St. Mary's Academy

MAGNIFY THE LORD

2023-2024

COURSE DESCRIPTION CATALOG

St. Mary's Academy Course Description Catalog

INTRODUCTION

These pages contain brief descriptions of each of the courses offered at St. Mary's Academy Catholic High School (SMA). Preceding the course descriptions, the SMA Vision and Mission are stated followed by the Academic Policies, Graduation and Christian Service requirements, and general information about our Academic Program. For a complete description of the Academic Program, please refer to the Academic Policies section of the Student Handbook.

VISION

Firm in faith. Strong in knowledge. Joyful in hope. Active in charity.

MISSION

Through integrating academic and formative efforts, St. Mary's Academy provides a unique Catholic learning experience and college-prep education that equips our students to be Christ-centered, life-long learners and global-minded productive members of their communities. Inspired by our Catholic pedagogical traditions, we place the individual learner at the center of the learning process – body, mind, and soul.

ACADEMIC POLICIES

All graduates of SMA must earn a minimum of 24 credits. Minimum requirements for graduation are in line with local and state requirements. Theology is required each year of attendance. A full credit is awarded for successful completion of a full year course and a half credit is awarded for successful completion of a one semester course or of one semester of a full year course.

The school's curriculum provides all the necessary courses for admission to any college in the University System of Georgia. The 16 credits required in the College Preparatory Curriculum (CPC) are included in the graduation requirements for SMA.

Please note that the entrance requirements for colleges other than those in the University System of Georgia do not necessarily coincide with the courses required for graduation from SMA. It is the responsibility of the student, with the help of our Guidance Office, to be sure that all necessary courses are taken for admission to the college of choice.

Advanced Placement (AP) courses are offered in American History, World History, Calculus (AB and BC), Biology, Chemistry, Physics C Mechanics, Computer Science A, Government, Pre-Calculus, Psychology, Spanish Language and Culture, French Language and Culture, English Language and Composition, English Literature and Composition, and Art. AP test fees of $97.00 will be collected before the first day of school. Students who register for AP courses may not drop after classes begin and are required to take AP tests in May. Failure to take an AP test may result in a failing grade for the course.

Graduation Requirements

Credits	Subject
4	English
4	Mathematics
4	Science
4	Theology (or 0.5 per semester at SMA)
3.5	Social Studies
2	Foreign Language (must be in one language)
.5	Technology/Business
1	Fine Arts
1	Physical Education

24 Total Credits

GRADUATION REQUIREMENTS

Required courses and the number of credit hours for graduation follow:

THEOLOGY – 4 credits are required or 0.5 credits for every semester enrolled at SMA.

ENGLISH – 4 credits are required including English 9, 10, 11 or AP English Language and Composition and 12 or AP English Literature and Composition or Dual Enrollment and Speech. Elective courses do not count toward the English requirement.

MATHEMATICS – 4 credits are required including Algebra 1, Geometry, Algebra 2 and one or two additional courses that have these courses as prerequisites. Students who complete Algebra 1 and/or Geometry in middle school must still take four credits at SMA.

SCIENCE – 4 credits are required and must include Biology, Chemistry, Physics/Physical Science, and one elective science course.

SOCIAL STUDIES – 3.5 credits are required including a semester of World Studies for students who first enroll as freshmen, Government and Economics, and the full year courses of World History and United States History. Elective courses do not count toward the Social Studies requirement.

FOREIGN LANGUAGE – 2 credits are required from the same language. Students who complete one or two years of a foreign language in middle school must still take two credits at SMA.

FINE ARTS – 1 credit is required from the areas of dance, drama, art or music. Journalism/Yearbook courses offered through the English Department may be taken to fulfill the Fine Arts requirement. The Sports Movement course taken through the Physical Education Department may be taken to fulfill the Fine Arts requirement.

PHYSICAL EDUCATION – 1 credit is required and must include Health and Personal Fitness. Elective courses do not count toward the Physical Education requirement.

TECHNOLOGY/BUSINESS – .5 credit is required and must include a semester of Computer Applications/STEM 1 for all students.

CHRISTIAN SERVICE

All high school students are required to complete a minimum of ten (10) Christian Service Hours (CSH) per semester. One (1) missing hour will result in the loss of one (1) point on the final average; Six (6) additional hours may be completed for a total bonus of three (3) points that will be added to the final average.)

Christian service must be gratuitous, out of the usual chores and clearly benefiting others.

Students may earn up to sixteen (16) hours of service during the summer prior to the start of the school year.

A CSH form is available online (see your teacher's page for the links.)

Extra hour(s) (over the possible sixteen (16)) may be carried over from semester to semester within the same academic year.

The Theology Department reserves the right to make additions and/or corrections to the Christian Service Hours when deemed necessary.

INFORMATION ABOUT THE ACADEMIC PROGRAM

SMA operates on an eight-period schedule that permits students to take seven classes each day with one period for lunch.

Courses are offered on multiple levels: College Prep, Honors and Advanced Placement. Students are not necessarily placed in the same level in all subject areas. Placement in a particular level is based on the student's aptitude, performance in the various disciplines, and teacher recommendations. While the curriculum is parallel, in that each level of the course has similar goals and objectives, the level of instruction varies by methodology, degree of difficulty and volume of information presented.

College Prep courses at SMA are rigorous programs of study which prepare the students for the demands of competitive colleges.

Honors/AP level courses are designed to meet the needs of students who want an advanced college preparatory curriculum, who are highly motivated, and who have a high level of responsibility, aptitude and achievement. Principles and concepts are explored in greater depth and more independent work is expected of the student.

THE CATALOG

On the pages that follow are the descriptions of each course offered at SMA. The listings are by academic departments. The first line of each course description has the academic department, course number, course level and name. Each course is a full year (Y) unless designated as a semester course (S). If the course name does not indicate Advanced Placement or Honors, then it is at the College Prep level. Placement requirements, if any, are listed after the course description.

NOTICE CONCERNING HONORS, AP, AND OTHER UPPER-LEVEL COURSES:

Teacher recommendations and discussion within the department will determine the final placement in all courses. The department members will review all placements to determine whether students have continued to demonstrate the ability, skills, work habits and motivation that justify the original placement. Appropriate adjustments will be made accordingly. Students who wish to be considered for placement in an honors or an AP course typically are expected to exhibit behavior befitting work in an upper level course.

Honors and AP courses are weighted. For Honors courses, the grade appearing on the report card and transcript has four additional points added to the actual earned grade. For AP courses, the report card and transcript have an eight-point addition. Therefore, the maximum grade that a student can earn is 100 in a Standard or Advanced level course, 104 in an Honors course, and 108 in an Advanced Placement course. However, no weight is added to a grade less than 70. That is, weight cannot change a failing grade to passing.

NOTICE CONCERNING ELECTIVE COURSES:

Some elective courses are not offered every semester or every year. These elective courses are identified with the note of “Elective Rotation” after the course title.

ENGLISH

English-23.0610713 English 9 (Y)

Required of 9th grade students

This course enriches vocabulary, improves reading ability, and introduces basic literary terms describing elements of the short story, novel, poetry, and drama. Writing instruction emphasizes sentence structure, paragraph development, and essay formation with a concentration on argumentative and narrative writing. Grammar study helps develop proficiency in word choice and punctuation.

English-23.0610711 Honors English 9 (Y)

Required of 9th grade students with Department approval

This course is designed for the student who demonstrates a high degree of language arts skills. Literature vocabulary study emphasizes wide reading, critical thinking, and the beginnings of analysis; writing instruction emphasizes organization, variety, and style; grammar study is individualized and independent.

English-23.0630723 English 10 (Y)

Required of 10th grade students

English 10 is a full-year required course that prepares students to understand and communicate with the world around them by studying world literature. Students will read and analyze selections of literature from various periods and places around the world. Reading selections will include a variety of genres, such as novels, short stories, essays, speeches, poetry, and plays. Students will practice writing in different modes, including narrative, descriptive, expository, and persuasive paragraphs and essays. To enhance communication skills, students will study and practice grammatical conventions and vocabulary words.

English-23.0630721 Honors English 10 (Y)

Required of 10th grade students with Department approval

Honors English 10 is a full-year advanced course that requires the in-depth study of rigorous texts at an advanced pace. Using a wide range of world literature from various time periods and perspectives, students will further develop their reading and analytical skills, as well as hone their abilities to research, synthesize, interpret, and communicate arguments. Students will practice their writing skills in various modes, including narrative, descriptive, expository, and persuasive paragraphs and essays. To enhance communication skills, students will study and practice grammatical conventions and vocabulary words. The Honors English 10 student gives his/her best effort at all times, engages thoroughly in discussions, reads actively and imaginatively, and prepares insightful interpretations for every assigned text.

English-23.0510733 English 11 (Y)

Required of 11th grade students

This course is designed to improve reading, writing, speaking, listening, and critical thinking skills through the study of American literature. The study will be developed chronologically and will incorporate a variety of literary genres and multicultural writers. Composition will focus on control of expository, argumentative, creative, and research writing. Vocabulary and grammar mechanics and usage will be covered within the context of these reading and writing assignments.

English-23.0610731 Honors English 11 (Y)

Required of 11th grade students with Department approval

This course is designed to emphasize written and oral analysis of genres and trends in American literature from the seventeenth century to the present. The study will be developed chronologically and will incorporate a variety of literary genres and multicultural writers. Composition will focus on control of expository, argumentative, rhetorical, creative, and research writing. Vocabulary and grammar mechanics and usage will be covered within the context of these reading and writing assignments. Research skills are further developed through a required literary analysis research paper.

English- 23.0430743 Advanced Placement English Language & Composition 11 (Y)

Required for 11th grade students with Department approval

AP English Language and Composition is a full year course that focuses on the art, meaning, and effects of language, style, and argument. Students will explore elements of style and the art of persuasion by studying a wide range of texts from various historical periods and literary genres. They will learn to analyze and evaluate rhetoric by utilizing close reading and critical thinking skills while considering the interactions among a writer's purposes, audience's expectations, and message's effectiveness. Additionally, they will practice the art of persuasion in written and oral assignments and assessments, demonstrating an awareness of exigence, genre, context, audience, and purpose. Students will continue to refine their composition skills, focusing on developing a unique, personalized style and voice. By the end of the course, students should be able to assess rhetorical works for meaning and style as they relate to worldview. They should be able to articulate and defend their own views and opinions using sound and effective elements of argumentation and unique and persuasive conventions of style, and they should be able to write effectively and confidently in their college courses and professional lives. AP Lang students give their best efforts at all times, engage thoroughly in discussions, read actively and imaginatively, and prepare careful, insightful interpretations for every text they are assigned. All students must take the Advanced Placement test in May.

English-23.0520741 English 12 (Y)

Required of 12th grade students

This course combines major works of English Literature with a development of more mature writing skills. Writing includes techniques of exposition, argumentation, and literary criticism with attention to mechanics and usage. The goal is to develop clear expression and logical organization and to read and analyze challenging works of literature from the British Tradition. Outside novels and vocabulary are part of the curriculum.

English-23.0520742 Honors English 12 (Y)

Required for 12th grade students with Department approval

This course provides an overview of British literature from the Anglo-Saxon era to modern times. Literary study will incorporate history lessons for a better understanding of the social, cultural, and historical context of the literature. The readings will include novels, short stories, drama, poetry, and literary criticism. Writing includes timed, in-class essays and longer essays that require multiple sources. The goal is to develop clear expression and logical organization and to read and analyze challenging works of literature from the British tradition.

English-23.0650741 Advanced Placement English Literature & Composition 12 (Y)

Required of 12th grade students with Department approval

This course has been designed for the student who has acquired skill in analyzing literature and writing well and who wishes to attempt to receive college credit through the AP exam. The course includes a study of major British writers, outside novels and plays, critical writing, research and creative writing. All students must take the Advanced Placement test in May.

English-23.0320706 Journalism/Yearbook (Elective) (Y)

Offered to 10th-12th grade students with permission of instructor

The journalism course teaches hands-on production in the design and publishing of the school yearbook, *Jubilium*. Through the practical experience of producing the yearbook, students learn and develop the basic journalism skills of reporting, writing, editing, layout design, photography and the business skills of organization, planning, marketing, finance and distribution. Students are expected to spend some time outside of class to complete their assignments.

English-23.0420743 Speech (Elective) (S)

Offered to 10th-12th grade students. Mandatory for English Dual Enrollment 2nd semester

In this performance-based course students learn effective speaking and listening skills for giving and appreciating various kinds of speeches, including persuasive, extemporaneous, and informative. The course is designed to improve the students' knowledge of communication skills as well as develop their self confidence in speaking before an audience. By studying actual

speeches and writing their own speeches, students learn to make responsible ethical choices when they communicate with others.

English-35.0610759 Student Support (Y)

Offered to 9th-12th grade students based on Counselor Recommendation

This course is designed to help students improve their effectiveness, attitudes, and motivation focusing on the specific needs of each student. Particular attention is given to skills like time management, concentration, note taking, textbook study methods, test taking strategies, and critical thinking.

English-23.0340741 & 23.0340742 Dual Enrollment English 101 & 102 (S)

Required of 12th grade students with Department approval

ENG 101-Composition I is an introduction to writing and reading expository prose. It focuses on unity, coherence, emphasis, organization, correctness of grammar and punctuation, editing, and proofreading. ENG 102-Composition II is a continuation of ENG 101, as well as an introduction to literature and the research paper. All students who enroll in Dual Enrollment for Semester One, must take a mandatory English Elective Second Semester, decided by the English Department.

FINE ARTS

Even though marked as a semester class, a student may take many of these Fine Arts courses twice because the content is different each semester.

Fine Arts- 50.0911711 Art Appreciation (Elective Rotation) (S)

Offered to 9th-12th grade students

This is an introductory course designed to acquaint the student with achievements throughout history in the realms of painting, drawing, sculpture, architecture, fiber arts, and other art forms. Art Appreciation will encourage students to consider the nature of art and design and its relevance to their lives today and to the lives of others in different times and locations. Students will establish understanding of the elements of art and the principles of design. Student projects will emphasize research and creation. The project goals are to reinforce the ideas explored during in-class lecture, discussions, and critiques, and to explore a variety of mediums and techniques.
Prerequisite: none

Fine Arts-50.0311712 Drawing I (Elective) (S)

Offered to 9th-12th grade students

Drawing I is structured to familiarize students with the fundamentals of drawing, creating pieces based on observation and imagination. To elicit particular responses from viewers of their work, students will experiment with various tools, techniques, and media. This course reinforces the principles of design and elements of art. Through presentations, lectures, peer-to-peer class discussions and activities, and writing, students will hone their ability to constructively critique their own and others' work. Students will create with media including pencil, charcoal, ink, chalk pastels, and oil pastels. Through project planning and execution, they will refine their ability to think creatively and problem-solve.
Prerequisite: none

Fine Arts-50.0321711 Exploring Painting (Elective) (S)

Offered to 9th-12th grade students

Exploring Painting exposes students to a broad range of painting styles and techniques seen throughout history. Students will create their own work using ink wash, acrylic paint, watercolor, and spray paint while exploring various ways artists have used paint. Realistic, abstracted, stylized, and non-objective ways of depicting a subject will be explored. By gaining an understanding of the elements of art and principles of design, students will gain a vocabulary to discuss art with their peers and a better understanding of the professional art world. Content will be presented through lectures, projects, class discussions, and writing.
Prerequisite: none

Fine Arts-50.0314711 Drawing and Painting II (Elective) (S)

Offered to 10th-12th grade students

Building upon the skills cultivated in Drawing & Painting 1, students in this course will further explore the elements of art, principles of design, and the unique visual communication drawing and painting offers. Students will develop a suite of images centered on a connecting theme or concept, using drawing and painting mediums. Research and preliminary planning and drawing will be a major component to each of the images created for the suite. Group critique and discussions will have greater depth and will be conducted regularly to emphasize how artists can use media to effectively communicate their ideas. During written and verbal critiques, students will describe, analyze, interpret, and evaluate artwork created by fellow students, themselves, and other historical and contemporary artists.
Prerequisite: Art I/ Drawing and Painting I, or teacher recommendation

Fine Arts-50.0511712 Printmaking Fundamentals (Elective) (S)

Offered to 10th-12th grade students

Printmaking Fundamentals introduces students to this popular, yet infrequently recognized, art form. Students have likely seen famous block prints, silk screens, etchings, and even monotyping, but mistakenly thought these artworks were paintings or even stylized drawings. Printmaking is a rewarding artistic medium with many techniques unavailable in media such as drawing or painting. Students will explore the history of printmaking, elements of art, and principles of design, through hands-on projects creating their own artwork with various techniques. Students will also participate in class discussions, lecture, and occasional writing assignments. Printmaking builds both abstract thinking skills and focus. The artist must plan their steps to completion and learn to use tools that require special attention to safety. While challenging, printmaking is incredibly rewarding in its unique results.
Prerequisite: none

Fine Arts-50.0711712 Introduction to Photography (Elective) (S)

Offered to 10th-12th grade students

Introduction to Photography will focus on digital photography basics and how photographs are printed and developed. Students will review the elements of art and principles of design, related to this specific media. The technology, history, and vocabulary of photography will also be explored in projects, lectures, and discussions. Students will create and edit their own photographs, as well as edit stock photography into something new. They will learn techniques applicable to phone cameras, digital cameras, and have the opportunity to experiment with film. Students will learn basic tools in Adobe Photoshop, the industry standard, with skills transferable to other photo editing applications. Students will also have the opportunity to develop film using darkroom techniques. Please note, this will require science-lab-level safety, as students use chemicals and light to develop photos.
Prerequisite: none

Fine Arts – 50.0611711 Exploring 3-D Forms (Elective Rotation) (S)

Offered to 9th-12th grade students

This introductory course will acquaint students with the wide variety of applications and media used to create three-dimensional forms. Students will have the opportunity to create with digital 3D modeling, clay, paper, wood, and a variety of media. Projects will focus on the techniques used for these different media, including additive, subtractive, modeling, and general problem solving.
Cultural, historic, and current uses of three-dimensional art and design will be explored through projects, class discussions, and lectures. Additionally, the unique ways that the elements of art and principles of design relate to 3D forms will be established.
Prerequisite: none

Fine Arts – 50.0213711/50.08130711 AP and/or Advanced Studio Art: Portfolio Development (Elective) (Y)

Offered to 11th-12th grade students with Department Approval

This course is provided for students with high proficiency in visual art. It provides an intensive, interdisciplinary approach to contemporary art that is born out of ideas and employs the materials, practices, and processes required to express them. Emphasis is placed on artistic research, the development of ideas, the exploration of materials and processes, and meanings as conveyed through them. The course includes a writing component and integrates the generation of a student's body of work with an awareness of the context in which the work will be presented.
Students are encouraged to use whatever media works best for their concept. Regular group critiques and discussions are conducted to emphasize a more sophisticated understanding of the media and how to use that media to communicate their ideas.
Prerequisite: Any two previous art classes or teacher recommendation

Fine Arts-51.0530711 Dance I (Elective) (S)

Offered to 9th-12th grade students

This course teaches the fundamental dance technique and vocabulary used in classical ballet, modern and jazz dance. The class develops strength, flexibility, coordination, and promotes dance as part of a healthy lifestyle. Students will perform for the public, create choreography, learn proper theater etiquette, and develop an appreciation for the art of dance.

Fine Arts-51.0540711 Dance II (Elective) (S)

Offered to 9th-12th grade students with Department approval

The second level of dance is designed for students with a basic knowledge of dance technique. This course continues study in ballet, modern and jazz dance with an emphasis on body placement, expanding dance vocabulary, and developing creative self-expression skills. Students participate in performances, create choreography, acquaint themselves with dance history, and develop artistic expression skills through a variety of dance styles.

Fine Arts-51.0550711 Dance III (Elective Rotation) (S)

Offered to 10th-12th grade students with Department approval

This course is designed for the dancer with an intermediate level of dance training and an interest in further development of dance skills. Students will strive towards a professional level of dance technique to prepare for professional goals in dance, theater, dance education, or related fields. Students will work to increase their creative and choreographic abilities, perform in solo and group forms, study injury prevention, and learn audition skills and techniques.

Fine Arts-52.0210713 Fundamentals of Theater Arts (Performance) (Elective Rotation) (S)

Offered to 9th-12th grade students

This course is designed to introduce students to the fundamentals of production and performance in theater. Activities will be designed so students learn how to move and vocalize; becoming a character on stage. Students will be introduced to topics such as theater history, fundamentals of acting, script analysis, stage movement, and general theater terms. Students will be expected to complete individual assignments as well as work in ensembles. All students will perform scenes and monologues. There is no prerequisite for this course. Students are required to perform in a class scene or individual monologues (depending on class size) during the Fall or Spring Fine Arts Showcase as a final project. Students will rehearse during class and are only required to attend one after school rehearsal for a grade.

Fine Arts-52.0310711 Fundamentals of Musical Theater (Performance) (Elective Rotation) (S)

Offered to 9th-12th grade students

This course is designed to introduce students to musical theater: concept to performance. Activities will be designed so students learn the basic singing and choreography/dance technique needed to perform in a musical. Students will be introduced to topics such as musical theater history, analysis, and theater terms. In addition, students will practice physical and vocal techniques to improve their performance abilities. Students will be expected to complete individual assignments as well as work in ensembles. There is no prerequisite for this course. Students are required to perform in a class musical number (singing and dancing) during the Fall or Spring Fine Arts Showcase as a final project. Students will rehearse during class and are only required to attend one after school rehearsal for a grade – Dress Rehearsal.

Fine Arts – 52.0410711 STEM Technical Theater (Elective Rotation) (S)

Offered to 9th-12th grade students

This course explores the definition, design, and use of technical elements associated with theater sets, lights, and sound. Using STEM principles, students will learn to create and implement their own set, lighting, and sound design for a scene from a play or musical using SketchUp and Adobe sound editing software, laser and 3d printers, and the technical equipment in the theater. Students will develop their skills and/or knowledge in understanding types of sets, building applications (tools and safety), painting techniques, set movement challenges, ground plans,

modeling, lighting paperwork, mechanics of lighting, gobo creation, LED and color theory, application of a lighting plan against a model, script analysis for sound, digital media editing and sound effect creation, and application of the sound design against the model. Students will demonstrate their acumen by using pre-constructed set pieces to create and implement a complete set design with lighting and sound effects in the auditorium as their final project.
**Prerequisite: None*

FOREIGN LANGUAGE

Foreign Language-60.0110711- French I (Y)

Offered to 9th-12th grade students

French I is designed to introduce the French language to beginning language students. At the end of the course, students will be able to converse about themselves, their activities, the weather, and their family. They will be able to use present and past tenses in speaking and writing.

Foreign Language-60.0120720- French II (Y)

Offered to 9th – 12th grade students with Department Approval

French II is designed to continue the study of language begun in French I. At the end of the course, students will review the structures of French I they learned, including the past and future tenses. Students will be able to converse in simple conversations about themselves, their school life, and family and will continue to develop reading and writing skills.

Foreign Language-60.0130735- Honors French III (Y)

Offered to 10th-12th grade students with Department Approval

Honors French III continues the study of language begun in French I and II. At the end of the course, students will have reviewed the past grammatical structures of French II, refined their use of the two primary past tenses, learned the future, conditional and subjunctive tenses, and refined their use of object and relative pronouns and reflexive verbs. Students will be able to discuss authentic text, film, and art. Students will prepare projects and oral presentations on artists, French history, geography, and literature.

Foreign Language-60.0140745- Honors French IV (Elective Rotation) (Y)

Offered to 11th-12th grade students with Department Approval

Using a communicative language approach, Honors French IV is designed to provide practice in advanced grammatical concepts, advanced communicative skills, and language literacy. Students must always exhibit enthusiasm for the study of French and culture and a desire to communicate in French during class. Readings reinforce content-based instruction, culture and higher-level vocabulary acquisition. Authentic literature is read and discussed. Technology is used for visual and audio materials to build and reinforce language skills. Various materials are used to achieve an advanced level of written and oral proficiency. This course is taught in French.

Foreign Language-60.01707741- Advanced Placement French Language and Culture (Elective Rotation) (Y)

Offered to 11th-12th grade students with Department Approval

In this course students develop a strong command of the French language, with proficiency in integrating language skills and synthesizing written and aural materials. Also, they will refine their formal writing process, and participate in extensive interpersonal and presentational speaking and writing practices as well as develop their aural comprehension skills through quality authentic, and level appropriate audio and video recordings. They are further exposed to the world of literature and current events of French-speaking countries through authentic written texts, including newspapers and magazine articles, literary texts and other nontechnical writings that develop students' reading and comprehension abilities. Class is conducted completely in French and includes frequent writing and integration of skills with a rigorous review of grammatical structures. Advanced organizational and analytical strategies are taught. An array of resources is used to facilitate the learning. All students must take the Advanced Placement test in May.

Foreign Language-60.0710711- Spanish I (Y)

Offered to 9th-12th grade students

Spanish I is an introduction to basic Spanish vocabulary, grammar and syntax. A variety of methods and materials are used to provide cultural awareness and to build elementary reading and writing skills.

Foreign Language-60.0720720- Spanish II (Y)

Offered to 9th-12th grade students with Department Approval

Spanish II continues the study of language introduced the previous year, with emphasis on vocabulary development, more proficient reading, conversational skills, writing, and grammar skills. Students are introduced to the geography and culture of the Spanish-speaking world.

Foreign Language-60.0720721- Honors Spanish II (Y)

Offered to 9th-12th grade students with Department Approval

Honors Spanish II students will study language and culture on a more advanced level and at an accelerated pace. Students must exhibit enthusiasm for the study of Spanish and a desire to communicate in Spanish during class at all times. Emphasis is placed on communicative proficiency (speaking and writing) as well as interpretive proficiency (listening and reading); students engage in regular group discussions in Spanish. Technology is integrated, and audio and print materials serve to build and reinforce listening comprehension, speaking, reading, and writing skills. The course is taught mostly in Spanish.

Foreign Language-60.0730735- Honors Spanish III (Y)

Offered to 10th-12th grade students with Department Approval

Students in Honors Spanish III will build intermediate to high communicative proficiency in reading, writing, listening, and speaking skills by offering a thorough review of Spanish grammar and syntax at a more advanced level. An emphasis is placed on the application of grammar to various thematic units. Short informal and literary texts are introduced to teach both grammar and culture. Students must exhibit enthusiasm for the study of Spanish and a desire to communicate in Spanish during class at all times. Students engage in regular group discussions in Spanish. Technology is integrated, and audio and print materials serve to build and reinforce listening comprehension, speaking, reading, and writing skills. The course is taught entirely in Spanish.

Foreign Language-60.0740745- Honors Spanish IV (Elective Rotation) (Y)

Offered to 11th-12th grade students with Department Approval

Using a communicative language approach, Honors Spanish IV is designed to provide practice in advanced grammatical concepts, advanced communicative skills, and language literacy. Students must always exhibit enthusiasm for the study of Spanish and culture and a desire to communicate in Spanish during class. Readings reinforce content-based instruction, culture and higher-level vocabulary acquisition. Authentic literature is read and discussed. Technology is used for visual and audio materials to build and reinforce language skills. Various materials are used to achieve an advanced level of written and oral proficiency. This course is taught in Spanish.

Foreign Language-60.0770701- Advanced Placement Spanish Language and Culture (Elective Rotation) (Y)

Offered to 11th – 12th grade students with Department approval

In this course students develop a strong command of the Spanish language, with proficiency in integrating language skills and synthesizing written and aural materials. Also, they will refine their formal writing process and participate in extensive interpersonal and presentational speaking and writing practices. They will develop their aural comprehension skills through quality authentic, and level appropriate audio and video recordings. They are further exposed to the world of literature and current events of Spanish-speaking countries through authentic written texts, including newspapers and magazine articles, literary texts and other nontechnical writings that develop students' reading and comprehension abilities. Class is conducted completely in Spanish and includes frequent writing and integration of skills with a rigorous review of grammatical structures. Advanced organizational and analytical strategies are taught. An array of resources is used to facilitate the learning. All students must take the Advanced Placement test in May.

MATH

*Advanced Placement Track for Math: The earliest opportunity to take Calculus or AP Calculus is the junior and senior year because Geometry, Algebra II, and Pre-Calculus are prerequisites. It is possible for students to take two math classes their sophomore year if they take Algebra I as ninth graders. Freshman or Sophomore year is the opportunity to double up in math and students must take both Geometry and Algebra II. Teacher recommendation and department approval are required before a student is allowed to double any math classes. Students who double math classes are expected to continue to take math every year through their senior year.

MATH-27.0812711 Math Strategies (Elective Rotation) (Y)

Offered to selected 9th grade students in conjunction with Algebra I

This course introduces algebraic and geometric concepts emphasizing a hands-on approach of modeling concepts of addition, subtraction, multiplication and division, evaluating expressions, solving equations and inequalities, and exploring characteristics of geometric figures. Math Strategies is taught concurrently with Algebra I.

MATH-27.0811711 Algebra I (Y)

Required of 9th grade students

This course is designed for students who need reinforcement of analytical and Pre-algebra skills and introduces students to the Algebra skills necessary for future math courses. Students learn to add, subtract, multiply and divide polynomials and radical expressions. They apply these skills to solve linear equations, systems of linear equations and quadratic equations. Additional topics include graphing in the coordinate plane and solving word problems.

MATH-27.0831712 Honors Algebra I (Elective Rotation) (Y)

Required of 9th grade students with Department Approval

This advanced course provides the foundation of Algebra skills necessary for future math courses. Topics covered include algebraic concepts: emphasizes the theory and application of variables, graphing, linear equations and inequalities, radical expressions, and quadratics.

MATH-27.0821713 Geometry (Y)

Required of 9th-10th grade students with Department Approval

Goals of the Geometry course include improvement in logical thinking skills and a deeper appreciation of mathematical structure. Algebraic problems and Geometric proofs are used in the study of congruent triangles, similar figures, parallel lines, right triangles, circles, area, volume, polygons, and the coordinate plane.
Prerequisite - Algebra I

MATH-27.0821715 Honors Geometry (Y)

Required of 9th-10th grade students with Department Approval

Honors Geometry is a course for students who have a deeper sense of logical development. The course uses deductive proofs and Algebraic problems to study the coordinate plane, congruent triangles, similar figures, parallel lines, right triangles, circles, area, volume, and polygons. The problems and proofs are more difficult than those in MATH 27.0630713.
Prerequisite – Algebra I/Honors Algebra I

MATH-27.0623721 Algebra II (Y)

Required of 10th -11th grade students with Department Approval

This course ensures the students an understanding of absolute value equations, radical equations, linear equations, quadratic equations, the coordinate plane, systems of equations including calculator driven matrices, complex numbers, functions, and many word problems of different types.
Prerequisite – Geometry/Honors Geometry

MATH-27.0623723 Honors Algebra II (Y)

Required of 10th-11th grade students with Department Approval

This course ensures the students a deeper understanding of absolute values, radicals, linear equations, quadratic equations, functions, the coordinate plane, right triangle trigonometry, systems of equations including calculator driven matrices, complex numbers, and a variety of word problems, both linear and quadratic. The problems are more difficult than those in MATH 27.0640721.
Prerequisite – Geometry/Honors Geometry

MATH-27.0890731 Algebra III (Y)

Offered to 11th - 12th grade students with Department Approval

This course consists of a review of selected topics from Algebra and Geometry, preparation for the SAT, and brief studies of topics that include linear programming, matrices, logarithms, functions, and right triangle trigonometry.
Prerequisite – Algebra II/Honors Algebra II

MATH-27.0841741 Precalculus (Y)

Offered to 10th-12th grade students with Department Approval

Precalculus is designed to review the higher-level math skills in preparation for Calculus at SMA and in College. The topics to develop these skills include logarithmic and exponential functions, quadratic equations, matrices, and an in-depth study of Trigonometry. Some new

topics include the study of higher-level polynomial functions, vectors, polar coordinates, and conic sections.
Prerequisite – Algebra II/Honors Algebra II

MATH-27.0841743 Honors Precalculus (Y)

Offered to 10th-12th grade students with Department Approval

Honors Precalculus is designed to review the higher-level math skills in preparation for AP Calculus AB and AP Calculus BC at SMA and in order to receive college credit for Calculus. The topics to develop these skills include higher-level polynomial functions, logarithmic and exponential functions, quadratic equations, matrices, sequences and series, conic sections, and an in-depth study of Trigonometry including De Moivre's Theorem, polar coordinates, and word problems involving right triangles and non-right triangles (using the law of sines and cosines).
Prerequisite – Algebra II/Honors Algebra II

MATH-27.0741743 Advanced Placement Precalculus (Y)

Offered to 10th-12th grade students with Department Approval

AP Precalculus provides students with an understanding of the concepts of college algebra, trigonometry, and additional topics that prepare students for further college level mathematics courses. This course explores a variety of function types and their applications—polynomial, rational, exponential, logarithmic, trigonometric, and polar. Throughout the course, the mathematical practices of procedural and symbolic fluency, multiple representations, and communication and reasoning are developed. Students experience the concepts and skills related to each function type through the lenses of modeling and covariation and engage each function type through their graphical, numerical, analytical, and verbal representations. All students must take the Advanced Placement test in May.
Prerequisite –Honors Algebra II or Algebra II with instructor recommendation

MATH-27.0780743 Calculus (Y)

Offered to 11th – 12th grade students with Department Approval

Calculus is designed to bring the topics previously learned in mathematics to life. The topics include a study of functions, limits, differentials with application in maxima and minima problems, area and volume, and numerical methods of equation solving.
Prerequisite – Pre-Calculus/Honors Pre-Calculus

MATH-27.0720745 Advanced Placement Calculus AB (Y)

Offered to 12th grade students with Department Approval

AP Calculus is an advanced study of functions, limits and differentials with application in maxima and minima problems, area and volume, differential equations, and numerical methods

of equation solving. The student will be prepared for the AP Calculus AB exam which is taken with the possibility of earning college credit. All students must take the Advanced Placement test in May. *Prerequisite-Honors Pre-Calculus*

MATH-27.0730701 Advanced Placement Calculus BC (Elective Rotation) (Y)

Offered to 12th grade students with Department Approval

AP Calculus BC includes all of the elements covered in AP Calculus AB as limits, differentiation and applications, graph theory, integration and applications and slope fields. In addition to AB concepts, BC concepts covered are integration and applications, differential equations, sequences and series and parametric functions. All students must take the Advanced Placement test in May.

Prerequisite – Honors Pre-Calculus

MATH-27.0740751 Advanced Placement Statistics (Elective Rotation) (Y)

Offered to 10th-12th grade students with Department Approval

AP Statistics is designed to draw connections between all aspects of statistical process, including design, analysis, and conclusions; to teach students how to communicate methods, results, and interpretations using the vocabulary of statistics; to teach students to use graphing calculators and demonstrates the use of computers and/or computer output to enhance the development of statistical understanding through exploring and analyzing data, assessing models, and performing simulations. All students must take the Advanced Placement test in May.
Pre/Corequisite – Algebra II/Honors Algebra II.

Math-27.0D28751 & 27.0A29751 Quantitative Reasoning and Applied General Probability & Statistics
Dual Enrollment MAT 103 and MAT 200. (Elective) (S)

Offered to 11th -12th grade students with Department Approval

MAT 103 places quantitative reasoning skills in the context students are likely to encounter. It emphasizes processing information in context from a variety of representations. Topics include logic, basic probability, data analysis, and modeling from data. MAT 200 is an overview of the ideas and concepts that are basic to modern statistics. Topics include descriptive statistics, probability, estimation, hypothesis testing, and linear regression. Students will be exposed to applications from a variety of fields. All students who enroll in MAT 103 must make a grade of "C" or higher and then must take MAT 200. MAT 103 and MAT 200 are offered only as elective courses. All students must be enrolled in a mandatory math class simultaneously (eg. honors pre-calculus, calculus, AP Calculus)
Prerequisite – Algebra II

PHYSICAL EDUCATION AND HEALTH

Students may opt to take Weight Training, Team Sports and Sports Movement twice because the content is different each semester.

Physical Education-17.0110711 Health (S)

Required of 9th grade students

Health is a course designed to introduce students to a variety of health related issues that are important to each student. Besides a basic knowledge in these issues, Health is aimed at providing students with a sound basis of healthy decision making that promotes life-long fitness. Students will learn through various forms of discussion and numerous writing assignments.

Physical Education-36.0510711 Personal Fitness (S)

Required of 9th grade students

Personal fitness is a course designed to introduce students to a variety of anaerobic exercises and cross-training routines in order to improve overall fitness. Besides providing a basic knowledge in these areas, Personal Fitness is aimed at providing students with an overall improved state of being at the conclusion of the course with the ultimate goal being to promote life-long fitness.

Physical Education-36.0540715 Weight Training (Elective) (S)

Offered to 9th-12th grade students

This course is designed to use weightlifting to develop a positive mental and physical self. The focus will be on safety and proper technique. Both upper and lower body core lifts will be worked each day of class. The core lifts are bench press, parallel squat, and power clean. On the 3-day a week block, an explosive day with lighter percentages will be included. Students will work auxiliary lifts to complement the basic core lifts. Cardiovascular fitness will also be a component of the class.

Physical Education-36.0210711 Team Sports (Elective Rotation) (S)

Offered to 10^{th}-12^{th} grade students with Department approval

This course introduces students to a variety of team sports. The goal of the course is to promote the intellectual, physical, and spiritual development of students. The class promotes the intellectual development of each student through learning terminology, rules, history, and basic strategies of each sport. The course promotes physical development through the learning of the basic skills of each activity. Finally, the course promotes the spiritual development of each student through the learning of sportsmanship and moral responsibilities through cooperative skills inherent in each activity.

Physical Education-36.0530711 Sports Movement (Elective Rotation) (S)

Offered to 9th-12th grade students

This course provides opportunities to perform choreographed routines to music and to increase strength, cardiovascular and muscular endurance and flexibility.

SCIENCE

*Advanced Placement Track for Science: The earliest opportunity to take AP Chemistry is the junior year because a Chemistry course is a prerequisite. Students do not take AP Physics until senior year because the Physics course is prerequisite. It is possible for students to take either one, two, or three AP science classes. To be able to take both AP Physics and AP Chemistry, the student must take two science classes in 11th grade. Teacher recommendation and department approval are required before a student is allowed to double any science classes. Students who double science classes are expected to continue to take science every year through their senior year. AP Biology may be taken in 11th or 12th grade, after completion of 10th grade Chemistry.

Science-26.0120715 Biology (Y)

Required of 9th grade students

This is an introductory course in which students study the fundamental concepts of biology. The unity and diversity of life are emphasized through the studies of cells, the chemistry of life, classification, genetics, evolution, ecology, and the structure and function of all life forms from bacteria to man.

Science-26.0120716 Honors Biology (Y)

Required of 9th grade students with Department Approval

Biology is the study of living things. The goal of biology is to gain a better understanding of living organisms, how they work, and how they interact with their environment. Through study, students will learn and apply basic concepts and assumptions to describe a broad range of phenomena in the world of living things. Our studies in this course will include a comprehensive look at cells, heredity, ecology, taxonomy, and evolution. As an honors course, we will emphasize a strong laboratory component as well as cover information in greater depth than the regular course. Students who succeed in Honors Biology will be eligible to continue on to Honors Chemistry at the conclusion of the year.

Science-26.0140702 AP Biology (Y)

Offered to 11th-12th grade students with Department Approval

AP Biology is a two-semester course designed to be taken by juniors and seniors who have successfully completed high school level biology and chemistry. Topics to be covered include but are not limited to biochemistry, cell regulation, mechanisms of heredity, adaptation, ecology, and biodiversity. Within each of these topics, AP Biology will focus on the concepts of science as a process, evolution, energy transfer, continuity and change, relationship of structure and function, regulation, interdependence in nature, and science technology in society. In addition to exams and homework, inquiry-based laboratory exercises will make up at least a quarter of the coursework. AP Biology is designed to be the equivalent of a college-level introductory biology course. All students must take the Advanced Placement Biology test in May.
Prerequisite: Biology/Honors Biology and Chemistry/Honors Chemistry

Science- 26.0730752 Anatomy & Physiology (Y)

Offered to 11th – 12th grade with Department Approval

The goal of this course is to provide students with a basic understanding of the structure and functions of the human body with an emphasis on homeostasis. Students begin their study with the chemical, cellular, and tissue levels of organization of the human body before learning the various body systems. Students work cooperatively in lab groups. Microscopes and prepared slides are used to investigate histology. Laboratory work includes dissections of a sheep brain, sheep heart, sheep eye, and fetal pig.
Prerequisite – Biology/Honors Biology and Chemistry/Honors Chemistry

Science-40.0510711 Chemistry (Y)

Required of 10th grade students

This traditional course in chemistry uses experimentation, observation, and problem solving to reinforce a study of atomic theory, bonding, chemical periodicity, metric measurement, chemical reactions, and the primary states of matter. Students use mathematical skills to analyze and synthesize quantitative data and to solve problems in chemistry. Emphasis is also placed on developing problem solving skills, a disciplined approach to study, and skills in writing reports through the critical thinking and analytical reasoning required in the scientific method. An important aspect of this work is learning to apply safety skills and the ability to work in groups. Students must submit lab reports and are responsible for keeping up with assignments.
Prerequisite – Biology/Honors Biology

Science-40.0510712 Honors Chemistry (Y)

Required of 10th grade students with Department approval

This course provides a comprehensive coverage of principles of general chemistry. It differs from the regular chemistry course in that more topics are covered, the topics are covered in greater depth, and a more quantitative approach is followed. In this laboratory-based course, students will explore the topics covered in Chemistry 40.0510711, and additionally cover the following topics: thermochemistry, thermodynamics, and nuclear chemistry. Students who perform well in this course may be eligible to take AP Chemistry.
Prerequisite – Biology/Honors Biology

Science – 40.0530740 Advanced Placement Chemistry (Y)

Offered to 11th – 12th grade students with Department approval

Students who have already completed an introductory chemistry course learn and apply the basic principles, concepts, and operations of college chemistry. Topics include atomic theory, bonding, periodicity, acid-base chemistry, oxidation-reduction, equilibrium and thermodynamics. Students use computers with interactive learning software, maintain a laboratory notebook, and use scientific calculators to solve problems. The course requires extensive home preparation that must be done nightly. All students are required to take the

Advanced Placement examination in May.
Prerequisite – Honors Chemistry

Science – 40.0810712 Physics (Y)

Offered to 11th and 12th grade students with Department Approval

Physics is an introductory physics course which places emphasis on the comprehension of concepts which describe a broad range of phenomena in the physical world. Students will also explore the concepts by making calculations using the governing equations. Students perform laboratory activities to investigate these concepts, collect and interpret data, and write detailed laboratory reports to demonstrate understanding. Students are also required to use their skills in Algebra Trigonometry, and problem-solving.
Prerequisite- Chemistry/Honors Chemistry

Science - 40.0820712 Honors Physics (Y)

Offered to 11th – 12th grade students with Department Approval

This class is an introductory college preparatory course in physics. Emphasis is placed on learning and understanding the principles and concepts of physics as well as the solution of problems. Students apply these concepts in laboratory activities. Students are required to write detailed lab reports on these activities. Students are also required to use their skills in Algebra, Trigonometry, vector analysis and graphing in their problem solving, so Pre-Calculus is a recommended prerequisite or corequisite for the course. This physics class qualifies as a prerequisite course for Advanced Placement Physics.
Prerequisite – Chemistry/Honors Chemistry
Co-requisite - Algebra II

Science – 40.0841711 Advanced Placement Physics C: Mechanics (Y)

Offered to 12th grade students with Department approval

AP Physics C: Mechanics is a calculus-based physics course that covers kinematics, dynamics, energy, momentum, rotation, gravitation, and oscillation. This course is equivalent to the introductory physics sequence taken by science and engineering students at most colleges and universities. Students will take a placement exam at the end of the second semester before entering this class. All students are required to take the Advanced Placement examination in May.
Prerequisite - Physics ; Co-requisite: Calculus or AP Calculus

Science-26.0611711 Environmental Science (Elective Rotation) (Y)

Offered to 11th-12th grade students with Department Approval

This course provides students with the scientific principles and concepts that enable them to understand the earth's interconnected systems, to identify and analyze environmental problems, both natural and manmade, and to evaluate the risks associated with these problems. Method of instruction includes substantial laboratory and field components that

focus on student data collection and analysis. Biology, chemistry, physics, mathematics, and technology concepts will be integrated throughout the course. The major topics to be emphasized include flow of energy and cycling of matter, interconnection of all life, the stability and change in an ecosystem, conservation and resource allocation, evaluation of human activity and technology.

Pre-requisites: Chemistry or Honors Chemistry

SOCIAL STUDIES

Social Studies- 45.0711712 World Studies (S)

Required of 9th grade students

The World Studies course provides students with an introduction to both physical and cultural geography. After an introduction to geography, students study each major region of the world. For each region, students learn about the importance of the physical geography and its impact on the region's development. Students study cultural aspects of each region and examine the influence of geography on the cultural development of each region. Students will learn how to analyze historical documents and data.

Social Studies-45.0830712 World History (Y)

Required of 10th grade students

This course is an in-depth study of the major world civilizations from 1000 to the present. Emphasis will be placed on the evolution of the political, social, cultural and economic heritage of the major world regions, with the major emphasis on Western Civilization. Students will study the rise of conflict, both economic and territorial, and its effect on the advancement of civilization in these regions. Students will learn how to analyze historical documents and data. Research will be required.

Social Studies-45.0811701 Advanced Placement World History (Y)

Required of 10th grade students with Department Approval

The content of this course will emphasize a more global, non-western approach to World History by tracing the development of civilizations and the interactions among people in those civilizations from approximately 1000 C.E. (Common Era) to the present. College preparatory outside reading is required and is discussed in class. Considerable time will be devoted to helping students develop their analytical and writing skills through the evaluation of primary and secondary sources of historical information. All students must take the AP World History Exam in May.

Social Studies-45.0810702 American History (Y)

Required of 11th grade students

This course is a survey of the rise of America from colonization to the present. Special emphasis will be placed on the contributions of the various ethnic groups and cultures that make up the American character. Students will write a major research paper as part of the course requirements.

Social Studies-45.0820721 Advanced Placement American History (Y)

Required of 11th grade students with Department Approval

This course is designed to provide a college-level experience and preparation for the Advanced Placement (AP) Examination in May. A seminar approach is used to cover major historical figures and events in our nation's history from colonization to the present. Emphasis will be placed on interpreting primary and secondary source documents, mastering quantitative historical data, and writing historical essays. All students must take the AP U.S. History test in May.

Social Studies-45.0610711 Principles of Economics (S)

Required of 12th grade students

The purpose of this course is to present a survey of economic theory and basic economic systems and concepts. Students will analyze their roles as both producers and consumers within society. Focus will be on strategies and concepts to help the students become more knowledgeable consumers and citizens.

Social Studies-45.0570712 American Government (S)

Required of 12th grade students

This is a basic study about how the American political system works. There is an extensive examination of the Constitution as well as the executive, legislative, and judicial branches of our government. The rights and responsibilities of citizenship will be emphasized and the policy-making process explored. Students will examine how a government resolves issues and conflict in a way that enhances a nation's values and purposes.

Social Studies-45.0530740 Advanced Placement United States Government and Politics (S)

Required of 12th grade students with Department Approval

This course is designed to provide a college-level experience and preparation for the Advanced Placement (AP) Examination. Emphasis will be placed on interpreting documents and statistics, analysis of political theory, and writing analytical essays. The topics that will be covered include constitutional underpinnings of the U.S. government, political beliefs and behaviors, political parties and interest groups, institutions of the national government, and civil rights and liberties. All students must take the AP U.S. Government test in May.

Social Studies-45.0150711 Introduction to Psychology (Elective) (S)

Offered to 10th – 12th grade students

In this course the student is introduced to the scientific analysis of human behavior. Students learn to differentiate and discuss theories of learning, personality development, mental illness, and therapy. Students also study human motivations, emotions, and group psychology.

Social Studies-45.0160711 Advanced Placement Psychology (Elective) (S)

Offered to 10th – 12th grade students with Department Approval

This course conforms to the College Board topics for Advanced Placement Introductory Psychology Examination. Covers methods, approaches and the history of psychology as a science, biological bases for behavior, sensation and perception, states of consciousness, learning, cognition, motivation and emotion, developmental psychology, personality, testing and individual differences, abnormal psychology, treatment of psychological disorders and social psychology. All students are required to take the Advanced Placement examination in May.
Prerequisite: Psychology

Social Studies-45.0810712 Modern U.S. History: 1960 - present (Elective Rotation) (S)

Offered to 10th – 12th grade students

In this course the student will have the opportunity to learn, discuss, and investigate the recent events of U.S. History in depth. Students examine the political, economic and social trends of post WWII America. Each decade is studied in depth. The focus of the course is on the escalation of the Cold War, the Civil Rights movement, the impact of the Great Society, the Reagan Era, terrorism in America and various cultural phenomena. Further, students consider the role of the Catholic Church in these historical trends and current events facing America as a result of the last half century.

TECHNOLOGY/BUSINESS

The following courses outline a 4 year progression for high school students which will culminate in their direct application of acquired skills in an open-ended design challenge. Below are course descriptions and offerings associated with this track.

Students who successfully complete the pathway will obtain a STEM endorsement on their graduation certificate.

**Note that all courses are .5 credit, single semester courses.

Engineering and Technology 21.4250711 - STEM 1 (S)

Required of 9th grade students

This course introduces students to the engineering design process by the identification of a problem and the application of principles taught throughout the semester. Students will engage in learning principles of computer science, computer-aided design (CAD), computer hardware, and electronics. Acquisition of these skills will be addressed and demonstrated by the student's engineering design challenge solution. This course focuses heavily on skill mastery through student demonstration of work and problem-based learning activities.
Prerequisites: None

Engineering and Technology 21.4710711 - STEM 2 (Elective Rotation) (S)

Offered to 9th – 12th grade students

This course builds on student understanding of the engineering design process by revisiting and iterating on their previous design or addressing a new problem of their choice. Additionally, students will continue to build their knowledge of computer science, computer-aided design (CAD), and electronics from STEM 1. A new area of focus will also include computer networking which will assist in exposure and preparation for future elective options.
Prerequisites: STEM 1/Computer Applications

A SPECIAL NOTE ABOUT STEM 3

For STEM 3, students have the opportunity to specialize in a field of their choice based on their interests and experiences in the program to this point. Therefore, there are multiple options for STEM 3 denoted by content area. Initially, based on interest and instructor availability, these courses may be combined or offered in a self-paced format. These courses may also be put in a rotation based on student interest.

Engineering and Technology -21.721400 STEM 3: Internship (Elective Rotation) (Summer)

Offered to 10th – 12th grade students

This course builds on the student's understanding of the engineering design process by revisiting and iterating on previous designs or addressing a new problem of the student's choice. Additionally, students will continue to build their knowledge of computer science, computer-aided design (CAD), and electronics from STEM 1. A new area of focus will also

include computer networking which will assist in exposure and preparation for the capstone course if students wish to pursue completion of the full STEM track. To learn more about the internship program and its benefits, please see the STEM internship page at www.smaschool.org/STEM/internship.

Prerequisites: STEM 2

Engineering and Technology -06.45100 STEM 3: Entrepreneurship and Finance (Elective Rotation) (S)

Offered to 10th – 12th grade students

Entrepreneurship focuses on recognizing a business opportunity, starting a business, and operating and maintaining a business. Students will be exposed to the development of critical thinking, problem solving, and innovation in this course as they will either be the business owner or individuals working in a competitive job market in the future. Integration of accounting, finance, marketing, business management, legal and economic environments will be developed throughout projects in this course. Working to develop a business plan that includes structuring the organization, financing the organization, and managing information, operations, marketing, and human resources will be a focus in the course. Engaging students in the creation and management of a business and the challenges of being a small business owner will be fulfilled in this course.
Prerequisites: STEM 2

Engineering and Technology -11.48100 STEM 3: Cybersecurity (Elective Rotation) (S)

Offered to 10th – 12th grade students

STEM 3: Cybersecurity develops technical proficiencies in students to address the changing landscape of computing and security. Building on the networking and hardware knowledge from previous STEM courses, students will learn advanced tools and techniques to harden and defend networks from hacking attacks. Through understanding the CIA (Confidentiality, Integrity, and Availability) model, students will be able to create resources, presentations, and training to help improve human vulnerabilities. At the completion of this course, students will have the requisite knowledge to take the COMPTIA Security+ Exam, an industry standard credentialing test.
Prerequisites: Algebra II

Engineering and Technology -48.54300 STEM 3: Advanced CAD (Elective Rotation) (S)

Offered to 10th – 12th grade students

Building on the foundation of CAD skills in previous STEM courses, students will learn advanced methods in modeling and design. Parts and assemblies will be developed by students which they will then put under load and stress simulations. Additional topics covered will be fasteners, 3D mechanical design, and design animation. Students will also learn the importance of communication skills through developing engineering documents and presentation of design ideas and key concepts to a board of stakeholders at the completion of this course. At the completion of this course,students will be prepared to sit for the industry certification exam in Autodesk Fusion 360.
Prerequisites: STEM 2

Engineering and Technology - 21.47200 STEM Capstone (Elective Rotation) (S)

Offered to 10th – 12th grade students

The STEM Capstone is the final course required for completion of the STEM track. This course requires students to synthesize the skills, knowledge, and experience gained in previous STEM courses to complete a self directed and chosen challenge. Students may select from the following options:

- Design and patent a device which solves a problem of their choosing
- Prepare for and take an industry level certification exam
- Develop and copyright intellectual property of their own design
- Complete an extended internship (Student must have taken STEM 3: Internship)

This course provides students a variety of options to pursue their passions and finish with a tangible, marketable product. Students will also gain knowledge and expertise in establishing, funding, and growing a small business with the goal of preparing them for entrepreneurial endeavors or for employing their creativity and problem solving skills in the business world.
Prerequisites: STEM 3

Technology-21.4450711 Robotics: Hardware & Software Design & Development (Elective Rotation) (S)

Offered to second semester 9th – 12th grade students

This class builds upon the foundations of Computer Applications/STEM1. It extends the fundamentals of programming and robotics including using a variety of programming languages, hardware safety, hardware design, hardware construction, research skills, and teamwork. Students will build various robotics to demonstrate these basic principles. The design process of testing and modification will be implemented to show the fundamentals of engineering and electronics. Students' knowledge will be tested using an engineering notebook, projects and other assessments appropriate for the material.
Prerequisite – none

Technology-11.0160741 AP Computer Science A (Elective) (Y)

Offered to 11th – 12th grade students with permission of the instructor

NOTE: This course can be used to satisfy the Science Elective graduation requirement.

AP Computer Science A is an elective, equivalent to a first-semester, college level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structure), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language.
Prerequisite – Computer Applications/STEM1

THEOLOGY

Theology-99.0000701 Introduction to Catholicism / Fall semester (S)

Required of 9th grade students

The Introduction to Catholicism course is a summary of the Catholic Faith. The class seeks to introduce students to the main teachings of the Church. Unlike the other courses in the Theology curriculum, this class will not focus on one aspect of Theology, but instead, give an overview of the key tenants of the faith. The articles of the Nicene Creed will be considered extensively. Other topics considered are: Theology as a science, Mary, The Church, and Eschatology.

Theology-99.0000702 Sacraments and Prayer Spring semester (S)

Required of 9th grade students

This course is an overview of the seven Sacraments of the Church as well as the prayer life of the Church. Each of the seven Sacraments will be discussed in depth. We will look at the institution of each Sacrament by Christ and the theological reality behind them. We will end the course with a discussion on prayer and the different types of prayer within the spiritual life of the Christian.

Theology-99.2523701 Theology Seminar-Christology Fall semester (S)

Offered to 9th grade students by Department Approval in lieu of Introduction to Catholicism

The Freshman Seminar class is for students who already have a firm grasp of the Catholic Faith and are able to dive deeper into certain subjects. This class will concentrate on Christology, that is, the Theology of Jesus Christ. We will look at the nature and scope of Theology, Christ within Scripture, The Person of Jesus Christ, the early Councils, etc. This class acts as a more in depth look at Our Blessed Lord than what is found in the Introduction to Catholicism Class.

Theology-99.2523702 Theology Seminar-Mariology Spring semester (S)

Offered to 9th grade students by Department Approval in lieu of Sacraments and Prayer

The Freshman Seminar class is for students who already have a firm grasp of the Catholic Faith and are able to dive deeper into certain subjects. This class will concentrate on Mariology, that is, the Theology of Mary. We will look at Mary being prefigured in the Old Testament and her role in salvation from the New Testament. We will consider what the Church Fathers had to say about her. We cover the four Marian Dogmas as well as the proposed fifth Dogma extensively. We will finish the course with a consideration of the four apparitions that constitute our house names as well as popular Marian devotions.

Theology-99.0000721 Old Testament / Fall semester (S)

Required of 10th grade students

The Old Testament is a vibrant and complex work composed by a multitude of authors over the course of a millennium. It contains many narratives that contain information and insight that is crucial to understanding and believing in the Christian faith. Through a complete understanding of the Old Testament, we can learn about our long and complex relationship with God and how this relationship culminates in the fulfillment of God's promises to humanity through His Son, Jesus Christ.

Theology-99.0000722 New Testament / Spring semester (S)

Required of 10th grade students

The books of the New Testament continue the Old Testament's revelation of God's saving work in the world. Their focus is on Jesus Christ – the hoped-for Messiah, the Savior." (The Catholic Youth Bible). This semester, students will unpack the story of the life of Christ and the Church through the Gospels, Acts of the Apostles, Epistles, and Revelation.

Theology-99.0000732 Catholic Morality / Fall semester (S)

Required of 11th grade students

This course aims at providing to our students the moral tools for a holier thus happier life. It is not simply a litany of rules, but rather principles for living a morally upright life consistent with the love of God and of the human person who is made in His image. Upon the completion of this course, students will have a better grasp of key moral concepts such as: natural law, freedom, the three causes of a moral act, sufficient knowledge and liberty, character, conscience, sin, moral absolutes, virtue, vice, happiness, the principle of double effect. Students will be offered scriptural, theological, and philosophical principles, as well as opportunities to apply such principles to current moral issues.

Theology-99.0000731 Church History / Spring semester (S)

Required of 11th grade students

This course will examine Church History from Pentecost to the present, seen as a history of salvation-God at work among His people- carried on through the centuries by those entrusted with it. The major time periods and their main heroes and characters will be looked at as well as the most important theological developments that have shaped our Faith.

Theology-99.0000741 World Religions / Fall semester (S)

Required of 12th grade students

This course invites students to re-examine their personal faith in more depth by opening doors to the spiritual riches and specificities of the major world religions. It also gives them tools to better understand today's world and to prepare for tomorrow's encounters and challenges in which religion is to play a decisive part. First, the course examines the key elements of religion in general. The second part examines Islam, Hinduism, Buddhism, and the Chinese traditions.

Theology-99.0000742 Personal Vocation / Spring semester (S)

Required of 12th grade students

The Catholic Theoretical views on vocation will emphasize the study of key concepts and views pertaining to the doctrine of vocation in the Catholic tradition: the universal call to holiness, the universal vocation of love, and the types of vocation. The course will also offer the students the time and tools to reflect on their personality, their aspirations, their potentialities and limits, all aspects of a person through which the call of God is incarnated and knowledgeable. This invitation to a better self-knowledge will go along with a reflection on its consequences for a vocational choice in light of Catholic Social Teaching.

Theology-99.0000745 Christian Outreach (Elective Rotation) (S)

Offered to 10th – 12th grade students

The purpose of this course is to introduce students to the Church's social teaching. In this course, students learn how Christ's concern for others, especially the poor and needy, is present today in the Church's social teaching and mission. Students will then have the opportunity to practice this outreach in their school community so that they are equipped to do outreach in their local communities.

Theology-99.0000748 Theology of the Body (Elective Rotation) (S)

Offered to 11th – 12th grade students

This course will be a study of St. John Paul II's seminal work, *Man and Woman He Created Them: A Theology of the Body*. It will endeavor to explore JPII's theology of human personhood, sexuality, marriage, and celibacy. We will explore the mystery of love extending from the Trinity, through Christ's spousal relationship to the Church, to the concrete bodies of man and woman. We will look at the image of the human person rooted in Sacred Scripture and Sacred Tradition.