triangle trigonometry, circles, areas of polygons and circles, surface area and volume of solids, and coordinate geometry. (Prerequisite: Algebra I)

The student will:

- Learn and use the basic building blocks of geometry: points, lines, planes, polygons, solids and composite figures.

- Master the difference between inductive and deductive reasoning in order to understand and write proofs as well as solve multi-step problems.
- Use Algebra I skills as the means for solving multi-step geometry problems.
- Deepen mathematics and geometry vocabulary, theorems and postulates that are necessary for understanding and solving problems that do and do not contain visual aids.
- Exercise proficiency in calculator use of these mathematical concepts.
- Develop skills for added success in college entrance exams.

Algebra II (Full Year) (*Honors Algebra II available for sophomores who have met prerequisites*)

This is a two-semester sequential course that reviews and extends concepts and skills obtained during the Algebra I and Geometry series. This course includes simplifying expressions, solving equations and inequalities, sequences and series of real numbers, linear functions and relations, systems of linear equations in two and three variables, polynomials and their factors, rational algebraic expressions and equations, radical expressions and equations, quadratic equations, complex numbers, rational and irrational exponents, logarithms, quadratic relations and systems, conics and basic trigonometric functions, and operations to help prepare the student for the next level of mathematics.

The student will:

- Write, simplify and evaluate algebraic expressions: linear, quadratic, polynomial, rational, radical, logarithmic, exponential, trigonometric.
- Solve linear, quadratic, polynomial, rational, radical logarithmic, exponential and trigonometric equations. Several types of inequalities and linear/nonlinear systems.
- Graph and interpret graphs of various equations and functions both with and without the calculator: linear, quadratic, conic, rational, radical equations, inequalities, trigonometric.
- Add, subtract, multiply, divide, and factor polynomials, functions and inverse functions.
- Exercise proficiency in calculator use of these mathematical concepts.
- Develop skills for added success in college entrance exams.

Precalculus (Full Year)

Precalculus is a two-semester sequential course that is designed to prepare students for college mathematics courses. Topics included are polynomial functions and their graphs, inverse functions, variations, rational functions and their graphs, complex numbers, exponential functions and their graphs, logarithmic functions and their graphs, systems of linear equations in two and three variables, systems of inequalities in two variables, conic sections, trigonometric functions and identities, triangular applications, and vectors. (Prerequisite: Geometry and Algebra II)

The student will:

- Solve various functions, such as linear, power, exponential, logarithmic, and trigonometric functions both algebraically and graphically.

- Solve systems of equations and inequalities of two and three variables algebraically and graphically.
- Analyze graphs of different functions by finding zeros, maximum and minimum values, intervals of increasing and decreasing values.
- Master the use of the unit circle in evaluating trigonometric functions.
- Solve problems through the applications of trigonometric functions.
- Learn and apply trigonometric identities and formulas.
- Exercise proficiency in calculator use of these mathematical concepts.
- Review skills for added success in college entrance exams.

Honors Precalculus (Full Year)

Honors Precalculus is a two-semester sequential course aimed at junior students and which is designed to prepare students for AP Calculus or Calculus. Topics included are polynomial functions and their graphs, rational functions and their graphs, complex numbers, exponential functions and their graphs, logarithmic functions and their graphs, inverse functions, variations, systems of linear equations in two and three variables, systems of inequalities in two variables, conic sections, trigonometric functions and identities, triangular applications, vectors, polar coordinates, sequences and series, permutations, combinations, and probability. (Prerequisite: Geometry and Algebra II)

The student will:

- Solve various functions, such as linear, power, exponential, logarithmic, and trigonometric functions, both algebraically and graphically.
- Solve systems of two and three variables algebraically, graphically, and by using matrices.
- Analyze graphs of different functions by finding zeros, maximum and minimum values, intervals of increasing and decreasing values, and asymptotes.
- Analyze the graphs of conics.
- Master the evaluation of trigonometric functions and the application of trigonometric identities and formulas.
- Understand and develop formulas for types of sequences and series.
- Learn the basics of combinatorics and simple probability.
- Exercise proficiency in calculator use of these mathematical concepts.
- Review skills for added success in college entrance exams.

Calculus (Full Year)

This two-semester sequential course is an overview of Differential and Integral Calculus designed to prepare the student for College Calculus. Emphasis is placed on techniques for finding limits, derivatives and integrals of functions. (*Prerequisite: Precalculus*)

The student will:

- Find limits, derivatives and integrals of functions and evaluate them at specific points.

- Solve various application problems: related rates, marginal productivity, cost and revenue functions.
- Exercise proficiency in calculator use of these mathematical concepts.
- Review skills for added success in college entrance exams.

AP Calculus AB (Full Year)

AP Calculus AB is a two-semester course that adheres to the course requirements set forth by the Advanced Placement division of the College Board. It is a sequential course of Differential and Integral Calculus. Topics included are a review and extension of basic precalculus concepts, algebraic functions and their graphs, limits, continuity, the derivative of a function, differentiation of algebraic and trigonometric functions, implicit differentiation, related rates, optimization and other applications of derivatives, differential equations, anti-differentiation, definite integrals, integration and techniques of integration, and applications of integrals. This course is equivalent to a Calculus I college course. (*Prerequisite: Honors Precalculus & teacher recommendation*)

The student will:

- Master the skills for finding limits, determining continuity of a function, evaluating derivatives and integrals, and using derivatives to analyze functions.
- Solve and interpret answers for various application problems, including optimization, related rates, marginal cost and revenue, areas, and volumes.
- Analyze multi-part questions (FRQs) by applying several of the above concepts and interpreting results in clear and appropriate terms.
- Exercise proficiency in calculator use of these mathematical concepts.
- Review skills for added success in college entrance exams.

MATHEMATICS ELECTIVES

Computer Science (Semester)

Introduction to Computer Science teaches the foundations of computer science and basic programming in JavaScript. Beginning with how a computer and the binary number system works, students get a foundation to move on to learn basic programming. This course introduces students to HTML before moving into the main focus of programming in JavaScript which is the programming language commonly used to create interactive effects within web browsers. The primary emphasis will be on helping students develop logical thinking and problem solving skills as they learn the JavaScript language. Students will:

- Understand how to use data structures, functions and control structures in programming.
- Understand basic syntax for JavaScript programs.
- Think analytically in order to solve problems.
- Evaluate solutions and problem solve.

SCIENCE

SCIENCE CORE OFFERINGS

Biology (Full Year) (*Honors Biology available for Freshmen with teacher recommendation*)

Biology is a full year course in the field of science concerned with the study of living organisms. During the school year the students will investigate life on all levels through study, observation, and experimentation. A significant portion of the course will be devoted to work in the laboratory. Study includes organic chemistry, the cell, DNA, genetics, evolution, viruses, bacteria, protists, fungi, plants, animals, ecology, and environmental biology.

The student will:

- Perform graphical and statistical analysis of data involved with living systems.
- Develop a specific working knowledge of living systems at the cellular, organismal, and ecological levels.
- Use microscopy and other scientific tools to analyze living systems.

Physical Science (Full Year)

The Physical Science course seeks to instill an appreciation of the orderliness of the natural world as expressed in the laws of chemistry and physics. The first semester covers topics in physics, such as motion, forces, energy and work, simple machines, heat energy, electricity and magnetism, and sound and light waves. The second semester covers topics in chemistry, such as basic atomic structure, the periodic law and periodic relationships, atomic bonding, chemical reactions, solutions, and organic chemistry.

The student will:

- Use the scientific method.
- Develop a conceptual view of the nature of matter, forces, and energy.
- Master laboratory techniques.

Chemistry (Full Year) (*Honors Chemistry available for sophomores with teacher recommendation*)

Chemistry is a yearlong course that introduces chemistry to students. It presents basic chemistry concepts without rigorous mathematics, although basic math skills are needed. The student will have a solid chemistry background necessary to continue in science. Topics include basic atomic theory, the periodic law, periodic relationships, basic bonding and molecular geometry, mole

theory, stoichiometry, basic gas laws, solutions, thermochemistry, equilibrium, and acids and bases.

The student will:

- Perform dimensional analysis and calculate quantities involving matter and energy.
- Understand the nature and behavior of matter.
- Proficiency in laboratory techniques.

AP Biology (Full Year)

AP Biology is a year long course designed to mimic the introductory college Biology curriculum. The subject matter is similar to the regular Biology class, but in greater depth and detail, with special emphasis on organic chemistry, molecular biology, DNA, genetics, evolution, ecology, and environmental biology. A significant portion of the course will be devoted to work in the laboratory. A test is taken at the end of the year to determine possible exemption of the introductory course in college. (*Prerequisite: teacher recommendation*)

The student will:

- Perform graphical and statistical analysis of data involved with living systems.
- Develop a specific working knowledge of living systems at the cellular, organismal, and ecological levels.
- Use microscopy and other scientific tools to analyze living systems.

Physics (Full Year)

The Physics course is designed to provide the student with a broad knowledge of the principles of classical physics and the ability to solve problems. The first semester concentrates on Newtonian Mechanics. Newton's laws governing force and motion and the laws of conservation of momentum and energy serve as the foundation for solving problems. Topics involving projectile and circular motion, gravitation, impulse and momentum, energy and work, and machines are covered. The second semester concentrates on electricity and magnetism, wave behavior, sound and light, and quantum theory.

The student will:

- Analyze data to recognize relationships between variables.
- Derive equations from data and use those equations for solving problems.
- Apply physics laws to real world phenomena.

AP Physics 1 (Full Year)

AP Physics 1 is an algebra-based, introductory college-level physics course that explores topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Through inquiry-based learning, students will

develop scientific critical thinking and reasoning skills. This course requires that 25 percent of the instructional time will be spent in hands-on laboratory work, with an emphasis on inquiry-based investigations that provide students with opportunities to apply the science practices.

(Prerequisite: teacher recommendation)

The student will:

- Analyze data to recognize relationships between variables.
- Derive equations from data and use those equations for solving problems.
- Apply physics laws to real world phenomena.

AP Chemistry (Full Year)

AP Chemistry is a course designed to present the equivalent of a one - year Freshman College Chemistry Course. It offers the opportunity to earn college credit (determined by AP score) as well as high school credit. Students will gain an in-depth understanding of the fundamentals of chemical and mathematical problem solving. At least 25% of the course will involve laboratory activities that would be comparable to a college level laboratory experience. The subject matter is similar to the regular Chemistry class, but in greater depth and detail, with special emphasis on stoichiometry, thermodynamics, atomic theory, bonding and molecular shapes, acids and bases, chemical equilibrium, and electrochemistry. Emphasis is placed on depth of understanding of a topic, rather than the breadth of topics.

The student will:

- Learn the inquiry process through numerous laboratory investigations.
- Apply mathematical and scientific knowledge and skills to solve quantitative, qualitative, spatial, and analytic problems.
- Formulate strategies for the development and testing of hypotheses.
- Use manipulative and technological tools including the Texas Instruments Nspire CAS CX Handhelds, Vernier LabQuests, Vernier Probes, and Vernier's LoggerPro software.
- Do scientific research and report and display the results of this research.
- Learn to think critically in order to solve problems.

SCIENCE ELECTIVES

Anatomy (Semester)

Anatomy is a one semester class in which each student will learn about the human body and its mechanisms, from cells to tissues to organs to systems to that of the body as a whole. Each body system and its corresponding anatomical terminology are covered. Clinical terms and pathology for each system are reviewed as well. This is an excellent course for students interested in biology and medicine and planning on investigating those fields in college. A significant portion of the course will be devoted to work in the laboratory.

The student will:

- Acquire a working vocabulary of anatomical structures.
- Acquire a working knowledge of physiological processes.
- Gain exposure to various organs and specimens through lab dissection and examination.

Astronomy (Semester)

Astronomy is a one-semester survey class in which students will learn about planets, stars, galaxies, the universe, nebulae, pulsars, quasars, supernovas, telescopes, absorption spectra, gravity, the sun, earth's movements, seasons, star charting, and other astronomical phenomena. Students will use a textbook and spend some time in the laboratory, as well as spend several nights each semester using telescopes and binoculars for sky observation. This course is highly recommended for students interested in pursuing college study in the sciences.

The student will:

- Understand the formation and evolution of our sun and our planetary system.
- Understand the formation and evolution of our galaxy and universe as a whole.
- Use modeling, naked eye, and telescopic observation to detect and understand astronomical objects and events.

Marine Biology (Semester)

Marine Biology is a one-semester survey class in which students will learn about ocean life, the ocean floor, seawater, marine plants and animals, marine ecology, shoreline biology, and marsh/estuary biology. Students will spend a significant portion of time in the laboratory, as well as attending several off campus activities that investigate our local environment, ecology, and area science labs and research facilities. This course is highly recommended for students interested in pursuing college study in the sciences.

The student will:

- Acquire a historical perspective of marine biology research and current knowledge base.
- Gain exposure to tools and devices used in marine research.
- Use devices and equipment to analyze and experiment on the local marine environment.

SOCIAL SCIENCES

SOCIAL SCIENCES CORE OFFERINGS

World History I (Full Year)

This course focuses on early and classical civilizations of Asia, Africa, Europe, and the Americas, through approximately 1500 C.E. Key topics include the emergence of civilization and the development of agriculture, economics, political systems, imperialism, literature, philosophy, and religion. The course will also focus on the study habits, critical thinking, and writing skills necessary for success in future history courses.

The student will:

- Analyze the impact of geography upon historical events.
- Analyze and evaluate historical sources and use them in historical interpretation.
- Engage in class discussion of assigned readings and practice effective reading comprehension and notetaking skills.
- Write analytical essays that compare and trace changes and continuities over time, including the development of an argumentative thesis and the use of evidence to support the argument.
- Further develop an understanding of the characteristics and diversity of world cultures.

World History II (Full Year)

This tenth grade history course examines the modern world from 1500 C.E. to the present. Topics will include: early modern economic systems and the age of kings; political revolutions; industrialization; imperialism; nationalism; the world wars; decolonization; the role of international organizations, and the world in the twenty-first century. Special emphasis is given to the development of argumentative essay writing and historical thinking skills like synthesis, contextualization and point-of-view. Prior completion of World History I, which spans human prehistory up to the Renaissance is recommended but is not required.

The student will:

- Analyze historical sources and use them in historical interpretation.
- Engage in class discussion of assigned readings.
Develop effective reading comprehension and note taking skills.
- Write analytical essays that compare and trace changes and continuities over time, including the development of an argumentative thesis and the use of evidence to support the argument.
- Further develop one's understanding of the characteristics and diversity of world cultures.

AP World History (Full Year)

AP World History is typically the first AP history course and focuses on developing a student's ability to think conceptually and globally about key historical events and processes in the world. The course will cover the period from the earliest agricultural societies to the present day in Africa, the Americas, Asia, Europe, and Oceania. AP World History is designed to prepare students for intermediate and advanced college world history courses. The class will be a combination of lecture, group work, discussions, writing, simulations, and debate. An AP approved textbook and supplemental outside readings are used, including primary source documents. Solid reading and writing skills and the willingness to devote considerable time to homework and study are necessary for success. Students are expected to become independent, active learners, and to accept responsibility for reading and understand a variety of readings outside of class. Students may earn college credit for the course if they are successful on the AP exam, depending on the policies of their chosen college.

The student will:

- Identify key cultural regions around the world, and the interaction of environment and technology upon historical events.
- Interpret and analyze primary sources and use these sources to develop an analytical essay that seeks to explain historical events and processes.
- Write analytical essays that compare regions and trace changes and continuities across time, and that require interpretation and analysis of primary source evidence, including the development of an argumentative thesis and the use of evidence to support the argument.
- Engage and lead class discussion of assigned readings.
- Continue to hone effective reading and notetaking skills.
- Use evidence from multiple civilizations to demonstrate understanding of historical processes.

United States History (Full Year)

This eleventh grade history course covers the history of the United States from the beginning of English settlement in North America to the modern era. Political, economic, and social factors that have shaped the pattern of life in, and the institutions of, the United States are given careful consideration. Special emphasis is given to the development of argumentative essay writing and historical thinking skills like synthesis, contextualization and point-of-view.

The student will:

- Develop skills in identifying historical causation, continuity and change over time, historical periodization, compare and contrast arguments and understanding historical events in context.
- Make historical connections across time or between different contemporary events (synthesis)

- Interpret historical events and form essay arguments using historical events as evidence.
- Hone thesis writing and other essay skills.

AP U.S. History (Full Year)

AP U.S. History is a challenging course that provides an opportunity for advanced students to engage in college-level study of American history, with emphasis on critical and analytical thinking, persuasive and analytical writing, interpretation and analysis of primary source documents and historical data, and the philosophy and methodology of history. It is also an opportunity for students to develop their understanding of American history for effective civic participation. Students may earn college credit for the course if they are successful on the AP exam taken in May, depending on the policies of their chosen college. Solid reading and writing skills and the willingness to devote considerable time to homework and study are necessary for success. Students are expected to become independent, active learners, and to accept responsibility for reading and understanding a variety of readings outside of class. (*Prerequisite: teacher recommendation*)

The student will:

- Develop skills in identifying historical causation, continuity and change over time, contextualization, compare and contrast arguments, and understanding historical events in context.
- Make historical connections across time or between different contemporary events.
- Interpret historical events and form essay arguments using historical events as evidence.
- Hone thesis writing and other essay skills.
- Develop the ability to answer document-based question by using primary and scholarly secondary sources.

SOCIAL SCIENCES ELECTIVES

AP US Government & Politics (Semester)

AP Government and Politics is a semester course designed to provide students with an analytical perspective on government and politics in the United States, culminating in the AP National Exam given in May. In this course, students will examine the key concepts leading to the development of the U.S. government as well as critically examine the political and government structures and policy-making bodies in the United States, with an eye to gaining a fuller understanding of the rights and duties associated with effective American citizenship.

The student will:

- Demonstrate knowledge of the political philosophies that shaped the development of United States constitutional government.

- analyze the natural rights philosophy and the nature of government expressed in the Declaration of Independence.
- Demonstrate knowledge federal system of government described in the United States Constitution.
- Explain the differences between the House of Representatives and the Senate with emphasis on terms of office, powers, organization, leadership, and representation of each house.
- Describe the influence of lobbyists (business, labor, professional organizations) and special interest groups on the legislative process.
- Analyze the various roles played by the President of the United States, qualifications to become president, and explain the functions of the departments and agencies of the federal bureaucracy.
- Demonstrate knowledge of the operation of the federal judiciary and the knowledge of civil liberties and civil rights.
- Describe the tools used to carry out United States foreign policy (diplomacy, economic, military and, humanitarian aid, treaties, sanctions, and military intervention).
- Gain an understanding of a higher level questioning.
- Compare and contrast multiple governments and how these governments and countries affect our global society.
- Develop advanced writing skills by answering numerous essays questions.

AP Comparative Government (Semester)

AP Comparative Governments is a semester course designed to introduce students to the rich diversity of political life outside the United States, culminating with the AP Exam given in May. Students may earn college credit for the course, depending on the policies of their chosen college. The course uses a comparative approach to examine the political structures; policies; and the political, economic, and social challenges among six selected countries: Great Britain, Mexico, Russia, Iran, China, and Nigeria. Additionally, students examine how different governments solve similar problems by comparing the effectiveness of approaches to many global issues. Students compare and contrast political institutions and processes across six countries (Great Britain, Mexico, Russia, Iran, China, and Nigeria) and analyze and interpret data to derive generalizations. Topics include: Introduction to Comparative Politics; Sovereignty, Authority, and Power; Political Institutions; Citizens, Society, and the State; Political and Economic Change; Public Policy.

The students will:

- Compare and contrast political concepts, themes, and generalizations.
- Describe and explain typical patterns of political processes and behaviors and their consequences.
- Compare and contrast political institutions and processes across countries to derive generalizations.

- Analyze and interpret basic data relevant to comparative government and politics.

Economics & Finance (Semester)

This is a semester long survey class of the principles of personal finance and the economic foundations of our increasingly complex financial world. Four major sections of our economic and financial world are studied: Investment techniques and terms, Credit and Mortgages, the Federal Reserve and Monetary/Fiscal Policy, and the wacky world of Insurance. A final project includes the creation of a Mutual Fund and a presentation on the performance of the investments that have been tracked for a 14 week period.

The student will:

- Develop a greater understanding of the basic concepts of personal finance.
- Interpret and analyze current events and how these events affect financial decisions.
- Gain and understanding of both the macro and microeconomic processes of money, interest rates, credit, the banking system and the increasingly complex world of investments.
- Understand the financial decision-making process of the practical world around them using real time data and information.
- Create, use and manipulate spreadsheet data in order to learn budgeting and portfolio management skills.

History of Art I (Semester) and History of Art II

Art History is intended as a two semester course introducing Western art and the art of other world cultures. First semester begins with the Paleolithic Era and continues through the Italian Gothic Period; second semester begins with the Italian Renaissance and continues through the 21st century. Students may choose to take the semesters independently but are encouraged to take the entire year to gain a deeper appreciation of cross-cultural influences.

The student will:

- Recognize and appreciate major works of art and architecture.
- Identify important political events and how artist responded to these events.
- Trace trends throughout art history and make connections across cultures and time periods.

Psychology (Semester)

Psychology is a one-semester class in which students will study the behavior and mental processes of humans and how they are affected by a person's physical and mental states and environment. Topics include the various personality theories including Freudian theory, the biology of the brain, psychological disorders and treatment, and social and cultural psychology, Psychology is an introductory survey course providing a basic overview of all aspects of psychology rather than going into depth in any particular topic.

The student will:

- Develop an historical understanding of the foundation of modern psychological principles.
- Use psychological principles to understand and explain behavior and social interaction.
- Complete a psychological investigation using the scientific method and present its findings to the class and school.

FINE ARTS

Music Ensemble

The Fine Arts Department offers rich and diverse performance opportunities that are open to all students at Frederica Academy. The best way to become a better player is to play with others. The Ensemble class affords the opportunity to play with other people on a regular basis in a comfortable setting where students can listen to and learn from each other. To get the most out of the class, you'll need to be able to play your instrument at an intermediate level. Students must bring their own instrument and tuner, except for Piano and Drums.

This class will consist of three elements:

- **Applied Instrument Instruction** – All Ensemble students will meet with Mr. Smith one-on-one for individual instruction on their instrument, including being accompanied by the piano on individually assigned music. These students will perform their pieces for the public and the school.
- **College Music Prep** – The class will learn theory in a class setting, as well as one-on-one to prepare any students wishing to be a college music major. Scales, arpeggios, and theory. We will dive into College Music Majors requirements so we are properly prepared for the future.
- **Learning and performing together as a group.** The Ensemble will decide on a list of songs, write charts, and polish these songs for public and school performances. Mr. Smith will play keyboards with the group as they learn jazz, pop and traditional music and draw from his 20 years of performance experience..
- Each student will learn the skills of improvisation, music reading, scales, and the importance and value of working as a team.

Music Appreciation (Semester)

This course introduces students to the history, theory, and genres of music. The course explores the history of music, from the surviving examples of rudimentary musical forms through to contemporary pieces from around the world. This semester covers early musical forms, classical music, and American jazz. The second semester presents modern traditions, including gospel, folk, soul, blues, Latin rhythms, rock and roll, and hip hop. The course explores the relationship between music and social movements and reveals how the emergent global society and the prominence of the Internet are making musical forms more accessible worldwide.

The student will:

- gain an understanding of basic music concepts.
- develop listening skills and be aware of differential tones and melody.
- study style periods of Western art music: Middle-Ages and Renaissance, Baroque, Classical, Romantic, Twentieth Century.
- The student will explore American (Folk, Religious, Pop, and Jazz) and Non-Western Music.
- The student will become familiar with specific composers and representative works of each style period, discuss in cultural context, and conceptualize relative to history,, philosophical ideas.
- The student will explore various internet and/or electronic sources of music.

Public Speaking (Semester)

Students will learn how to analyze issues, sift and select pertinent arguments, and discover appropriate evidence to support these arguments. Students will learn the types of public speaking, principles of rhetoric, logic and debate. Students are required to research and perform speeches and oral interpretation pieces in class. This class will hopefully eliminate the fears that arise from speaking in public and encourage students to want to speak in front of others.

Studio Art I (Semester)

Art I is a foundations course focusing on the elements and principles of art. Students explore a variety of media through six week intervals of color theory (painting), sculpture (ceramics), and drawing. Technical skills are developed through the use of a wide range of tools and processes. Art History is integrated into projects for historical and cultural significance.

Studio Art II/III (Semester)

Art II and Art III build on the knowledge of Art I as students advance to more difficult assignments and media. Continuing in six week intervals students are challenged to use the creative process in problem solving. Technical skills are refined as students continue to work in a variety of media.

Yearbook (Full Year)

Frederica's yearbook has a spring delivery. The yearbook program offers opportunities for photography and journalism as well as computer skills in desktop publishing. Students learn how to produce a professional publication through page layouts, creative text, editing, advertisement sales, and meeting deadlines.

OTHER COURSE OFFERINGS

Advanced Fitness (Semester)

Advanced Fitness is a sports-specific strength and conditioning program. Foundational weight-lifting movements including the squat, press, clean, and deadlift will be taught. Technique will come before intensity. Agility, balance, coordination, and endurance will comprise the conditioning aspect of the program.

The student will:

- understand and demonstrate kinesthetic awareness.
- gain strength and confidence through safely performing the squat, press, clean, and deadlift.
- translate strength, speed, and agility to sports at Frederica Academy.
- develop a healthy lifestyle through training and nutrition choices.

Health (Semester)

Our Health course combines scientifically accurate information and the application of skills necessary to achieve optimal health and wellness. It contains up-to-date information on developing and assessing every aspect of fitness and includes detailed instruction for peak performance and maintaining a healthy body weight. Health also gives students the opportunity to apply their knowledge and skills of wellness to real-world situations.

The student will:

- develop awareness of effects of alcohol and drug use.
- engage in mature dialogue on various teenage social issues.
- discuss and understand the driving laws in Georgia for teenagers.
- discuss and understand the different types of driver's licenses as well as how to obtain and keep a license.