



ST. THOMAS AQUINAS

H I G H S C H O O L

PROGRAM OF STUDIES

2019-2020

THEOLOGY

010 Intro to Catholicism CP, Semester

This course is an introduction to Catholic Christianity for freshmen. It begins with a general discussion of faith, religion, and the “God question,” and then surveys Judaism, Scripture, key Christian doctrines, and the Church. It provides students with a basic understanding of Catholic history, theology, and practice. It also encourages the development of critical thinking and writing skills.

015 Morality CP, Semester

This course introduces students to the basic moral principles for living a Christian life. Among the important themes are human behavior, sin, moral and religious conversion, formation of conscience and responsible decision-making. An integral part of the course involves materials from the Facing History and Ourselves curriculum. These materials focus on issues of tolerance and intolerance of others, good citizenship and responsible involvement in society, the role of the individual in society, and the social consequences of our choices. This program includes consideration of events from American history and contemporary events, and uses the Nazi Holocaust as a case study of intolerance and the consequences of people choosing to act or not to act in the face of injustice. Other selected contemporary moral issues are also considered.

020 Scripture I CP, Semester

In this course, students are introduced to the Jewish and the Christian Scriptures. During the first semester the stories of the Hebrew Scriptures are examined as sacred literature and with regard to their historical context. The notions of inspiration, revelation and covenant are essential to understanding these texts as sacred literature. The development of the Hebrew faith is examined from the Covenants with Abraham and Moses, through the Monarchy, to the development of Judaism after the Babylonian exile. The themes of God’s call, responding to that call and personal transformation are applied not only to the characters but also to our own lives. Prophets are studied as the moral and religious conscience of Hebrew society.

025 Scripture II CP, Semester

During the second semester, we begin by considering Post-Exilic Judaism and Wisdom Literature; however, the focus is on the New Testament. Emphasis is placed on the person of Jesus, his life and preaching and the significance of his death and resurrection. The faith and life of the early church, its relation to Jewish and Roman society and the development of the Gospel traditions are also examined. The themes of covenant, call and God’s transforming grace show continuity with the Jewish faith traditions.

030 Social Justice CP, Semester

This course develops an awareness of Christian social teaching grounded in the Catholic tradition, including Scripture, Papal Encyclicals and the Pastoral Letters of the U.S. Catholic Bishops. It also addresses a variety of controversial issues which challenge our society. These include poverty, world hunger, prejudice, racism, war and peacemaking, abortion, and capital punishment. The course provides a better understanding of both the facts regarding these issues and the relevant Christian principles and values. It examines the role of debate and controversy in a democratic society and the importance of analyzing and understanding the reasons for each position. Students are challenged to have well informed consciences and commitments on moral issues. The course focuses on questions such as “What difference can an individual make?” and “What is the appropriate role of government in dealing with social issues?”

033 Christianity and Ethics CP, Semester

You’ve been told your whole life what right and wrong is. In this Ethics course we look at this a little more carefully. Is there actually a right and wrong, or are these, as some have claimed, just a matter of what I (the individual) or we (the culture) decide? What actually IS right and wrong, and how can we know this? And what, if anything, does the concept of right and wrong have to do with what it means to be human? What does human nature have to do with morality? Maybe everything. Finally, how might The Gospel shed light on this discussion? This course is for the person who is willing to look in greater depth at some very important ideas that we may until now have simply taken for granted.

035 World Religions CP, Semester

World Religions introduces students to some of the world’s major religious traditions. This course will include the study of the Western monotheistic religion Islam and the Eastern religious tradition of Hinduism and Buddhism. In each case students will examine the historical development of the traditions, the basic beliefs, and the religious practices—including forms of worship and prayer, sacred stories, and scriptures. Student research and presentations will cover a variety of other religious traditions such as Judaism, Taoism, Shinto, Confucianism, Sikhism and Primal religions.

047 Philosophy of the Human Person CP, Semester

This course will explore the nature of the human person. Topics will include the role of emotions in life, human nature as social beings, the desires for understanding and knowledge, and moral decision making. We will explore the full range of human desires and striving for their fulfillment in the quest for a fulfilling life. We consider visual arts, music and film as expressions of human meaning and value.

ENGLISH

110 English 9 CP, Full Year

Students in English 9 CP begin the year with a focus on writing skills, laying the foundation for writing strong paragraphs and essays. The basics of writing mechanics and usage are woven into the course throughout the year, as is vocabulary study of Greek word roots. Students work on reading stamina and comprehension, as well as critical thinking and discussion skills, through study of several classic works and an ongoing program of choice reading. The foundations of further study of literature are set in this course, which includes the four major genres and basic literary terms. Students read four to six major works throughout the year, along with material from the textbook and classical mythology.

Note: *Placement is determined by placement exam and English faculty review.*

115 English 9 Honors, Full Year

Students in English 9 Honors begin the year with a focus on writing skills, laying the foundation for writing strong paragraphs and essays. The basics of writing mechanics, grammar, and usage are woven into the course throughout the year, as is vocabulary study of Greek word roots. Students in the Honors level are expected to have strong comprehension skills, so the pacing and depth of this course are more advanced. As students work through a number of classic works, they practice critical thinking, making inferences, generating discussion and presenting ideas in both speaking and writing. The foundations of further study of literature are set in this course, which includes the four major genres of literature and basic literary terms. Students read five to eight major works throughout the year, along with material from the textbook and classical mythology.

Note: *Placement is determined by placement exam and English faculty review.*

120 English 10 CP, Full Year

Students in the sophomore year continue to hone their reading and writing skills through a study of works from British Literature. As they study works from medieval times to the modern era, students encounter a wide variety of poetry, fiction and drama. Writing skills and analytical thinking skills are developed further through a number of assignments related to the literature studied, with particular emphasis on the development and defense of a thesis in essay form. Vocabulary study focuses on the Latin roots found in English. Four to six major works will be required as outside readings in addition to readings in the textbook.

125 English 10 Honors, Full Year

Sophomores at the Honors level continue to sharpen their reading, writing and critical thinking skills as they encounter a chronological study of British Literature, with a focus on the literary periods from medieval times through the modern era. Students read and study a wide variety of poetry, drama and fiction, learning to recognize the elements of each literary period, and the ideas and cultures which informed them. At the Honors level, students will also begin to explore ideas about literature through critical reading and analysis. Writing skills and analytical thinking skills are developed further through a number of assignments related to the literature studied, with particular emphasis placed on the development and defense of a thesis in essay form. Vocabulary study will focus on the Latin roots found in English. Six to eight novels and plays will be required in addition to readings in the textbook.

Note: *Placement in honors is determined by the teacher of the previous year's English course.*

130 English 11 - American Literature CP, Full Year

Juniors pursue a study of American Literature from its foundations in the seventeenth century through the twenty-first century. American Literature is correlated to U.S. History as much as possible, so that students can discover the

many connections between them, and recognize the larger ideas that have shaped our culture, and continue to impact our place in the world. The mechanics of a significant research paper are taught at this level and essays which require critical thinking and analysis related to the readings are required throughout the year. *All juniors are required to write a major research paper in the fall semester, and to present a speech on a topic related to American history and culture in the spring.* Four to six major works will be required as outside readings in addition to readings in the textbook.

135 English 11 - American Literature Honors, Full Year

At the Honors level, juniors pursue a study of American Literature from its roots in Puritan New England through the twenty first century. Emphasis is placed on relating the literature studied to the US History course students are taking at the same time, and students are encouraged to seek connections between the two courses. Literary works are studied in their original context, in order to trace the development of ideas, art and culture that have shaped America's place in the world. The development of literary styles from romanticism to modernism is examined in relation to the American experience. The mechanics of a significant research paper are taught at this level. *All juniors are required to write a major research paper in the fall semester, and to present a speech on a topic related to American history and culture in the spring.* Six to eight major works will be required in addition to readings in the textbook.

Note: *Placement in an honors level course is determined by the teacher of the previous year's English course.*

138 AP English Language and Composition, Full Year

This AP English Language course is designed to help exceptional language arts students become skilled readers of prose written in a variety of periods, disciplines and rhetorical contexts, and to become skilled writers who can compose for a variety of purposes. The skills will be developed through extensive study of primarily American literature of various genres. As stated on College Board website, this course "requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods." *This course fulfills the requirement for English 11. All juniors are required to write a major research paper in the fall semester, and to present a speech on a topic related to American history and culture in the spring. Six to eight major works will be required as outside readings in addition to readings in the textbook. All students are required to take the AP exam in May. NOTE: Students are required to purchase a number of additional books for this class.*

Prerequisite: *Placement in an AP level course is determined by the teacher of the previous year's English course.*

Note: Seniors are required to take either the full-year AP English Literature and Composition course, or to take Senior English: The Search for Self in the fall semester and one of several English electives in the spring semester. In the first semester, all Senior English courses and AP English 12 will include a personal narrative writing component to help with college application essays. In the second semester, all Senior Elective courses culminate in the Senior Presentation.

140 English 12: The Search for Self CP, Semester 1

Who will I become and how will I get there? Am I in control of my own destiny? How do I know what's real? What's true? What's right? Every human being wonders about these questions, especially at times of transition. The Senior English course focuses on the themes of identity, self-discovery and self-definition. Through study of a variety of literary works, students explore the individual in relation to the self, to the community and to God. Literary works taken from the scope of world literature include *Oedipus Rex*, *Hamlet* and an assortment of more modern works. Writings include the personal narrative as well as literary analysis. Students are expected to be knowledgeable about

and responsible for accurate research documentation. Four to six major works will be required in addition to shorter assigned readings.

Note: *This course must be passed during the first semester. Graduation requires that the student pass both semesters. All seniors, except those enrolled in AP English, must take Senior English first semester at either the H or CP level.*

145 English 12: The Search for Self Honors, Semester 1

Who will I become and how will I get there? Am I in control of my own destiny? How do I know what's real? What's true? What's right? Every human being wonders about these questions, especially at times of transition. The Senior English Honors course focuses on the themes of identity, self-discovery and self-definition. Through a variety of literary works, students explore the individual in relation to the self, to the community and to God. Literary works are taken from the scope of world literature, including an assortment of modern works. Students will be expected to draw on their knowledge of literary periods and cultures and to explore critical thinking about the literary works studied. In writing, the emphasis will be on the personal narrative, and literary analysis. Students are expected to be knowledgeable about and responsible for accurate research documentation. Reading and discussing four to six major works (novels, plays, and short story collections) are required. Additional, smaller works (poems, essays) will also be used. *Placement in honors is determined by the teacher of the previous year's English course.*

Note: *Each student must achieve a passing grade for the semester in order to receive credit. Graduation requires that the student pass both semesters of Senior English. All seniors, except those enrolled in Advanced Placement English, must take Senior English at either the H or CP level.*

147 AP English Literature and Composition, Full Year

The AP English class for highly motivated seniors focuses on literary analysis through a careful study of each of the major genres of literature: fiction, poetry and drama. Students read a large number of challenging works, engage in literary analysis and write extensively. The course is intended to provide students with a college level literature course, and to prepare them for the A.P. examination in May. Students often complete work independently, and lead team discussions; willingness to participate and actively engage with the text is essential for students in this class. This course will fulfill the requirement for a full credit of English in the senior year. *Students are required to take the AP Exam in May. Students must purchase a college level anthology and a number of supplemental novels.*

Prerequisite: *English 11 Honors or AP Language and Composition. Placement in an AP level course is determined by the teacher of the previous year's English course.*

154 Mass Media and Popular Culture CP, Semester 2

This course focuses on developing tools of critical analysis and active reading with which to view various media. Using critical questions, media deconstruction, and power of stories, students explore the impact of media and popular culture on human behavior, communication, and ethics. A large portion of the course is devoted to researching how values are presented in media, which will culminate with a value project. Additional assessments include: written media deconstructions, discussion, collaborative and individual projects, and presentations.

Note: *This course fulfills the English requirement for the second semester of senior year. This course culminates in the Senior Presentation.*

155 Sports Literature: Understanding a Cultural Phenomenon CP, Semester 2

Sports and the vibrant culture surrounding them have a strong hold on our national consciousness. The Super Bowl, that celebratory marriage of football and capitalism, is an unofficial American holiday; the athletic opportunities for children growing up in America are seemingly endless; and most Americans follow at least one sports team, often

with the fervor of religious zealots. So why does the sports world have such a hold over us? That's just one of the essential questions driving this course. Non-fiction works, such as H.G. Bissinger's *Friday Night Lights*, will offer insight into the very human nature of sports and help us better understand this powerful cultural phenomenon.

Note: *This course fulfills the English requirement for the second semester of senior year. This course culminates in the Senior Presentation.*

156 Mystery and Suspense: The Fascination of Horror CP, Semester 2

Once an author places the focus of a story on plot, unfolding a mysterious tale, the elements of characterization and theme become minimal, but the effect on the reader becomes more intense. Since Edgar Allan Poe's tales of horror, writers have delved into the depths of the human mind and its capacity for terror, through stories of monsters, demons, ghosts and – perhaps scariest of all – the ways in which we scare ourselves. In this class students examine the mystery and horror genres through the works of Poe, Henry James, H.P. Lovecraft, Agatha Christie, Stephen King and others.

Note: *This course fulfills the English requirement for the second semester of senior year. This course culminates in the Senior Presentation.*

157 Science Fiction: The Literature of Ideas CP, Semester 2

Famed Science Fiction writer Isaac Asimov once defined Science Fiction as “that branch of literature which is concerned with the impact of scientific advance upon human beings,” but it has also been defined as “the literature of ideas.” This second definition more accurately describes a constantly-developing and diverse literary genre that stretches the limits of imagination. Good science fiction, no matter the level of “science” it involves, challenges us to think beyond the traditional, the conventional and the ordinary. These authors drop us into imaginary worlds that often become eerily similar to our own earthly realities once we get past the differences on the surface of the settings. The challenging, provocative ideas found within these works make them so compelling. In this course we will explore works by thought-provoking authors, such as: Kurt Vonnegut, Ursula Le Guin, and Philip K. Dick.

Note: *This course fulfills the English requirement for the second semester of senior year. This course culminates in the Senior Presentation.*

152 Finding Your Voice: A Writing Workshop CP, Semester

This writing intensive class provides an opportunity for students to write in a variety of forms and styles, including personal narrative, fiction, drama and poetry. By examining short works written in each of these forms and experimenting with their own creations, students work on the craft of writing. Students study mentor texts in various genres and experiment with finding their own style and, most importantly, their own voice.

Note: *This course is open to juniors and seniors. It does NOT fulfill the English requirement for senior year.*

158 Speaking Up! - Public Speaking for the 21st Century CP, Semester

Speaking before an audience is both a much feared and much needed skill. Whatever your plans, your future in college and your career will probably require you to make presentations, deliver speeches and lead through your spoken words. In this class, students study the basics of poise, presence, volume and diction, and perform works written by others as well as original speeches. Students will tackle everything from how to tell a funny joke without ruining it, to ad lib speaking under pressure to prepared orations.

Note: *This course is open to juniors and seniors. It does NOT fulfill the English requirement for senior year.*

MATHEMATICS

205 Algebra I CP Enriched, Full Year

This college preparatory course helps students build a strong foundation in the principles of mathematics. Methods and strategies for problem solving are emphasized in this course, along with connections and applications. This class covers similar topics to Algebra I CP ranging from order of operations to solving linear, quadratic, and radical functions. Graphing, modeling and interpreting data and functions are explored through a number of activities in conjunction with other STEM classes. Students use graphing calculators throughout the course. This course moves at a slower pace and includes reinforcement of key concepts. Small class sizes allow for more individual instruction. This course is recommended for students who need a great deal of review of pre-Algebra.

210 Algebra I CP, Full Year

College Preparatory Algebra I is a course that helps students build a strong foundation in the principles of mathematics. Methods and strategies for problem solving are emphasized in this course, along with connections and applications. Topics covered in this class range from order of operations to solving linear, quadratic, and radical functions. Graphing, modeling and interpreting data and various functions are explored through a number of activities in conjunction with other STEM classes. Students utilize graphing calculators throughout this course, supporting STEM integration through exploration, discovery and problem solving. Deeper exploration of these topics prepares students for future STEM courses.

215 Algebra I Honors, Full Year

This accelerated course is offered to students who are eager to learn, motivated, and looking for an academic challenge. Topics covered in this class range from order of operations to solving, graphing and modeling linear, exponential, quadratic, radical and rational functions. This course is designed to take many skills and concepts from previous math courses and expand upon them through contextually based problem solving. Throughout this course, students gain the skills and confidence necessary to be successful in future honors-level mathematics courses. Emphasis is placed on using graphing calculators effectively and integrating Excel applications from STEM courses. These tools support integration in this STEM course through exploration, discovery and problem solving with real-world data. Deeper exploration of these topics will prepare students for future STEM courses.

NOTE: *Placement in Algebra I courses is determined by available standardized test scores and the STA Mathematics Placement Exam.*

220 Geometry CP Enriched, Full Year

Geometry CP Enriched is offered to students who need additional support in mathematics. While the base curriculum is similar to Geometry CP, there is flexibility in the pacing of the course to allow for additional reinforcement of all of the major topics. Concepts are taught through lecture, observations, patterns, and discovery activities. Visualization is stressed through drawings, and with technology such as GeoGebra, to support the integration of our school-wide STEM initiatives. Class size is held down to improve the availability of the teacher for one-on-one assistance when necessary.

Prerequisite: *Algebra I*

221 Geometry CP, Full Year

College Preparatory Geometry is designed to challenge students to think analytically. A majority of the content lends itself to the notion that abstract geometric concepts provide unique opportunities for problem solving, justification, and analysis. The content of the course includes proofs, angle relationships, polygons, parallel line concepts, right triangle trigonometry, similarity, coordinate plane concepts, properties of quadrilaterals, circles, area and perimeter of

plane figures, and the properties associated with solids. Through a dedicated academic approach, students can expect to sharpen their ability to defend an argument, to improve their problem solving processes through visualization and logic (including the use of manipulatives and GeoGebra software) and to build upon the concrete foundations created in Algebra I. These skills are essential for STEM-related coursework.

Prerequisite: *Algebra I. Teacher recommendation if coming from an enriched Algebra I class*

225 Geometry Honors, Full Year

Honors Geometry is an accelerated course that provides a thorough examination of plane, solid, and coordinate geometry. Mastery of Algebra I is essential, as these skills enhance many of the abstract concepts presented and provide numerous opportunities for justification, analysis, and applications. Topics covered include: logic and proof, parallel lines and polygons, perimeter and area analysis, volume and surface area analysis, similarity and congruence, right triangle and non-right triangle trigonometry, circles, and other important aspects of an analytically-based geometry course. Emphasis is placed on mastering critical thinking skills as related to logical reasoning and the defense of an argument. Students are required to use graphing calculators and other available tools, such as GeoGebra software and manipulatives, in order to develop the skills necessary for success with advanced topics. These skills are essential for any STEM-related coursework.

Note: *Grade 9 placement in Geometry Honors is determined by available, standardized test scores and the STA Mathematics Placement Exam. Grade 10 placement is determined by the recommendation of the Algebra I teacher.*

228 Geometry Honors, Summer

This course has the same goals and learning outcomes as the Full Year Geometry Honors course (see below), condensed into a six to eight week summer. The summer course allows ample opportunity to explore and discover geometric properties and theorems through a guided, inquiry-based approach. Fees for the course cover instructor(s), technology and facilities costs. Students will have access to Geometer's Sketchpad, a mathematics software that supports discovery-based learning, as well as ample supplies for hand sketches, drawings and graphs.

Prerequisite: *Algebra I Honors or a strong recommendation from the Algebra I CP instructor*

230 Algebra II CP Enriched, Full Year

This college preparatory course covers the same topics as Algebra II CP but moves at a slower pace and includes more reinforcement of key concepts. Small class sizes allow for more individualized instruction. This course is intended for students who need review of material covered in previous mathematics courses. Topics include linear and quadratic functions and their applications, powers and roots, polynomial functions, and exponential and logarithmic functions, with heavy emphasis on numeric processes, algebraic methods, graph creation and interpretation, and the language and interpretation of the mathematics. Application problems are often investigated early in a topic and solutions are included throughout each unit, with graphing calculator skills expanded throughout the course. Successful completion of the course prepares students for CP Probability and Statistics.

Prerequisite: *Geometry*

231 Algebra II CP, Full Year

This course is designed to review the important concepts learned in Algebra I and to further develop these skills through the exploration of advanced topics. Concepts include variations, linear relations, systems, quadratic functions, imaginary and complex numbers, functions and their graphs, powers and roots, polynomial functions, and exponential and logarithmic functions. A heavy emphasis is placed on the application of these concepts through real-world problem solving and the importance of these skills in other STEM related courses.

Prerequisite: *Geometry. Teacher recommendation if coming from an enriched Geometry class*

235 Algebra II Honors, Full Year

This accelerated course is for students who are motivated and eager to learn in a challenging mathematics environment. Topics include linear and quadratic functions, radical equations and expressions, and matrix algebra. In addition, students explore and apply polynomial, exponential, and logarithmic functions, concluding with conic sections, sequences, and series. Emphasis is placed on the application of graphs, equations, inequalities and systems to model and solve problems. Appropriate technology, including calculators and application software, is used regularly in this course to advance students' skills and problem-solving abilities in all STEM areas.

Prerequisite: *Recommendation from the Geometry CP or Honors teacher*

247 Statistics CP, Full Year

This full year course is an introductory mathematics elective to prepare students for college level probability and statistics. Students experience practice and gain mastery of frequency distributions, multiple forms of displaying data, measures of dispersion and variability, probability, binomial and normal distributions, sampling, correlation, and regression analysis. Texas Instruments graphing calculators are used to display and analyze data.

Prerequisite: *Recommendation from the Algebra II teacher*

250 Precalculus CP, Full Year

Completion of this course finishes a student's high school mathematics education and introduces early concepts of college level calculus and statistics by further integrating and applying algebra and geometry at a more advanced level, including analytic geometry and the study of functions: linear, quadratic, polynomial, rational polynomial, exponential, logarithmic, trigonometric, piecewise, composites of functions, inverses, and other special functions. One- and two-variable statistics skills and concepts up to standard deviation and normal distribution are included with binomial distribution, expansions and connected probability and combinatorics topics. Triangulation, integrating the Laws of Sines and Laws of Cosines, is explored and applied, after basic trigonometry facts and formulas through sum and double angles are mastered. The conic sections (circles, ellipses, parabolas and hyperbolas) are included throughout the course, especially as STEM connections, to enhance and further connect students' understanding of all precalculus topics. A graphing calculator (TI-83 or newer) and its usage is tantamount to learning and problem solving throughout this course.

Prerequisites: *Algebra II. Teacher recommendation if coming from an enriched Algebra II class. Concurrent enrollment or completion of Physics CP is strongly recommended.*

255 Precalculus Honors, Full Year

This course stresses functions and integrates trigonometry and analytical geometry. The material covered includes the algebraic, graphical, and numerical analysis of functions, trigonometry, vectors, higher degree systems of equations, matrix algebra, polar and parametric functions, and sequences and series. The fundamentals of calculus are introduced. The course is designed for the highly motivated student with excellent math skills planning to take AP Calculus or a rigorous college calculus course. Honors Precalculus moves at a faster pace and covers the topics in greater detail than Precalculus CP. A graphing calculator (TI-83 or newer) and its usage is tantamount to learning and problem solving throughout this course. This technology will often be utilized to illustrate STEM connections.

Prerequisite: *Recommendation from the Algebra II teacher*

252 Precalculus Honors, Summer

Summer Precalculus is an eight-week hybrid course with a large online component. The course is designed for the highly motivated student with excellent math skills planning to take AP Calculus or a rigorous college calculus course. Material covered includes the analytic, graphical, and numerical analysis of functions, trigonometry, vectors, higher ordered degree systems of equations, matrix algebra, polar and parametric functions, and an introduction to Calculus. Honors Pre-Calculus moves at a faster pace and covers the topics in greater detail than Pre-Calculus CP. A graphing calculator (TI-83 or newer) or online graphing tool and its usage is tantamount to learning and problem solving throughout this course. A computer and strong internet access are also essential for this course. Students are required to purchase access to an online program called Pearson MyMathLab, where the majority of the coursework will be completed and where the textbook and other resources will be available.

Note: *Placement in this course is for students who have successfully completed Algebra II Honors, or who have a very strong recommendation and approval of the Algebra II CP instructor. If taken the summer between sophomore and junior year, students must also be enrolled in Calculus AB or Calculus Honors for the following school year. If taken between junior and senior year, students may choose to replace Calculus with AP Statistics the following year.*

266 Calculus Honors, Full Year

In this honors-level calculus course, students study limits, differentiation, and integration, as well as many valuable theorems and applications. Students explore these concepts analytically, graphically, and through the use of graphing calculators to solve problems and make connections to Physics and other STEM areas.

Dual Enrollment Option: For a fee (\$100), students who pass this course may be eligible for college credits through Southern New Hampshire University. These credits may be transferable to other institutions, allowing students to enroll in Calculus II during their freshman year.

Prerequisite: *Recommendation from the Precalculus teacher. Concurrent enrollment in Honors or AP Physics is strongly recommended.*

267 AP Calculus AB, Full Year

Equivalent to a college-level calculus course in single-variable calculus, this Advanced Placement Calculus AB course helps students work towards mastery of limits, derivatives, integrals, approximations and applications, with emphasis on numeric, analytic, graphic and language-based approaches to problem solving. Further topics in calculus, such as advanced techniques of integration from the BC curriculum, are explored after AP exams, especially to enhance and support STEM connections and applications. The use of a graphing calculator in AP Calculus is an integral part of the course. This course is fast-paced and rigorous, intended for students with strong preparation and interest in mathematics. Students are required to take the AP exam in May.

Prerequisite: *Recommendation from the Precalculus teacher. Concurrent enrollment in Honors or AP Physics is strongly recommended.*

269 AP Calculus BC/Multivariable, Full Year

For students who have successfully completed AP Calculus AB, or who are strongly recommended by their Precalculus Honors instructor, this course quickly reviews differential and introductory calculus of single variables before moving into second and third semester calculus topics: Techniques and Applications of Integration, including more advanced volumes, arc length and surface area; the calculus of Parametric, Polar and Vector Functions; more on Separable Differential Equations and Logistic Functions; Taylor and Maclaurin Series, and associated rules and theorems for determining convergence, intervals, radius of convergence and potential error. The use of a graphing calculator in AP Calculus is an integral part of the course.

The AP Calculus BC exam is required for all students in this course. Upon completion of the AP exam, topics in multi-variable calculus and other mathematics are included, especially to enhance and support STEM connections and applications.

Prerequisites: *Recommendation from the AP Calculus AB or the Precalculus Honors teacher. Concurrent enrollment or completion of AP Physics is strongly recommended.*

272 AP Statistics, Full Year

This course is a mathematics elective to prepare students for college-level statistics and is highly recommended for students planning studies in the physical, social, or life sciences. Students practice and work towards mastery of the concepts and tools used to collect, analyze, and draw conclusions from data. Topics include exploratory analysis, planning and conducting studies, probability, and statistical inference. The course emphasizes problem solving and involves numerous, in-depth independent projects. Students are required to take the AP Statistics exam in May.

Prerequisite: *Completion of Algebra II and recommendation from teacher*

280 AP Computer Science Principles, Full Year

This course is designed to be equivalent to a first semester introductory college computing course. Students develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems. Students will also discuss and write about the impacts these solutions could have on their community, society, and the world.

Note: *This course is open to sophomores, juniors and seniors.*

Prerequisites: *Geometry. Preferably, sophomores and juniors will have completed either the Data Science and Analysis or Foundations of Game Programming course.*

SCIENCE

321 STEM CP, Full Year

STEM is a freshman level science course that introduces students to STEM (science, technology, engineering, and mathematics) experiences in a project-based environment. Freshman STEM students will learn and apply the protocols of scientific research in a laboratory context. These inquiry experiences will include topics from the fields of Physics, Chemistry, and Biology. The major focus of the course is to expose students to the design process, research and analysis, communication methods, engineering standards, and technical documentation while also developing skill and understanding in fundamental concepts of science. Proper use of technology will be emphasized throughout the course in preparation for further STEM courses. Honors-level students will be expected to utilize a higher degree of numeracy along with demonstrating a more sophisticated approach to their design methods and strategies.

322 STEM Honors, Full Year

STEM is a freshman level science course that introduces students to STEM (science, technology, engineering, and mathematics) experiences in a project-based environment. Freshman STEM students will learn and apply the protocols of scientific research in a laboratory context. These inquiry experiences will include topics from the fields of Physics, Chemistry, and Biology. The major focus of the course is to expose students to the design process, research and analysis, communication methods, engineering standards, and technical documentation while also developing skill and understanding in fundamental concepts of science. Proper use of technology will be emphasized throughout the course in preparation for further STEM courses. Honors-level students will be expected to utilize a higher degree of numeracy along with demonstrating a more sophisticated approach to their design methods and strategies.

Note: *Placement in STEM Honors course is determined through an analysis of 8th grade mathematics courses, entrance exam scores, and a Mathematics Placement Exam.*

320 Biology CP, Full Year

Biology CP is a sophomore course designed to provide a sound foundation in the biological sciences for college-bound students. This is a laboratory science course that investigates the development of biological systems at the molecular, cellular, and organism level using an inquiry approach. Our primary goal is for students to develop a sense of wonder for the living world while learning the basics of biological science.

Prerequisite: *STEM*

325 Biology Honors, Full Year

Biology Honors is an academically demanding course for those students with advanced problem-solving and analytical skills. The course is a survey course covering the major themes of biology, with special focus on interconnectedness of organisms with their environment and the impact of humans on that relationship. Laboratory experiences are numerous and they provide focus and training on the inquiry aspect of experimental design. Laboratories will focus on the generation of authentic quantitative data, using a variety of advanced techniques including technology and biotechnology. Honors Biology is recommended for those students wishing to pursue careers in STEM fields.

Prerequisite: *Grade 9 placement is at the approval of the Department Chair based upon performance on the entrance exam, previous science course grades, and mathematics placement. Grade 10 placement is determined by the recommendation of the STEM teacher.*

328 AP Biology, Full Year

This second-year Biology course is an intense theme-based analysis of the major concepts in the field of biological science. The course is designed to be the equivalent of a college introductory Biology course. The two main goals of AP Biology are to help students develop a conceptual framework for modern biology and to assist students with the understanding of science as a process. The major concepts covered in the course include: the study of ecology, basic cell function, biochemistry, genetics and genetic engineering, applied genetics, evolution, plant and animal anatomy and physiology, and comparative vertebrate analysis. AP Biology utilizes numerous laboratory investigations to allow students to experience the application of biological concepts to authentic issues in the world today. *AP Biology will occupy two periods in each student's schedule to accommodate the course laboratory requirement.*

Prerequisites: *Chemistry, a recommendation from Chemistry and/or Physics teacher*

330 Chemistry CP – Quantitative, Full Year

Chemistry CP is an introductory course for students who seek a strong foundation in the concepts and applications of Chemistry. Topics of study include atomic theory, nuclear chemistry, gas behavior, solution chemistry, chemical bonding and reactions, stoichiometry, acids and bases, and reaction kinetics. Laboratory activities will play an important role in illustrating the themes covered in class, and students will conduct several independent research projects. Chemistry, as a quantitative science, requires a mastery of pre-algebra and algebra concepts, including: graphing, the use of exponents, algebraic manipulations, linear equations, and scientific notation. These concepts are used frequently and reviewed in class. This course is recommended for students who may elect to pursue further courses in the sciences at the college level.

Prerequisite: *Recommendation from Biology teacher. Completion or concurrent enrollment in Algebra II*

335 Chemistry Honors, Full Year

Chemistry Honors is a rigorous course with classroom and laboratory content similar to Chemistry CP. However, the Chemistry Honors curriculum is more in-depth than Chemistry CP, and the student's mathematical skills are more strongly emphasized. A superior working knowledge of Algebra, including graphing and the use of graphing calculators, as well as logarithms, exponents, and scientific notation, are expected. Chemistry Honors provides a foundation for more advanced course work in chemistry, and/or other technical and science fields. Problem solving in both the classroom and laboratory is heavily emphasized. This course is the recommended first-year course for students who may wish to take AP Chemistry in a subsequent year.

Prerequisite: *Recommendation from Biology teacher. Completion or concurrent enrollment in Algebra II*

338 AP Chemistry, Full Year

This second-year course in Chemistry gives the student full immersion into college-level Chemistry. The following subjects will be studied in detail: 1) the structure of matter including modern atomic theory, chemical bonding and molecular structures 2) the states of matter including gas behavior, liquids, solids, and solutions; 3) chemical reactions including reaction types, stoichiometry, equilibrium, kinetics, and thermodynamics; 4) descriptive chemistry, including the physical and chemical properties of specific elements or compounds as well as introductory organic chemistry. AP Chemistry students must exhibit high motivation and the capability for self-teaching. *AP Chemistry requires an intensive laboratory experience, so the course will involve students attending laboratory sessions before school.*

Prerequisites: *Recommendation from Chemistry and/or Physics teacher. Concurrent enrollment in Precalculus*

340 Physics CP, Full Year

Physics CP is a non-calculus course for students who seek a first experience with Physics and the typical rigors that

go with doing Physics, especially performing laboratory work, analyzing laboratory data, composing scientific arguments, and learning how Physics principles are applied in practice. The course has heavy emphasis on lab work, and each unit is built around a project or a major investigative lab.

Prerequisites: *Recommendation from Chemistry teacher.. Concurrent enrollment in Algebra II or higher*

345 Physics Honors, Full Year

Physics Honors is a non-calculus course for highly motivated students of proven analytical ability. The course deals with the operative concepts of Physics through mastery of a traditional foundation in mechanics. This is done while employing, and learning good scientific practice through laboratory work, analyzing laboratory data, composing scientific arguments, and understanding how Physics principles are applied in practice. Although the scope of the course is limited, an effort is made to provide an overview of the subject of Physics itself, especially through reflecting upon it as an empirical science.

Prerequisites: *Recommendation from Chemistry teacher or department chair.. Concurrent enrollment in Precalculus or higher*

347 AP Physics C, Full Year

This course, built on the conceptual foundation provided by Physics Honors, puts the student squarely into the realm of mathematical physics through the application of Calculus and Vector Analysis. AP Physics C is divided into two main content areas, Newtonian Mechanics and Electricity and Magnetism, which are illuminated and connected by means of the powerful methods of differentiation, integration, vector addition, and vector multiplication. Usually only the Mechanics part is offered, but the entire AP-C course, including Electricity and Magnetism, has been offered when student numbers, talent, and interest are all high enough to warrant a double-session schedule. A laboratory experience is essential both in order to provide direct experience of Physics principles and to enhance the kind of strict scientific thinking and skilled scientific practice that defines the level of sophistication of the course.

Prerequisites: *Recommendation from Physics Honors teacher. Concurrent enrollment in Calculus*

350 Anatomy and Physiology CP, Semester

Anatomy and Physiology allows the student to develop a thorough understanding of the relationship that exists between the structure of the human body and its major functions. The curriculum will include comparative anatomical research, physiological experimentation, use of computers for analysis of collected data, and a series of group activities and projects. A recurring theme throughout the course will be the connectedness between the presented information, development of a personal plan for wellness, and the frailties and strengths of the human experience.

Prerequisite: *Biology*

351 Forensics CP, Semester

Forensic Science is a challenging, lab-oriented course that will introduce students to the growing role that science plays in the application of criminal and civil laws. In class, students will read actual case studies, practice using deductive reasoning skills and learn to use a wide variety of techniques and technology to examine evidence. Labs include: DNA profiling, blood typing, blood spatter analysis, forensic entomology, toxicology, drug and poison identification, forensic anthropology, trace evidence (hair and fiber) examination, document examination, fingerprinting, crime scene investigation and evidence collection.

Prerequisite: *Biology*

360 Marine Biology CP, Semester

Marine Biology focuses on the interrelationships among marine organisms (e.g., algae, invertebrates, fishes, birds, and marine mammals) and various abiotic factors (e.g., pH, tides, temperature, currents, pollution, etc.). The principal objective is to impart an appreciation for the ecology of marine systems. Local resources, such as the Jackson Laboratory, Odiorne Point and the Great Bay Watch, will be used to enhance and illustrate the principles and applications involved in our studies.

Prerequisite: *Biology*

361 Advanced Genetics and Biotechnology Honors, Semester

This course introduces students to the study of *applied genetics* and the processes associated with recombinant DNA techniques. Studies will range from the application of genetics to the process of tissue and organism development (developmental biology) to the commercial and regulatory characteristics of recombinant DNA techniques and biotechnology. This course will also evaluate the ethical nature of biotechnology by evaluating the central question: “we can...but should we?” To accomplish this goal, extensive work will be done in a laboratory setting to include independent laboratory work. *This course may be taken concurrent with AP Biology.*

Prerequisites: *Completion of Chemistry and a recommendation from your Chemistry teacher*

362 AP Environmental Science, Full Year

The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems, both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary; it embraces a wide variety of topics from different areas of study. There are, however, several unifying themes covered throughout the course such as: science as a process, energy conversions, Earth as one interconnected system, alteration of natural systems by humans, and social/cultural considerations to environmental problems. This course may require lab and/or fieldwork outside of scheduled class meeting times.

Prerequisites: *Concurrent enrollment in Honors Chemistry or completion of Chemistry. Recommendation from Chemistry, Physics or Biology H teacher*

SOCIAL STUDIES

409 Global Studies CP, Semester

Global Studies is a required course for all freshmen. The course will include the study of world regions, governments, economies, cultures and global issues that will help students develop research, writing and analytical skills. The purpose of Global Studies is to give students an understanding and appreciation of major geographic and cultural areas of the world and the issues and challenges that unite and divide them. The essential social studies concepts and skills in this course provide a foundation for continuing study in social studies. The areas of study will include Latin America, the Middle East, Asia, and Africa. In each area, an emphasis will be placed upon regional characteristics, challenges and cultural heritage. Recurring themes in the course will be comparative governments and economics, social structure, daily life, and the environment. Students will be expected to understand global interdependence as it relates to culture, resource management, conflict and human rights. Moreover, students will explore the relationship between diverse cultures and the world in which they live. Students will read, write, discuss, analyze and take positions on multiple topics in order to frame and defend arguments. Students will use a variety of print and non-print sources to analyze and suggest solutions to real-world problems and to analyze environmental and societal issues. Students will develop critical thinking skills and perspectives to better understand the world around them.

416 Modern World History CP, Semester

This college preparatory course will examine world history in the modern era and how it has shaped the world we live in today. Beginning with the major turning points in the 14th and 15th centuries, such as the Renaissance, Reformation and Scientific Revolution, the course will cover major economic, social, and political issues around the world, examining the development of Nation States and Democracy, and ending with the Industrial Revolution, Imperialism, the First World War, and the Russian Revolution. *This course will require reading for comprehension, and students will develop descriptive and persuasive writing skills throughout the year.*

417 Modern World History Honors, Semester

This course will examine world history in the 20th century and how it has shaped the world we live in today. . Beginning with the major turning points in the 14th and 15th centuries, such as the Renaissance, Reformation and Scientific Revolution, the course will cover major economic, social, and political issues around the world, examining the development of Nation States and Democracy, and ending with the Industrial Revolution, Imperialism, the First World War, and the Russian Revolution. *In addition to regular assignments, students will be required to: 1) Write at least one persuasive, critical essay per quarter, 2) Critically read and be able to interpret/discuss primary and secondary source documents, publications and materials, and 3) Read one book (an historical account or work of historical fiction) per semester. Honors Modern World History prepares students with the skills necessary to succeed at the honors and A.P. level in U.S. History.*

Prerequisite: *A grade of B+ or higher in CP Global Studies, or a grade of B or higher in Honors Global Studies and teacher recommendation is required for Honors.*

418 Foundations of US History and Government CP, Semester

This college preparatory survey course will investigate and study major political, social and economic trends, themes and events in early American history from the Age of Exploration and Colonization, the American Revolution, the Constitution, the early presidencies of Washington to Madison, and the War of 1812. A major focus of the course will include the founding principles in the Declaration of Independence and Constitution, the structure of the United States government, citizenship and civil liberties, and NH history and government. The course will emphasize both content and skills, and students will gain practice in research, writing, analysis and interpretation so as to engage them in the conversation of our American tradition, history and identity. Related topics include New Hampshire history, the Constitution and American government, and United States geography. *Students will utilize primary and secondary source readings in interpreting the past.*

419 Foundations of US History and Government Honors, Semester

This college preparatory survey course will investigate and study major political, social and economic trends, themes and events in early American history from the Age of Exploration and Colonization, the American Revolution, the Constitution, the early presidencies of Washington to Madison, and the War of 1812. A major focus of the course will include the founding principles in the Declaration of Independence and Constitution, the structure of the United States government, citizenship and civil liberties, and NH history and government. *In addition to regular assignments, students will be required to: 1) Write at least one persuasive, critical essay per quarter, 2) Critically read and be able to interpret/discuss primary and secondary source documents, publications and materials, and 3) Read one book (an historical account or work of historical fiction) per semester. Honors Modern World History prepares students with the skills necessary to succeed at the honors and A.P. level in U.S. History.*

Prerequisite: A grade of B+ or higher in Global Studies

420 US History CP, Full Year

This college preparatory survey course will investigate and study major political, social and economic trends, themes and events in American history from the early 1700s to present day. Topics will include the American Revolution, Federalist Era, Westward Expansion, Age of Andrew Jackson, the Civil War, the Industrialization of America, Imperialism, the First World War, the Roaring Twenties, the Great Depression and New Deal, World War Two, the Civil Rights Movement, the Cold War, and the post-Cold War World. The course will emphasize both content and skills, and students will gain practice in research, writing, analysis and interpretation so as to engage them in the conversation of our American tradition, history and identity. Related topics include New Hampshire history, the Constitution and American government, and United States geography. *Students will utilize primary and secondary source readings in interpreting the past.*

Prerequisite: Modern World History and Foundations of United States History and Government

425 US History Honors, Full Year

The Honors U.S. History program is designed to challenge students in analyzing and interpreting people, events, concepts and themes in American history from the early 1700s to present day. Topics will include the American Revolution, Federalist Era, Westward Expansion Age of Andrew Jackson, the Civil War, the Industrialization of America, Imperialism, the First World War, the Roaring Twenties, the Great Depression and New Deal, World War Two, the Civil Rights Movement, the Cold War, and the post-Cold War World. In addition to regular assignments, students will be required to: 1) Write at least one persuasive, critical essay per quarter (this may be a document-based essay), 2) Read and be able to interpret/discuss primary source documents and important secondary source articles and publications and, 3) Read at least one book (an historical account or work of historical fiction) per semester.

Prerequisites: B or higher average in Foundations of US History and Government Honors, or B+ or higher average in Foundations of US History and Government CP.

429 AP US History, Full Year

The Advanced Placement Program in U.S. History is designed to provide students with the factual knowledge and analytical skills necessary to deal critically with the traditions and experiences of Americans from colonial times to present day. This is a college level class requiring extensive readings equivalent to those made by full year introductory college courses. Students learn to assess historical materials in persuasive essays and to weigh the evidence and interpretations presented in historical scholarship in classroom activities. *All AP students will take the Advanced Placement US History Exam which is administered in May each year.*

Prerequisites: *B+ or higher average in the Honors sophomore Social Studies courses with the approval of the teacher and/or the department head.*

430 Economics CP, Semester

Economics is an introduction to the operation of the free enterprise system and the economic system of the United States which will enable students to understand the American economy as a citizen, a consumer, and as an employee. Current economic issues will be the focus of class projects and discussion. Computers will be used for practical applications.

Prerequisites: *Modern World History and Foundations of United States History and Government*

432 Economics Honors, Semester

Economics is an introduction to the operation of the free enterprise system and the economic system of the United States which will enable students to understand the American economy as a citizen, a consumer, and as an employee. The course will emphasize the nature of markets and the role that government plays in those markets, comparative economic systems, competition and monopolies, among other topics. Current economic issues will be the focus of class projects and discussion. The Honors level course will involve more research and writing, outside readings, and student independence.

Prerequisites: *Modern World History and Foundations of United States History and Government and recommendation from current Social Studies teacher required.*

440 Psychology CP, Semester

This course focuses on the traditional and contemporary schools of thought as well as noted theorists. Special topics include stages of the life cycle, personality theories, cognitive development, and learning theories. Considerable attention is paid to adolescent issues; including eating disorders, stress management and motivation.

Prerequisite: *Modern World History and Foundations of United States History and Government*

445 AP Psychology, Semester 2

The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their science and practice. *Students are required to take the AP Exam administered in May. Successful completion of this course and the accompanying exam could gain the student introductory college credit, therefore, this class will require substantial work on the part of the student. There will be heavy emphasis placed upon the student's writing and reading skills. Students will be required to write numerous essays and read outside sources in addition to the text.*

Prerequisites: *Teacher recommendation and completion of the CP level course of Psychology*

450 Sociology CP, Semester

Sociology introduces the student to the study of people in their social environment, with focus on the socialization process. Students will analyze human social behavior and will determine how "group identity" affects interpersonal relationships. Other areas studied include the family, peer groups, education, and the effects poverty, prejudice and discrimination have on societies.

Prerequisite: *Modern World History and Foundations of United States History and Government*

465 International Relations Honors, Semester

This Honors Level course introduces students to international relationships. It examines the interactions of countries, international organizations, and influence of other sub-national organizations like guerilla groups. The course explores theoretical concepts used to explain the international system and applies them to international politics today in Europe, the Middle East, Asia, Africa, North America and Latin America.

Prerequisite: *Recommendation of the US History teacher required - Senior elective only*

467 AP US Government, Semester

This is a one semester course preparing a student for the Advanced Placement Exam in U.S. Government and Politics held in the Spring (May). The class covers the following content areas: the Constitutional background of American democracy, the history of political parties and interest groups in American society, and their influence and effect upon American political history. The class also covers the three branches of government, their functions and powers, and investigates the series of checks and balances that hold them together. Civil rights, civil liberties, and public participation in the government process at the local, state, and national level are also included. *Students are required to take the AP Exam administered in May. Successful completion of this course and the accompanying exam could gain the student introductory college credit in government, therefore, this class will require substantial work on the part of the student. There will be heavy emphasis placed upon the student's writing and reading skills. Students will be required to write numerous essays and read outside sources in addition to the text.*

Prerequisites: *Teacher recommendation and B+ average in Honors United States History course or a B average in AP United States History.*

WORLD LANGUAGES

511 French I CP, Full Year

An elementary level course, French I focuses on the language skills of reading, writing, speaking and listening. The fundamentals of grammar as well as dictionary skills will be introduced. Students will learn to communicate in the present and near future tense. The student will also learn greetings, introductions, farewells, and expressions of time, numbers, weather and other thematic vocabulary throughout the year. Conversation is an integral part of this course and students will be encouraged and required to use the language daily. Culture will be introduced so that students will gain appreciation for the French language and people.

512 French II CP, Full Year

An advanced elementary course, French II builds upon the same skills studied in French I. Both grammar and culture will be studied in more depth and students will become more orally proficient as they learn to use the French language. Greater oral proficiency is a main goal of this course. A more varied vocabulary including idiomatic expressions will be studied. Selected readings in context will be explored to increase reading comprehension and cultural awareness. Oral proficiency will be highlighted by means of student dialogs and teacher-initiated conversations.

Prerequisite: *Successful completion of French I and recommendation by French I teacher*

510 French III Honors, Full Year

An intermediate level course, French III Honors emphasizes communication in the language as well as reading and writing skills. Grammar will be used as a tool to enhance reading, writing and speaking. Vocabulary and culture will be emphasized through authentic French literature as well as newspaper articles, brochures and advertisements. This course will be primarily conducted in French and all students will be expected to participate on a daily basis.

Prerequisite: *Successful completion of French II and recommendation of French II teacher*

514 French IV Honors, Full Year

An advanced level course, French IV Honors focuses on advanced grammar so that students will be better able to express themselves in French. French IV reviews all grammatical concepts learned previously as well as focuses on more advanced grammar. In order to lead students to a greater appreciation for the literature and customs of the French language, French literature will have a stronger emphasis. Classic French short stories or novels will be read and studied each term. French is the official language of this course. All students will be required to participate in French on a daily basis.

Prerequisite: *Successful completion of French III H and recommendation of French III teacher*

515 French V Honors, Full Year

French V Honors is an advanced level course which concentrates on French culture and literature. Grammar will continue to be a focus and will be taught in context through the literature and culture. Students will be expected to be orally proficient to the point that they will be active participants on a daily basis as well as leaders who will often take the role as teacher in the classroom. Students will be expected to keep themselves current with events that are happening in the French speaking world. The Internet as well as other media will be used to enhance essay writing as well as oral proficiency.

Prerequisite: *Successful completion of French IV and recommendation of the French IV teacher*

531 Spanish I CP, Full Year

Spanish I is an introductory course that explores the skills of reading, writing, listening and speaking. Spanish grammar, vocabulary and culture are represented with the help of the Spanish text and supplementary material, such as video and audio CD's. Reading skills are stressed throughout, and oral proficiency is addressed via question/answer exercises, dialogues and everyday conversations and situation enactments. The overall objective of this course is to instill an appreciation for the Spanish language and culture, to increase awareness of the Hispanic world in both hemispheres and to give students the necessary skills to communicate at the introductory/novice level.

532 Spanish II CP, Full Year

Spanish II is an advanced elementary course which builds upon the same skills studied in Spanish I. Students will further develop their listening, speaking, reading, and writing skills in Spanish. Both grammar, vocabulary and culture will be studied more in depth. Oral proficiency will be highlighted by means of student dialogues and teacher-initiated conversations.

Prerequisites: *Successful completion of Spanish I and recommendation of Spanish I teacher*

530 Spanish III Honors, Full Year

Spanish III Honors is an intermediate level course emphasizing communication in the language with an additional focus on writing skills. Grammar will be used within the context of class readings and written work. Students will be expected to use primarily Spanish in their daily reading, writing, and speaking. Spanish-language literature will be studied through a variety of Hispanic legends. Vocabulary and culture will be reinforced through topics and readings from the text, and from the legends. This course will be conducted predominantly in Spanish and all students will be expected to participate in Spanish.

Prerequisites: *Successful completion of Spanish II and recommendation of Spanish II teacher*

534 Spanish IV Honors, Full Year

An advanced level course, Spanish IV Honors will focus on advanced grammar so that students will be able to better express themselves in the target language. The present and past subjunctive will be studied in addition to a thorough review of grammatical concepts. Spanish literature will have a higher emphasis in this course. Students will be reading and discussing classic Spanish short stories. This will then lead to a greater appreciation for the literature and customs of the language. Spanish is the official language of this course. All students will be required to participate in Spanish on a daily basis.

Prerequisites: *Successful completion of Spanish III Honors and recommendation of Spanish III Honors teacher*

535 Spanish V Honors, Full Year

Spanish V Honors is an advanced course designed to prepare motivated students for further study of the Spanish language and Hispanic cultures in college, as well as for experiences in Spanish-speaking areas. Oral proficiency and vocabulary building receive particular attention, and students are required to use Spanish at all times. The Internet as well as other media will be used to enhance essay writing as well as oral proficiency. Visual arts, music, and authentic literature are studied, and students are expected to participate in and/or initiate a range of speaking activities stemming from the works and topics considered, such as: casual or spontaneous conversations and discussions, debates, and skits. There are also more formal oral presentations, which students prepare beforehand. Students are asked to keep current with national and world events, in Spanish-speaking regions and elsewhere, and they should be prepared to bring these issues to the class as discussion topics.

Prerequisites: *Successful completion of Spanish IV Honors and recommendation of Spanish IV Honors teacher*

FINE ARTS/TECHNOLOGY

620 Data Science and Analysis, Semester

This project-based elective is for students with knowledge of basic statistics (mean, median, mode, standard deviation). Students will learn the R programming language to intelligently “mine” information from a data set and to transform it into a comprehensible structure and picture. Linear and quadratic statistical models will be used to identify patterns and predict future trends. Students will learn to display, interpret and tell the story of the data with scatter plots, bar charts, frequency polygons, and box-and-whisker plots using R commands.

Prerequisite: *Completion of or concurrent enrollment in Algebra II (or Algebra I with teacher recommendation)*

625 Foundations of Game Programming, Semester

This challenging course introduces students to programming through the DarkBASIC language. Students will develop an understanding of computer terminology, design programs, and learn the mechanics of the language by writing and documenting readable, structured code. Emphasis will be placed on 2D and 3D gaming basics.

Prerequisite: *Completion of or concurrent enrollment in Geometry CP or H.*

711 Introduction to Digital and Fine Arts, Semester

In this class students will explore the introductory elements and principles of traditional art and design, as well as exploring digital media and graphic design. Working with both computers and by hand, students will experiment with drawing, painting and 3-D design. The key principles of composition - line, shape, space, color, texture, rhythm, movement, repetition, contrast and balance - will be studied. Students will then apply these principles, working with design software as well as with pen and ink, pastels, charcoal and other media. This is a hands-on course, and will take place in both computer lab and art studio.

717 Graphic Design and Drawing, Semester

This course focuses on digital/computer-based graphic design based strongly in traditional techniques; students’ time will be spent working equally in both media. This course will teach the fundamental principles of composition, drawing and graphic design through use of both hands-on techniques and graphic design software. Students will use varied media for drawing by hand in pen and ink, charcoal and pencil to study composition, figure drawing, and 2-dimensional design. Using digital media, students will work with image-making, typography, composition, and working with color and shape.

718 Digital Photography, Semester

This course will introduce students to both digital photography and the manipulation of images through software such as Adobe Photoshop. Students will learn the basics of operating a digital camera, photo editing and printing. Emphasis will be placed on creativity in composition of images, use of camera controls, exposure and use of digital imaging software. Using Photoshop, students will practice manipulating images, such as corrections and layering, and with creating photomontage and page layout.

Note: *Students are required to have their own digital camera. This course does NOT include 35mm photography or darkroom technique.*

720 Painting Workshop, Semester

Painting workshop is a continuing in-depth art experience that will focus on the use and development of art skills from Drawing and Painting I. Students will investigate the emotional use of color and the use of light in painting. The

art of composition and the elements and principles of design will be reviewed and used in this class. Students will work with tempera paint, watercolor, acrylics, and mixed media. The process of block printing will also be explored.

Prerequisite: *Introduction to Digital and Fine Arts (formerly called Drawing and Painting)*

722 Pottery, Semester

This is a beginner's class where students will learn the basics of hand-building, the potter's wheel, kiln firing, glazing, and surface embellishment. Wheel throwing will be demonstrated and students may create one thrown piece. Students will begin with basic slab and coil methods. Surface design techniques such as carving and glazing techniques will be used to enhance forms. Emphasis on design, including balance, proportion and composition will guide student projects. Completed pieces will be displayed in school art exhibits.

725 3-D Modeling and Design, Semester

This course will blend traditional and digital forms of modeling and design. As with the Graphic Design class, students will use computer modeling to explore and learn principles of three dimensional design, including 3-D printing of projects modeled on computer. However, students will also work in studio to learn hand-building using traditional methods such as pinch, slab, and coil techniques, and additive and subtractive processes using wood, clay, wire, Crea-stone™ and foil. Attention will be given to the aesthetic concepts of spatial proportion (scale, angle and position), silhouette, negative space, rhythm, balance, light/shadow and texture.

730 Studio Art Honors, Full year

This full year class is designed for seniors who are seriously interested in the practical experience of art. The quality and breadth of the work done during the course should reflect first-year college level standards. Therefore, only highly motivated students will be accepted into the program. Students will need to work outside the classroom as well as in, and beyond scheduled periods. Visits to museums and galleries will be used as extensions of school. Students are selected for Studio Art largely on the basis of teacher recommendation and portfolio review. Completion of the AP Studio Art Exam in May is optional. Students are responsible for portfolio costs which are approximately \$150.

Prerequisite: *Drawing and Painting and at least one other art course.*

735 Introduction to Theater Arts, Semester

This course offers hands-on experience in all aspects of theatrical production, including acting, directing, lighting, stagecraft, and design of sets and costumes. Much of the course is project based; several full length and short plays provide the context for design and scene work. Students work on production teams to design set, costume and publicity materials for a hypothetical production. Students also help to create the actual set pieces for the STA Drama production during that semester.

745 Concert Band, Full Year

This course involves daily rehearsals of a variety of musical selections. Required activities include school concerts, and occasional public events and festivals. Students are required to provide their own instruments or to rent them.

753/754 String Ensemble CP, Semester

This is a performance class for traditional orchestra instruments (violin, viola, cello and upright bass). Students will work on ensemble pieces and perform in school concerts and for special events. Students must already know how to play the instrument. Students must own their own instrument or be willing to rent it if the school does not have the instrument they play. Any student wishing to audition for All State must enroll in this course. *This class can be either a semester or full year class. In years when this course is not offered, string students are incorporated into Concert Band.*

761/762 Concert Choir, Semester

The choir class rehearses daily and performs a wide variety of musical selections throughout each semester. Students become familiar with reading musical notation and rhythms. Required activities include school concerts, and occasional public events and festivals. *No previous music experience is required.*

767 Music Exploration, Semester

Students in this course have the opportunity to study and learn a variety of basic elements of music, such as rhythm and note-reading, while learning beginner vocal and percussion techniques. In a program of project-based learning students may look into a variety of musical styles and periods, learning how music through the centuries has relied on the basic elements of music for a foundation. This course is ideal for the student who wants to learn about music but does not have a background in music or play an instrument.

777 Music Theory Honors, Semester

This course is suggested for students planning to major or minor in music in college. Students will study the elements used in the construction of all types of music such as scales, chords, key signatures and intervals, as well as their functions and relationships in various settings. Students will use these skills for analysis of musical compositions, as well as composing their own pieces. Ear training is extensive and detailed and students cover a comprehensive body of music. This course is offered every other year.

780 Fundamentals of Piano, Semester

This course teaches the basic elements of music through piano playing. Each student will learn how to play the piano at the elementary level. Students will also learn the basic elements of music theory. No previous music knowledge is required.

Note: *Students must provide their own electronic keyboard with headphones.*

781 Beginning Guitar, Semester

Beginning Guitar is a course for true beginners, students who have never taken guitar lessons before. The class includes fundamental music theory, such as the basics of how to read and write music, as well as how to read both guitar tablature and notation. Students will learn how to read and play chord changes, basic technique, while playing a variety of songs and types of music. This course is offered every other year.

Note: *Students must provide their own guitars.*

783 Piano II, Semester

This class is for students that have completed Piano 1 or that already have 3 or more years of formal piano lessons (not self-taught). Students will study music theory and work on progressively more challenging pieces based on their ability and skills.

785/786 Jazz Band, Semesters

Jazz Band is a small band which ideally numbers around 20 members. This course meets **only** one day per week after school from 2:40 to 4 pm. The group specializes in playing traditional jazz standards as well as contemporary rock, blues, Latin, and funk arrangements. An understanding of the jazz idiom is helpful, but basic articulations, interpretations and beginning steps to improvisation will be taught. Required performances are for the St. Thomas Fall Concert, Christmas Concert, Solo and Ensemble Concert, and Spring Concert. Other required performances vary from year to year.

Note: There are currently no audition requirements for Jazz Band. This course is open to Grade 9-12 and grading is pass/fail *. Students are encouraged to repeat this course for additional credit. Students may also take Jazz Band on a non-credit basis by special permission only. *Weekly attendance is mandatory for this after-school course. Please see the After-School Course Attendance Policy. This course counts as 1/4 credit.*

787 Chamber Singers, Full year

Chamber Singers is the name for the smaller vocal ensemble made up of advanced singers. All students in Chamber Singers must also be enrolled in Concert Choir or concert band. The group rehearses 1-2 days per week after school and performs in all school concerts, as well as for special events. Students work to develop sight-reading skills, and sing a variety of challenging music in different styles. Required activities include school concerts, school liturgies and occasional public events and festivals.

Note: *Students must audition for Chamber Singers. Please see After-School Course Attendance Policy.*