

HOLY CROSS ACADEMY COURSE DESCRIPTIONS



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Asterisks * indicate courses that are offered when there is student demand and teacher availability.
All others are offered every year.

ART

Studio Art

This 9th grade introductory course in visual art is designed to expose students to the nature, function, and techniques of various art forms. It includes a study of elements and principles of art as well as an overview of historical art periods and the artists who exemplified those eras. Students are required to write a short research essay aligned to the projects related to a particular subject. They are encouraged to creatively explore techniques in various media such as pencil, paint, charcoal, and craft materials, and to acquire skills in some of these areas. 1 credit

Drawing and Painting

This course offering is selected by students who desire a focused study in this area. Students are exposed to a variety of drawing and painting experiences that challenge their abilities and encourage them to develop a personal technique. Use of pencil, charcoal, pastel, graphite, watercolor, oil, and acrylics are explored. Drawing and Painting rotates in 10th through 12th grades with the two art courses which follow below. * .5 credit

Sculpture/Ceramics

A variety of sculptural techniques in three-dimensional and free standing formations, both representational and non-representational and using traditional and non-traditional materials, are offered to the student. The ceramics component includes pottery and tile techniques and methods, including throwing clay on the pottery wheel, glazing, and kiln firing. This course is part of the art rotation in 10th through 12th grades. * .5 credit

Creative Crafts

This course is an introduction to the fundamentals of three-dimensional design through the creation of crafts items in various materials. Some projects undertaken in the class are stained glass, mosaics, basket weaving, wood carving, and papier-mache. It is one of the courses in the art rotation in 10th through 12th grades * .5 credit

Graphic Arts

This course is a first level graphic arts class. Students will create art projects using **Microsoft Paint** and **Corefx**. Many students advance themselves graphically and use **Corefx** to create an animation. The class will also create a project that will be entered into a computer art contest. * .5 credit

COMPUTERS

Introduction to Computers

This course introduces the student to using a computer in an efficient and safe manner. Basic computer concepts include file backup, antivirus use, password protecting your home computer and its link to the internet. Discussion includes buying a computer to fit one's needs – what is included in a basic computer and what add-ons might be needed or desired.

A major aspect of this course is learning to use Microsoft Office – Word, Excel, and Power Point, in an effective manner to produce papers, spreadsheets and presentations which are parts of many college courses. Other computer applications will be covered as time allows. .5 credit

Computer Networks

This course introduces the student to computer networking starting with basic terminology. Next we study network hardware and how the various components interact. An overview of network topologies follows with more detail focused on cabling, wireless networks, protocols and IP addressing. Network security and management are also discussed. Troubleshooting and support are covered as time allows. From a practical perspective the student will be shown how to set up a home network. * .5 credit

ENGLISH LANGUAGE ARTS

English Language Arts 9

The student reviews and continues study of basic grammar, sentence structure, spelling, and vocabulary. The content of literature includes the short story, biography, poetry, drama, and the novel. Selections are chosen for their nobility of theme, historical significance, and moral relevance. Writing exercises include expository, narrative, persuasive, and descriptive essays and theme papers. A research paper, using library and media skills is required. 1 credit

English Language Arts 10

The student continues studies as in Grade 9 with a further development of grammar and writing. Theses and supports for composition, as well as reference tools and bibliographic form, are stressed. A longer research paper is required. Selections from World Literature are read, including various genres listed above and their interpretation, as well as their relevance to virtue and morality. 1 credit

English Language Arts 11

Preparation for the New York State English Language Arts Regents is an objective of this level, which includes oral presentations, more advanced writing techniques, and continuation of grammatical skills. Reading emphasis is on classic American literature of all genres, along with literary analysis and moral significance. 1 credit

English Language Arts 12

Critical reading and literary analysis are continued, with a focus on the great literary works of English Catholic and secular literature. Discussions focus on moral values depicted in the selections. Writing, research, oral discussion, and public speaking are stressed. Students are prepared for the language component of the SAT examination for college entrance. 1 credit

AP or Honors English (Literature)

This senior year course correlates to a college level English literature course and enables the student who scores a level 3, 4, or 5 on the AP examination to earn college credit. Students explore literary works of various genres and learn to read critically and evaluate what they read. They identify the work's structure, style, themes, tone, and symbolism, as well as the religious and moral messages exhibited in the piece. They also express their understanding of the literature in expository and analytical essays. * 1 credit

HEALTH

Health

This course studies human growth, cardiovascular, skeletal, digestive, and respiratory systems, exercise, healthy eating, first aid, and the dangers of alcohol and drugs. Students learn the interconnection between mind, body, and spirit and their duty to protect and develop them as gifts from God. .5 credit

Healthy Choices – Healthy Living (mini-course)

As teenagers, students face many scenarios that can create stress, make them question their self-worth, and persuade them to deviate from a healthy and morally guided path. In this class students tackle weekly topics that highlight a concern for their health and well-being. Students are taught to recognize the importance of educated decision making, dealing with stressors, and finding a balance between responsibility and desired activities all while embodying the moral teachings of the church. * .25 credit

MATHEMATICS

Integrated Algebra

The algebra content strand includes linear equations in one variable, quadratic functions with integral coefficients and roots, as well as absolute and exponential functions. Coordinate geometry is integrated into the investigation of these functions. Problem situations and strategies used for problem solving are presented. Data analysis and an understanding of correlation and causation are included, as well as problem situations requiring right angle trigonometry and elementary probability theory. 1 credit

Algebra 2 and Trigonometry

This course is designed to prepare the student for the New York State Regents in Algebra 2 and Trigonometry. As such, the following topics are covered: the real number system including rational and irrational numbers which includes the arithmetic of radicals; the algebra of simplifying polynomials and rational expressions; solving polynomial and rational equations and inequalities; solving absolute value equations and inequalities; a general study of relations and functions, and their inverses; quadratic functions, the quadratic formula and complex numbers; sequences and series; exponential and logarithmic functions; the trigonometric functions and their inverses including their graphs, using special right triangles and the unit circle to calculate certain values of the trig functions; trigonometric identities; solving trigonometric equations; the laws of sines and cosines to solve triangles; statistics, probability, and the binomial theorem. Use of a graphing calculator will be introduced. 1 credit

Pre-Calculus

This course covers solving and graphing polynomial, radical, exponential, and logarithmic functions and expands on basic trigonometry by including graphing trigonometric functions, proving identities, applying trigonometry with the Law of Sines, Law of Cosines, and area of the triangle. Graphs and inverses of trigonometric functions, polar coordinates and complex numbers, and properties of logs are studied. Conics include algebraic forms, vocabulary and graphs, real numbers and the Cartesian plane, as well as linear, absolute value, greatest integer, and piecewise functions. Trigonometric applications cover angles, translation of axes, tangents and normals to the conic section. Additional topics are vectors, sequences, probability, and statistics and data analysis. * 1 credit

AP Calculus

This course covers the topics included on the AB AP Calculus Exam. This list includes a general discussion of functions including: function notation, domain, range, function composition, symmetry, intercepts, asymptotes, and drawing a quick sketch of polynomial, exponential, logarithmic, and trigonometric functions. Inverse functions are dealt with both by graphing, and algebraic methods. Studying limits leads into the definition of the derivative and its uses in graphing and word problems. Many derivative formulas are derived and used, including the method of implicit differentiation. Indefinite and definite integrals are then covered. Basic integral formulas are used as a base for studying techniques of integrating more complicated functions. These techniques include various types of substitutions, both trigonometric and algebraic, integration by parts, and partial fractions. Special topics include l'Hopital's Rule, The Mean Value Theorem and The Mean Value Theorem for integrals. Other applications include calculating areas and volumes. Use of a graphing calculator will be integrated throughout this course.* 1 credit

Geometry

This course is designed to prepare the student for the New York State Regents in Geometry. As such, the following topics are covered: definitions of all the basic elements in plane geometry; a study of logic and its application to proving theorems in geometry; congruence and its application to line segments, angles, and triangles; transformations and the coordinate plane; geometric inequalities; slopes and equations of lines; parallel lines; quadrilaterals; 3-dimensional geometry; ratio, proportion, and similarity; the geometry of the circle; and locus of points and construction. 1 credit

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Business Math

This course introduces the student to the basic principles of managing a business, investments and banking. It includes accounts payable, accounts receivable, bookkeeping, business loans, and stocks and bonds. Business ethics and the stewardship of our financial gifts from God are also emphasized. 1 credit

General Math

This is a full year course covering the basics of mathematics including algebra, geometry, and statistics, and intended as a remediation for students having difficulty with higher-level courses in the mathematics sequence. Lessons cover number and operation, patterns, relations and functions, geometry and measurement, statistics and probability. These basic principles of math are explored by their use in everyday life. * 1 credit

MUSIC

Grades 9-12 Choir

As a member of choir, students continue learning to sing a varied repertoire of religious and secular music from notation in combination with other voices. Singing with good tone, pitch and duration is the goal. Students learn a lifelong skill which includes learning how to read music for independent music performance. Students will demonstrate the capacity to listen to and comment on music and will be able to relate their critiques about music to its aesthetic, structural, acoustic, and psychological qualities. Through listening students will be able to analyze and evaluate their own and others' performances.

Students meet twice a week and practice singing in groups and solo. They have the opportunity to perform in community and holiday events on a voluntary basis. The choir is required to lead the singing for Masses and perform in the Christmas Concert (December) and Spring Concert. These concerts are considered a Unit test of the students' work and are mandatory. Additionally, students have the option of auditioning for All-County and perform NYSSMA solos as an audition for Area All-State and All-State Conferences. * .5 credit

Instrumental Music/Band

Students who wish to play a woodwind, brass, or percussion instrument, and those who are continuing to progress in these instruments, are given individual or group lessons weekly. Students focus on development of skills including embouchure and tone development, timing and rhythmic development, reading and notation skills, and music theory. When they have reached a sufficient level of skill and expression, students have an opportunity for solo adjudication. The concert band meets two times a week and practices for performances given twice a year or for school events. * .5 credit

Music Appreciation

Students learn about and experience different types of music, from Baroque to Modern Day. They are taught music visualization and the influence of technology on music, as they form an appreciation for the great composers and masters of performance throughout history. .25 credit

Orchestra

Students are provided with lessons in violin, cello, and other stringed instruments as available. They are taught basic skills such as bowing technique, sight-reading and notation, timing, and ear training. Students perform in school concerts as a chamber ensemble, playing classics as well as contemporary music. * .5 credit

PHYSICAL EDUCATION

This course includes various physical activities and team sports selected to promote personal fitness as well as proficiency in motor skills as applied to particular games. Soccer, archery, basketball, touch football, volleyball, baseball, and tennis are included in the program. Healthful benefits of physical activity are stressed along with rules and safety requirements of various sports. Problem solving and group cooperation are practiced through participation in organized games. Students are required to take Physical Education twice a week each year through 12th grade. .5 credit per year

RELIGION

Religion 9

This course examines the reasonableness of the Catholic faith and covers such topics as the existence of God, creation, the divinity and humanity of Christ, revelation, the authenticity of the Scriptures, the passion, death, and resurrection of Jesus, the establishment and infallibility of the Church, and the place of Mary in Catholicism. The practices and traditions of the Church are also included. 1 credit

Religion 10

The impact of Catholicism on the life of the individual is studied, with an emphasis on the living out of the Ten Commandments and the Sermon on the Mount. The scriptural basis of the sacraments of the Church and their place in the spiritual life of the person are explored. Eschatological implications of here and now actions are explained. 1 credit

Religion 11

The sense of vocation, the mystery of God, and the relationship of man to God make up the main content of this course. Students examine various doctrines of the Faith and learn to explain and defend them. Using Scripture and documents of the Church, students learn to write reasonable and documented theses to support what they believe. A close relationship with Jesus and final union with God in heaven are shown as the goals of religious knowledge and belief. 1 credit

Religion 12

This course emphasizes the moral aspect of living as a Catholic. Grace and virtue are seen as the basis for morally right actions, and ethical questions concerning life issues and Catholic responsibility are explored. More advanced applications of such principles as that of double effect, the determination of a just war, the moral questions related to various economic systems, and current sexual moral problems are discussed. 1 credit

SCIENCE

Biology

Class instruction and laboratory investigations of this course cover the nature of life, ecology, cells, genetics, evolution, microorganisms and fungi, plants, invertebrates, chordates, and the human body. The relationship between faith and science is referenced throughout this course. Regular assessments, laboratory experiments, and test practice prepare the student for the New York State Regents examination. 1 credit

AP Biology

Advanced Placement Biology is the equivalent of a college introductory course available to highly motivated students interested in life sciences. The successful student may earn placement credit in specific colleges that offer credit for an AP exam score of 3, 4, or 5. Topics covered in the course are Anatomy and Physiology, Biochemistry, Biodiversity, Cell Functions, Developmental Biology, Ecology, Genetics, Molecular Biology, Origin of Life, Population Biology, Molecular Genetics, Cell Communication, and Cell Division. Twelve specific biology labs are required, as well as knowledge of general lab procedure. * 1 credit

Chemistry

In this course, the student is introduced to the science of matter, its properties and changes, elements, subatomic particles, atomic mass, isotopes, and ions. The units on stoichiometry cover formulae, ionic compounds, the mole, chemical equations, classification of reactions, and quantitative relationships. The course proceeds to gases, thermodynamics, light, electrons and atomic structure. Classification of elements introduces the periodic table. Chemical bonds, nonmetals, metals, and semimetals are studied. As an application of the foundational truths, solutions, colloids, kinetics, equilibrium, acids, bases, and salts are explored. An introduction to oxidation-reduction reactions, electrochemistry, and both nuclear and organic chemistry complete the study of this topic. Laboratory experiments are interspersed throughout the year as students are prepared to take the NY State Regents examination. 1 credit

Forensic Science

This is a senior-level class that allows students the opportunity to explore the world of crime solving through the application of science. While focusing on many disciplines such as biology/anatomy, chemistry, and physics, this course will focus students' efforts on the application of the scientific process, procedures and principles of crime scene investigation, physical and trace evidence, and the law and courtroom procedures from the perspective of the forensic scientist. Through hands-on labs, analysis of crime scenarios, students learn about forensic tools, technical resources, forming and testing hypotheses, proper data collection, and responsible conclusions. * 1 credit

Earth Science

This course examines various properties of the earth covering the dynamics, composition, oceans, atmosphere, and history of our planet. Climate variability, water and energy cycles, atmospheric processes, the earth's surface and internal processes (landforms, plate tectonics, rocks and minerals) and the earth in space are all topics for study. Students learn from a lecture and lab environment the concepts associated with each unit and are prepared for the NY State Regents written and performance examinations. 1 credit

Physics

This course combines a conceptual and a mathematics-based approach to the study of the fundamental ideas that underlie all basic and applied sciences. Topics include measurement, motion, vectors, work and energy, momentum, collisions, rotational motion and equilibrium. Students proceed to fluid mechanics, heat, thermodynamics, and vibrations. Sound and light, including refraction and diffraction, follow. The course is continued with a study of electric forces and fields, energy and capacitance, currents, circuits, and magnetism. The final investigations cover atomic physics, modern electronics, and subatomic physics. Laboratory experiments complete the preparation for the NY State Regents examination. * 1 credit

General Physical Science

This course uses a hands-on approach in which students explore foundational principles of physical science. It is intended as a remediation for students having difficulty with higher-level courses in the science sequence. Lessons cover forces, machines, motion, energy, electricity, magnetism, sound, light, density, and buoyancy. Students also study general chemistry and physics concepts. Forty hours of labs are included. *

SOCIAL SCIENCES

American History

Beginning with ancient Native American, European, and African history, this course follows the influences these cultures had on the early Atlantic-American world. European colonization of the North American continent, growth of American colonies, and the American Revolution are covered. The basis of the new government, the Declaration of Independence and the Constitution, are studied. The events and influences affecting the United States are presented in historical order and include an integration and comparison of these with contemporary world dynamics. Students proceed through the American story: politics of the new republic, the Louisiana Purchase, inventions, economy of the early 1800's, the anti-slavery and women's reform movements, and westward expansion. The Civil War and reconstruction are covered in depth. The technological revolution, immigration, the progressivism of the pre-WW I era and the following depression are explored. World War II and the cold war, the civil rights movements, the Viet Nam War and the presidencies and events following it bring the student to the twenty-first century in America. The course remains current with a study of the conservative revolution and daily events in government and American life. The influence of the Catholic Church is included throughout the study of the various eras of American history. 1 credit

Global History I

This course is a topical and chronological approach to history beginning with the origins of societies and civilization up to the present time. Students are introduced to the tools and methods of the historian, the geographer, the economist, and the political scientist. They will concentrate on Western Civilization, past and present, with the view that Jesus Christ is the focal point of history. Where applicable, they will look at the role of the Church and Catholics in the history of the world. 1 credit

Global History II

This course is a topical and chronological approach to history beginning with the Classical Age up to the present. It focuses on the cultures of Africa, Asia, and the Near East as it bridges between the events of history occurring in Western Civilization. Global economic trends and global issues of the 20th and current centuries will be studied. As in the previous course, Jesus Christ and the impact of his Church in history are stressed. 1 credit

Economics

This course introduces the student to the world of economics, both in his or her personal life and in the world in which they live. It explains the roles of consumers and producers and how money, goods, and services flow to and from different groups. Students explore personal economics, including budgeting, spending, saving, and the choices to be made. They also study credit, including personal borrowing through credit cards and various types of loans. The students are introduced to savings for the future, including Social Security, pensions, IRAs, and 401K plans. They study the various insurance types, including life, health, auto, as well as social programs such as Medicare and disability insurance. They look into economic issues currently being faced in the United States, and make reference to the content of Church documents concerning labor and various economic systems. The goal is for the student to begin to understand all the economic forces in his or her life, and the importance of the decisions they make. .5 credit

Government

This course covers the foundational documents, the structure, and the political process of the U.S. government with its unique commitment to liberty. Students explore the importance of citizen involvement in the political and electoral process. They study the Legislative, Executive and Judicial branches of our government, focusing on the unique powers as enunciated in the Constitution, and the checks and balances incorporated therein. Each fall, students use the current elections as a point of reference to making real the theory learned in class. The goal is for students to understand the various levels of government and the impacts these will make on their lives. Church documents concerning government and basic human rights are referenced. 1 credit

SPANISH

Spanish One

This is an introductory course stressing the use of consonants, the alphabet, and basic grammar structures such as adjectives that agree with their nouns in gender and number, and verbs, who show person by changing the suffix. Students learn to understand, speak, read, write, and spell basic words and phrases. Students become first-level-fluent in the following discussion areas: family, addresses, describing friends, clothing, modes of transportation, telling time, sports, music, giving street directions, describing illnesses and accidents, shopping, ordering food in a restaurant, and the use of plumbing, electricity, and building security devices in a foreign country. 1 credit

Spanish Two

This course's basic objective is expressing oneself in the past tense. With vocabulary begun in Level One, students learn to describe things in greater depth, and in the past tense. Being able to narrate some event that happened is the basic framework of conversations. * 1 credit

Spanish Three

Skills in reading and discussion are developed, bringing in a substantial growth in vocabulary. Students learn several new verb tenses including the imperfect, the future, the conditional, and the perfect. In addition to short story skills, students read excerpts from larger works including Don Quixote. Students also practice reading, newspapers, advertisements, and other communication. Reading and discussion progress from Level Two. Reading and discussing stories, true events, and viewpoints leads to discussing concepts. * 1 credit