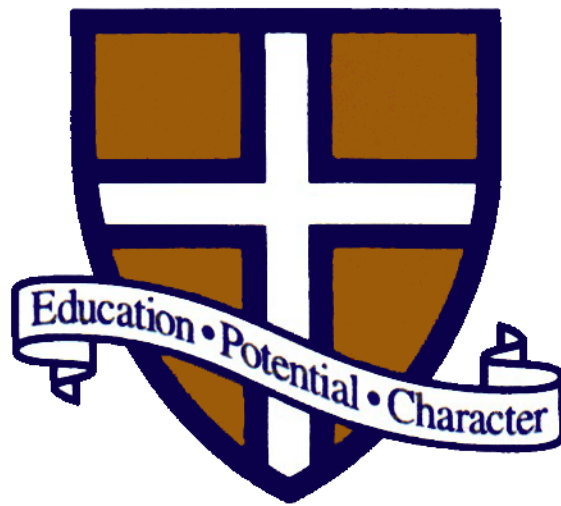


# Course Descriptions



The Brook Hill School



## The Brook Hill School Academic Course Plan

6 <sup>th</sup> grade	7 <sup>th</sup> grade	8 <sup>th</sup> grade
History/English 6	History/English 7	History/English 8
Math 6	Pre-Algebra 7	Algebra I
Earth Science	Life Science	Physical Science
Bible (Old Testament)	Bible (Old Testament)	Bible (New Testament)
Intro to Spanish	Spanish 1A	Spanish 1B
Fine Arts Rotation	Fine Arts	Fine Arts
PE/Athletics	PE/Athletics	PE/Athletics

9 <sup>th</sup> grade	10 <sup>th</sup> grade	11 <sup>th</sup> grade	12 <sup>th</sup> grade
History/English 9	History/English 10	History/English 11 or History/English 11 AP/DC	English 12 Gov. / Economics DC or English 12 AP/DC Gov. / Economics DC
Algebra I or Geometry	Geometry or Algebra II	Algebra II or College Alg/Precal DC	College Alg/Precal DC Statistics DC or Calculus AP/DC Statistics DC
Environmental Sci or Biology	Biology or Chemistry	Chemistry or Advanced Physics	Physics or Chemistry AP/DC Anatomy/Physiology DC Environmental Sci DC
Spanish 2 or French 1	Spanish 3 or French 2	Spanish 4 or French 3	Core Elective
Technology/Health Study Hall	Speech/Logic	Bible 11	Bible 12 College Quest/ Leadership
Fine Arts (Art, Choir, Drama, Orchestra)	Study Hall Fine Arts	Study Hall Fine Arts	Study Hall Fine Arts
PE/Athletics	PE/Athletics	PE/Athletics	PE/Athletics



# COURSE OFFERINGS BY DEPARTMENT

## **BIBLE DEPARTMENT**

The school is committed to the Bible as God's revealed Word: therefore our emphasis in the Bible curriculum is to teach our students to read and study the Bible for themselves. Our approach is inductive, raising the questions necessary to involve the learner in the text and make valid conclusions from the reading. Our desire is that the reading and study will lead each student into a deeper walk with Christ. The Bible classes are designed to help the students develop a Christian worldview and an understanding of how biblical principles apply to the situations they face today.

The Brook Hill Bible Department teaches three different approaches to Bible study: historical, literary, and theological. The middle school focuses on a historical approach. Middle school students learn the major people, places and events of the Bible. Grades 9 and 10 focus on a literary approach. During these grades students learn how to recognize and interpret literary devices in the Bible. Grades 11 and 12 explore a theological approach. During their final two years at Brook Hill, students develop hermeneutical skills, compare a Christian worldview with that of other major religious traditions, and study apologetics.

### **Bible 6**

This course in Old Testament will introduce students to the first 17 books: the Hebrew Bible's history books. An emphasis will be placed on learning the major places, people, and events of the Old Testament.

### **Bible 7**

This course will introduce students to the literature of the Old Testament as found in its last 22 books. These are the Hebrew Bible's poetry and prophesy books. The course will continue the introduction of students to the language, geography, literary structure, and culture of the Old Testament world that began in Bible 6.

### **Bible 8**

This course will introduce students to the story and literature of the New Testament. The course will emphasize the geography, language, characters, and literary style of the New Testament as well as its theological content. This course will not emphasize any one particular denominational perspective but focus on the New Testament text itself.

### **Bible 9 & 10**

In 9th and 10th grades, Bible is integrated into the History/English curriculum. Key books and sections of the Old Testament (Genesis, Exodus, 1 & 2 Samuel, 1 & 2 Kings, Ezra, Nehemiah, Esther, and Job) are studied in 9th grade along with the history and literature of the ancient world. In the 10th grade, New Testament books (including Luke, Acts and Revelation) are studied in connection with the Roman world of the first century.



## **Bible 11**

This course will formally introduce students to the concept of a Christian Biblical Worldview. Although no particular denominational perspective will be taught, the course will emphasize the historical orthodox views of the Church concerning the Bible, God, Jesus Christ, Christ's Death, Humanity and Sin, the Holy Spirit, Salvation, Angels, Satan and Demons, the Church, and Eschatology. Students will also develop inductive Bible study skills as they study the book of Romans. The second semester will then cover other world religions in an effort to understand how these worldviews both compare and contrast with a Christian worldview.

## **Bible 12**

Senior Bible is a capstone course designed to prepare students for the rigors of college. University life challenges students on a number of fronts and this course will do the same. Students who successfully complete the course will be familiar with C. S. Lewis and his numerous explanations of Christian faith. Students will also have a rudimentary understanding of common objections to Christian beliefs, and evaluate both the strengths and weaknesses of these claims.

## **FINE ARTS DEPARTMENT**

The role of the Fine Arts Department is to develop the talents, ideas, skill, and creativity of each Brook Hill student through the study of the visual and performing arts, as well as to enrich their lives. Through this process the student gains an appreciation for beauty and a cultivation of the skills necessary for self-expression and communication.

The study of the Fine Arts nurtures a perception of the beauty of God's creation and through it, the beauty of God, the Creator. The student begins to discover, as Dr. Francis Schaeffer summarizes, that "the Christian is one whose imagination should soar beyond the stars."

## **Fine Arts 6**

The introductory fine arts curriculum allows sixth grade students to experience equal units of instruction in all of the fine arts disciplines: orchestra, choral music, visual art, and the dramatic arts. Students have the option of electing to study strings the final quarter of the school year or to continue participation in the rotation.

## **Art 7-8**

In the introductory art course, students will learn the basic elements and foundational principles of art that provide the necessary tools for the creation of artworks. Drawing and becoming familiar with various media will be emphasized in the course. Students will use a variety of media including charcoal, oil pastels, watercolor, colored pencil, and tempera. Numerous drawing studies will include cross hatching, linear perspective and chiaroscuro.



## **US Art**

This course explores the elements of art and the principles of design while analyzing the work of numerous artists. Students will learn drawing skills and techniques as well as experiment with different types of drawing media including charcoal, oil pastels, watercolor, colored pencil, acrylics, and various sculptural materials. Guided by art history, students will become familiar with concepts in art and how process and formal elements support those concepts.

## **Choral Music 7-8**

This course is a progressive study of choral literature and techniques through a variety of styles and genres of music. Students will progress from unison singing through multiple part sight-singing and performance music. Basic musical notation will be reviewed and reinforced throughout the year. Sight-singing will be taught using the solfege (Do-Re-Mi) system. Students will be given opportunities to perform both individually and corporately.

## **US Choir**

This course is designed to teach proper technique for choral singing and sight-reading through a progressive study of choral literature from classical to contemporary music. A variety of styles and genres are taught to give the students a complete experience of choral music. Also incorporated into the class is a thorough study of sight-reading skills. Students will progress from unison singing through multiple part sight-singing and performance music. Basic musical notation will be reviewed and reinforced throughout the year. Sight-singing will be taught using the solfege (Do-Re-Mi) system. While exposed to group singing, the students are encouraged to perform on the individual level as well.

## **Drama 7-8**

The Middle School Drama course will focus on developing communication skills, the internal creative process, character development, and an overall appreciation for the dramatic art form. Students will participate in improvisational exercises and will select, rehearse, and perform numerous age-appropriate oral interpretive works before their peers. Giving and receiving peer critique will be an important activity in the class. Advanced students will have the opportunity to prepare for the ACSI Middle School speech meet. Middle School students will also have the opportunity to be cast in and perform a classroom play and then to help with the staging of the spring musical. The course includes a mandatory observation component that may be satisfied by attending pre-approved theatrical productions.

By participating as part of a cast or crew in an actual classroom production students will develop qualities such as teamwork, cooperation and dependability. Students develop self-confidence from frequent participation in front of their peers, and improved coordination and vocal flexibility are also goals of this course.



## **US Drama**

The Upper School Drama course is designed for those students desiring a challenging and performance-oriented theatrical experience. The course introduces students to theatre and to the basic acting concepts of stage voice, characterization, and stage direction. Students will develop their acting ability through oral interpretations and improvisational exercises followed by monologues and duet scenes. Advanced students will have the opportunity to experience competitive aspects of speech and drama. Selection and preparation of competition level literature for the TAPPS district and state tournaments is a principle activity. Exercises will include classroom performances and peer critiques of humorous and dramatic oral interpretations, poetry reading, monologues, improvisational games and duet acting. Additionally, students will receive hands-on instruction in play production techniques and may serve as technical crew heads for Brook Hill productions. The course includes a mandatory observation component that may be satisfied by attending pre-approved theatrical productions.

By participating as part of a cast working toward a creative goal, students will develop qualities that promote maturity: teamwork, cooperation, and dependability. They will also gain a deeper insight into people and human nature by studying characterization in numerous plays. Personal growth is observed as students gain confidence and poise from frequent participation on the stage. Improved body coordination and vocal flexibility that young people need for everyday communication also result from active participation in the drama class.

## **US Speech**

The goal of this course is to help students better organize and articulate their ideas in various public speaking situations. Students will gain poise and self-confidence as they practice the principles of successful interpersonal and public communication. Students will develop skill in writing and delivering effective speeches. Students will gain experience in preparing informative, persuasive speeches, demonstration and impromptu speeches as well as effective interview techniques. The semester will culminate in a real interview exercise and a self-evaluation.

## **Beginner Orchestra 6**

This introductory course is designed to provide the student with basic skills for stringed instrument playing, rhythm, and musical notation. Students electing to remain in beginner orchestra following the nine week required rotation will receive instruction in instrumental techniques, practice methods, music reading and ear training.

## **Intermediate Orchestra 7-8**

This course is for students who have studied a string instrument for one year or more and is designed to equip students with the necessary instrument technique and music reading skills in preparation for advanced orchestra. Students will have opportunities to participate in solo and ensemble performances and competitions throughout the year.



## **US Orchestra**

This class is designed for students who have studied a string instrument for at least two years. Students will receive individual and group instruction in advanced instrumental techniques and ensemble playing. There will be both required and optional school and community performances. Preparation and participation in TMEA and TAPPS music contests will be primary activities.

## **FOREIGN LANGUAGE DEPARTMENT**

God is a communicator. In fact, He calls Himself the Word. The study of a foreign language and culture helps the student understand more the diversity of God's creation and reinforces the statement: only as we communicate to others can we really communicate God's truth to them.

Foreign language is the study of another people's language and culture. Through study, the student obtains proficiency in speaking a new language conversationally and also begins to understand a different culture. The process of learning a new language also enriches the student's English vocabulary. In today's world, knowledge of another language is a great asset in obtaining a job in many highly competitive fields.

Each foreign language class will integrate a variety of lab activities, software programs, and internet activities into the curriculum to improve speaking, listening, and reading skills and to aid in the acquisition of structure, vocabulary and culture.

## **Introductory Spanish 6**

Students will receive basic instruction in the Spanish language primarily through the TPR (total physical response) method. During the second semester they will begin to experience the language in a more academic format.

## **Spanish 1A – 7 / Spanish 1B – 8**

Middle school Spanish 1A and 1B will follow the same format as Spanish 1. However, the course will cover only half of the material each year.

## **Spanish 1**

Spanish 1 is an in-depth introduction to the Spanish language, culture and history of the Spanish-speaking world. Emphasis is placed on listening, speaking, reading, writing, pronunciation, vocabulary, and basic grammatical structures. The students' strong English grammar skills facilitate a faster progress and increase the amount of material covered. Students should be able to discuss topics such as greetings, introductions, likes, dislikes, activities, Spanish school, giving and receiving information, classes in school, sports and hobbies, food and ordering, telling time, dates, seasons, descriptions of family, people, places and things, shopping, using the telephone, clothing, and giving directions. Students will also master the use of present tense verbs, commands, and past tenses.



## **Spanish 2**

Emphasis in Spanish 2 continues to be placed on listening, speaking, reading, writing, pronunciation, vocabulary, culture in Spanish-speaking countries, and grammar. At an accelerated pace, a more intensive study of Spanish grammar will allow students to use more complex structures in daily conversation. Students will expand their ability to greet people and socialize; communicate with phrases about numbers, time, dates; ask and answer questions about daily life activities; describe people, places, things and events in the present; narrate past events and activities; describe past circumstances and conditions; talk about future events and conditions and express wishes, obligations and opinions. Students will be able to use the present, present perfect, past tense, imperfect, commands, and begin to use the present subjunctive in simple expressions.

## **Spanish 3**

Students in Spanish 3 will continue building their written and oral skills through extensive conversational practice and grammar instruction. Students will focus on an intensive study of grammar, which will aid the student in forming the ability to communicate. Taught primarily in Spanish, greater oral proficiency is a major goal and particular emphasis is placed on the acquisition of extensive, practical vocabulary.

## **Spanish 4**

Students in Spanish 4 will continue building their written and oral skills through extensive conversational practice and application through literature. Taught primarily in Spanish, greater oral proficiency is a major goal and particular emphasis is placed on the acquisition of extensive, practical vocabulary and reading skills.

## **French 1**

French 1 is an in-depth introduction to the French language, culture and history of the Francophone world. Emphasis is placed on listening, speaking, reading, writing, pronunciation, vocabulary, and basic grammatical structures. The students' strong English grammar skills facilitate a faster progress and increase the amount of material covered. Students should be able to discuss topics such as greetings, introductions, likes, dislikes, activities, French school, giving and receiving information, classes in school, sports and hobbies, food and ordering, telling time, dates, seasons, descriptions of family, people, places and things, shopping, using the telephone, clothing, and giving directions. Students will also master the use of present tense verbs, commands, near future and past tenses.

## **French 2**

Emphasis in French 2 continues to be placed on listening, speaking, reading, writing, pronunciation, vocabulary, culture in Francophone countries, and grammar. At an accelerated pace a more intensive study of French grammar will allow students to use more complex structures in daily conversation. Students will expand their ability to greet people and socialize; communicate with phrases about numbers, time, dates; ask and answer questions about daily life activities; describe people, places, things and events in the present; narrate past events and activities; describe past circumstances and conditions; talk about future events and conditions and express wishes, obligations and



opinions. Students will be able to use the present, near future, past tense, imperfect, and use commands in simple expressions.

### **French 3**

Students in French 3 will continue building their written and oral skills through extensive conversational practice and grammar instruction. Students will focus on an intensive study of grammar, which will aid the students in forming more complex sentences, and help them to heighten their ability to communicate. Taught primarily in French, greater oral proficiency is a major goal and particular emphasis is placed on the acquisition of extensive, practical vocabulary.

### **HUMANITIES DEPARTMENT**

History/English is the intensive study of the great writings, people, events, works and ideas that have formed and reformed civilization, as we know it. It is not two courses taught by one teacher. Rather, it is one course in which a teacher teaches the normative works of our culture within their historical settings. This helps the student understand how the works and the people who wrote them were influenced by their times. It also reveals the universal nature of the great works, which are classics precisely because they somehow speak to all men at all times. Through such historical/literary integration students are grounded in a worldview that enhances and illuminates their more specialized studies of math, science, art, and foreign languages. The Upper School courses are organized chronologically in grades 9–11, moving from ancient civilizations to modern times. Each of these courses includes a history text, which gives the historical flow of the periods under study. This allows the senior year to draw upon a wide range of places and times.

Not only does such a course of study help the student integrate knowledge, it also enables him to refine his reading/writing and speaking/listening skills. The teacher attends carefully to evaluating the reading, writing and communication skills of each student. In short, a major emphasis of this course is to help the students grow in the strategic skills of communication - reading, writing, speaking and listening – which enable them to move into any arena of life as confident, articulate, truthful, and persuasive Christians.

*\*In both the 9th and 10th grades, the Bible is also studied in its relationship to and in contrast with the history and literature which surround it.*

### **History/English 6**

This course which includes reading, writing, listening, and speaking is an integration of English grammar and writing skills and the study of geography and western civilizations. Students will read from a variety of literary works and historical documents. The writing component progresses from sentence structure to the well-developed short essay. A formal sequential study of grammar and spelling is included in this course. Punctuation, the parts of speech and diagramming will be stressed.



### **History/English 7: American History 1**

This course will lead the student through the history and significant literature of America from its early colonization to the Civil War by way of reading, writing, listening and speaking. American history and the structure of government are emphasized. Students will study the role of Christianity in the foundations of our country. Formal grammar studies and vocabulary development will continue to be stressed. Writing will focus on development in conciseness and coherence.

### **History/English 8: American History 2**

This course surveys the historical events leading to the Civil War and continues through the issues facing our nation today while connecting the literature of our nation to its historical context. The study of language includes vocabulary, parts of speech, mechanics, sentence structures, and the process of writing. Critical thinking skills will be developed through analysis of literary works and through writing responses – both formal and informal. Utilization of research, persuasion, and comparison/contrast techniques will further develop the effective writing skills necessary for high school and beyond. Students will be encouraged to write both creatively and analytically to further enhance understanding of the history/literature connection. The concept of God's sovereignty will be emphasized as we evaluate our place in the "cycle of a nation," the legacy we received and the legacy that is being passed on the future generations.

### **History/English/Bible 9: Antiquity**

This year's study is the foundation of a three-year course leading students through the history and significant literature of mankind from ancient to modern times. The course opens with a study of what we know of the beginnings of man and recorded history and closes with the Roman Empire, about AD 200. Also emphasized is the establishment and development of the nation of Israel as recorded in the Old Testament and an examination of the life of Christ as recorded in the Gospel of Mark. Examples of the great works read include: *Genesis*, *Exodus*, *The Epic of Gilgamesh*, *The Iliad*, *The Odyssey*, *The Oresteia*, and *The Aeneid*.

### **History/English/Bible 10: Christendom**

This year's study continues a three-year course which leads students through the history and significant literature of humankind in an interdisciplinary fashion. Sophomore studies focus on the Middle Ages, from the fall of Rome through the Reformation.

Because of the formative role played by Christianity during this era (also known as Christendom), our studies will include the New Testament and early Church writings. The discussion of cultural changes during the Renaissance and Reformation will prepare students for the Enlightenment and Modern Era. Works read include *Beowulf*, *The Divine Comedy*, *Don Quixote*, Shakespeare and *Paradise Lost*.

### **History/English 11: Modern Western Civilization**

Eleventh grade studies focus on the period from the Enlightenment to the present day. Students trace great people and movements and read the great works that gave rise to our modern world. Works include *The Scarlet Letter*, *Frankenstein*, *Candide*, *Hard Times*, *The Great Gatsby*, *The Lord of the Flies*, and *Cry, the Beloved Country*, and *The Stranger*. There is considerable emphasis on writing, especially on the college-style analysis essay.



### **History/English 11: Modern Western Civilization (AP/Dual Credit)**

The AP level will follow the same course description for Pre-AP H/E 11, but will include an additional curriculum component designed in preparation for the AP Language and Composition Exam and/or AP European History Test. Qualified students may earn college credit through the Advanced Placement Examination. **Enrollment based upon teacher approval. *Students taking this course for dual credit must meet the college's guidelines.***

### **English 12: Literary Genres**

Twelfth grade English consists of a comparative genre study through the reading of great works and contemporary pieces of literature. The readings will include Sonnets of John Donne and Shakespeare, poetry of the Romantic and Victorian period and Robert Frost. Other works include *Oedipus Rex*, *Romeo and Juliet*, *Hamlet*, *Macbeth*, *Twelfth Night*, *The Sun Also Rises*, *Death of a Salesman*, *Metamorphosis*, and *The Importance of Being Earnest*. These exemplars of the epic, lyric, tragic, and comic genres present the noble struggle to found and maintain a community, the splendor and diversity of love, the insight possible out of suffering, and the hope that sustains a broken world. Through careful reading and analytical writing, seminar discussion, and research utilizing reference libraries, students develop their skills in critical reading and writing as well as a practical grasp of the writing process in preparation for the college-style essay.

### **English 12: Literary Genres (AP)**

AP English 12 will follow the course study of English 12 but will probe deeper into the genre study by thorough readings of the great works, of contemporary pieces and full discussions over the ideas of our time. This AP level course will include a curriculum component designed in preparation for the AP Literature and Composition Test. Qualified students may earn college credit through the Advanced Placement Exam. **Enrollment based on teacher approval.**

### **United States Government (Dual Credit)**

The government course includes a brief review of colonial American history with emphasis on the United States Constitution, detailed analysis of the Bill of Rights, study of each branch of government and its function, political parties and campaigns, and current issues from a Christian perspective. ***Students taking this course for dual credit must meet the college's guidelines.***

### **Economics (Dual Credit)**

Economics is a study of macroeconomics with emphasis on the functions of a free market economy, supply and demand, the global economy, money and banking, and monetary and fiscal policy. ***Students taking this course for dual credit must meet the college's guidelines.***

### **United States History (Dual Credit)**

This course is intended to provide the student with an overview of American history and a deeper understanding of and appreciation for significant events in our history. Some independent study with classroom discussion will be required as well as a major



project each semester. A major field trip in the fall will be to the battlefield and homes of Vicksburg and Natchez, Mississippi. In the spring, a field trip will be to the National D-Day Museum and Confederate Museum in New Orleans, Louisiana. ***Students taking this course for dual credit must meet the college's guidelines.***

### **Logic**

This course is designed to introduce basic logic to the student through the study of formal logic in order to improve the reasoning skills of the student and their abilities to use spoken and written discourse to inform, motivate, and persuade. The course includes basic deductive logic. Students will look at statements and their relationships, syllogisms and validity, and various informal fallacies as well as the basic elements of classical rhetorical study. Students will learn how to gather support for an argument, how to appeal to an audience, and how to arrange material for effect. This study will help the student organize their own thoughts and discourse and will equip him to analyze the thoughts and discourses of other speakers and writers.

### **English as a Second Language**

Foreign language speakers needing additional assistance before entering academic credit classes will receive direct instruction in formal English grammar, writing and reading comprehension. ESL support will be offered in core subject areas for all English language learners.

## **MATHEMATICS DEPARTMENT**

Mathematics is more than the study of numbers, patterns and shapes. Collectively, it is a language which God uses to describe the physical universe to mankind. It is a creative, dynamic system which man can use to model and understand his environment. It reveals glimpses of the nature of God (His orderliness, trustworthiness, omniscience and omnipotence), while developing important character qualities such as patience, perseverance, resourcefulness, alertness and creativity.

Through its study, students cultivate problem-solving skills, analytical thinking, attention to details and logic. It encourages the development of sound reasoning techniques and rewards consistent work habits. The Brook Hill School's mathematics program is designed to stimulate a student's intellectual curiosity and give him/her an exposure to the technology of today's mathematics. A variety of courses are offered, enabling students of all abilities to take mathematics all four years of upper school.

### **Math 6**

The math curriculum for this level is designed to promote the development of the students' understanding of practical mathematical concepts and procedures in a way that fosters their ability to solve problems, to reason, and to communicate in mathematical terminology.

### **Math 7**

This course in Pre-Algebra is designed to give the student the skills necessary to be successful in Algebra 1. The elements taught will include all operations with rational numbers, solving equations and inequalities, problem solving, measurement, geometry, probability and statistics, graphing and polynomials.



## Math 8: Algebra 1

Algebra 1 is an important subject because it is the foundation for all upper-level mathematics at both high school and college levels. It is our goal to help the students acquire the skills that they will need to be successful in these courses and to become excellent problem solvers.

The curriculum will include the study of integers and rational numbers, equations, inequalities, graphs and linear equations, systems of equations, absolute value, exponents and polynomials, polynomials and factoring, the Pythagorean Theorem and radicals, relations and functions, and quadratic equations. ***Students whose average is a C or below may be required to repeat this course in grade nine.***

## Algebra 1

Algebra I is an important subject because it is the foundation for all upper-level mathematics at both high school and college levels. It is our goal to help the students acquire the skills that they will need to be successful in these courses and to become excellent problem solvers.

The curriculum will include the study of integers and rational numbers, equations, inequalities, graphs and linear equations, systems of equations, absolute value, exponents and polynomials, polynomials and factoring, the Pythagorean Theorem and radicals, relations and functions, and quadratic equations.

## Geometry

This course develops a Euclidean system of Geometry through the use of postulates, definitions and theorems. A study of Geometry will enhance the student's ability to solve problems creatively, reason deductively and logically, and visualize spatial relationships. Topics covered include (but are not limited to) inductive and deductive reasoning, points, lines, planes, angles and angle relationships, deduction and formal proof, parallel lines and planes, triangles, parallelograms and quadrilaterals, similar polygons, circles, area and volume of solids, constructions and coordinate geometry. Right triangle trigonometry will be introduced. They will also be introduced to transformational and analytical geometry. There is an emphasis on formal proof throughout the first semester. Projects may be required.

## Algebra 2

Included with a brief review of Algebra I skills will be an introduction of the concepts of functions, elementary analysis, and quadratic equations. Related concepts of domain, range, set notation, interval notation, and inverse functions will be mastered. Students will be expected to become proficient in recognizing, knowing (and sometimes proving) the various analytical and graphical properties of various function families. Mathematical families include linear, quadratic, exponential, rational, irrational, and higher degree polynomial functions, along with conic sections. Wherever possible, applications will be stressed.

Additional topics will include complex number theory, sequences and series, (and probability if time permits). Trigonometric concepts from Pre AP Geometry will be reviewed, and students will finish out their study of trigonometry with developing and proving identities, and solving trigonometric equations. Heavy use of symbolic manipulations and transformations will be encouraged as a support to the future physics student.



## **College Algebra / College Pre-Calculus (Dual Credit)**

College Algebra is offered during the fall semester and is a review, plus an extension of Algebra II. College Pre-Calculus is offered in the spring semester and focuses primarily on trigonometric identities, analytic geometry and analytic trigonometry, as well as rational, logarithmic, and exponential functions. ***Students taking this course for dual credit must meet the college's guidelines.***

## **Calculus (AP / Dual Credit)**

Topics include those presented in traditional first and second semester college courses. An intuitive introduction to the methods of calculus is followed by several problem-solving applications. The content includes (but is not limited to) topics covered on the Advanced Placement (Calculus AB) Examination. Whenever possible, real life applications are stressed. Graphing calculators will be used as an aid to computation and analysis. Personal computers may be used to demonstrate limits and numerical methods for evaluation, derivatives and definite integrals. At the beginning of the year students are encouraged to start their preparation for the Advanced Placement exam. ***Enrollment based on teacher approval. Students taking this course for dual credit must meet the college's guidelines.***

## **Statistics (Dual Credit)**

The statistics course is an introductory course which focuses on the collection, tabulation, and analysis of data, normal and binomial distributions, linear regression and correlation, testing of hypothesis and utilization of computers in statistical application. ***Enrollment based on teacher approval. Students taking this course for dual credit must meet the college's guidelines.***

## **PHYSICAL EDUCATION DEPARTMENT**

Physical Education is the study of the total person: physical, mental, emotional, and social as well as spiritual. Through its study, the student has an increased awareness of how the body functions and develops. They learn how to deal with stress through competition. Exposure to sports and lifetime activities enables the students to better select those activities which will later enhance their lives.

In II Corinthians 6:16, Paul writes that we are the "temple of the Living God." It is the responsibility of all people to cherish and maintain their temple. The study of physical education clarifies the needs of our physical bodies and how we can best develop, understand, and care for this physical vessel which is God's temple.

## **Physical Education / Athletics**

The Physical Education department offers both team sports and individual activities. The objective is to equip students with a number of skills they can carry over into a lifetime of fitness. In addition to the on-campus program, Brook Hill is presently offering off-campus PE credit for those students who are involved in team/individual sports or training programs outside the BH program. Weekly documentation of participation is mandatory for credit to be given and students must register for, or withdraw from, the



course just as they would for other academic classes. The option is exercised when students are unable to schedule the regular class due to their academic load.

The required three semesters may be taken any time during the Upper School years. Credit can also be earned through team management.

## **MS / US PE**

The Life Sports component is designed to introduce students to the world of sports, by exposing each student to the rules, instruction, and game participation of each sport, within the guidelines of encouraging each student to honor God through Christ-like character in victory or loss. The Conditioning component will expose students to the values of a healthy body through conditioning which will include aerobic activity, nutrition, maintaining the proper body fat to muscle ratios, and body weight management. The areas will encourage students to be better stewards of the temple God has given them.

## **MS / US Athletics:**

### **Fall -**

- Football (Boys)
- Cheerleading
- Volleyball (Girls)
- US Golf

### **Winter-**

- Basketball (Boys & Girls)
- Soccer
- Cheerleading
- US Golf

### **Spring-**

- Baseball (Boys)
- Softball (Girls)
- MS / US Golf
- Tennis

\*Athletic Trainer/Manager for any sport



## **SCIENCE DEPARTMENT**

Science is the study of the natural world and the things that affect it. Our department stresses critical thinking, logical reasoning, and problem solving. The science labs are designed to help the student develop a firm foundation in observation, analysis, and conclusions. We strive to prepare our students for success in rigorous college science programs. All science faculty adhere to and instruct in congruence with a biblical world view. Science illuminates the creative majesty of God. As one studies science, he becomes more aware of the magnificence of the creation and the Creator.

### **Science 6: Earth and Space Science**

This course focuses on astronomy and geology and analyzes the nature and properties of energy and non-living matter.

### **Science 7: Life Science**

The study of science includes more than the absorption of information. Process skills and critical thinking skills are emphasized in Life Science. Students will be given many opportunities to develop these skills through a combination of laboratory experiments, class lectures and field explorations.

### **Science 8: Physical Science**

This course is designed to introduce students to the study of chemistry and physics. The course will lay a solid foundation for the upper school sequence of study. The focus is placed on building scientific vocabulary and concepts and developing problem solving skills.

### **Environmental Science 1**

This course provides a foundation for understanding the environment. The purpose of this course is to introduce ecological principles, biotic interrelationships in aquatic and terrestrial communities and environmental issues that have national and global effects. The goals of the course are to organize the information and provide a conceptual framework to facilitate student comprehension and mastery of ecological principles.

### **Environmental Science 2 (Dual Credit)**

This advanced level of environmental science builds upon the foundations of Environmental Science 1. The purpose of this course is to explore ecological principles, biotic interrelationships in aquatic and terrestrial communities and environmental issues that have national and global effects. The goals of the course are to organize the information and provide a conceptual framework to facilitate student comprehension and mastery of ecological principles. ***Enrollment is subject to instructor approval. Students taking this course for dual credit must meet the college's guidelines.***



## Biology 1

Through a combination of laboratory experiments, class lectures, and field explorations, this course will give the student an in-depth look at the biological world that surrounds them. The experiments help with understanding and appreciating biology as well as learning new lab procedures and safety. The lab and field assignments help to strengthen and connect concepts learned in the classroom.

## Anatomy & Physiology (Dual Credit)

This course surveys human anatomy and physiology. The purpose of the course is to provide an understanding of body structure and function in order to predict the responses of the body in health and disease. The goals of the course are to organize the information and provide a conceptual framework to facilitate student comprehension and mastery of anatomical structured physiological function. This course is a foundation course for specialization in allied health disciplines. Purchase of the textbook is not required, but is encouraged. Field trips will be taken. **Enrollment subject to instructor approval. Students taking this course for dual credit must meet the college's guidelines.**

## Chemistry 1

This course covers the basic chemistry concepts and vocabulary as well as general thinking skills and laboratory techniques that will provide the students with a solid foundation and prepare them for college science courses. The approach, involves primarily an exploration of the mathematical relationships involved in chemical change. Laboratory work is stressed, and focuses on careful analysis of data and the resulting mathematical relationships. It also provides "hands-on" experience with chemistry and shows how chemistry concepts apply to today's society.

## Chemistry 2 (AP/Dual credit)

This second year Chemistry course is designed for the college-bound student who intends to study an engineering related field and not related to the medical sciences. College level labs, suggested by the College Board, are presented on a weekly basis. Extensive records are kept to present to colleges upon request. The pace and depth of the course is designed to prepare the student for College Board Advanced Placement testing in the spring. **Enrollment is by instructor approval only. Students taking this course for dual credit must meet the college's guidelines.**

## Physics

Physics provides the students with an introduction to the study of physics. This course explores physics primarily from a conceptual basis but includes some mathematical applications. Topics of study include kinematics, dynamics, simple machines, work, heat, electricity, magnetism, light, optics, and modern physics. Laboratory experiments are an integral part of this course. A calculator is required.



## **Physics (Advanced)**

The material covered in Honors Physics is the same as in regular physics, with the addition of other more advance topics. Topics are approached with a greater emphasis on mathematical relationships. **Enrollment is by instructor approval only.**

## **Health**

The goal of this course is for students to gain an understanding of wellness or total health by considering the physical, mental, social and spiritual influences on the whole person and health. The students will learn health facts, and are encouraged to put these facts to use in all areas of their lives by establishing health-promoting attitudes and habits; researching and addressing current and critical health issues; understanding the implications of high risk behaviors; and recognizing God's role in creating and sustaining their life and health.

## **TECHNOLOGY DEPARTMENT**

The Technology Department's role is to engage students in active learning situations that will assist them in developing skills and understanding of current technology trends in order to enable the students to acquire competency in computer usage.

## **Introductory Technology**

In this introductory course, student will learn or improve their skills of keyboarding and document layout. This course will also instruct students in the use and development of spreadsheets. Finally, this course will focus its instruction in the usage of computer programs to develop presentations. Students will generate ideas and prepare layouts from software programs like Power Point.

## **Advanced Technology: Prefect**

This elective allows students who are proficient in computer technology to assist the technology director. Students load software and perform standard maintenance and repair for campus computers. **Enrollment subject to instructor approval.**

## **Yearbook**

Students learn about the collecting and editing of material of interest for presentation through the medium of the school yearbook. The editorial/photography staff learns to take acceptable pictures, how to design layouts and learn to use a computer program designed for yearbook production. The business staff learns how to sell to the public in a professional manner and create camera-ready patron pages on the computer. Yearbook counts as a technology credit. Students must make formal application in order to be selected for the yearbook staff. **Enrollment based upon teacher approval.**



## **Other Courses:**

### **College Quest 12**

Students will receive group instruction as well as one-on-one help by the Academic Guidance Counselor in order to fully prepare them for the college admission process. SAT / ACT test taking skills will be discussed and practiced along with resume preparation and completing the college admission application and essay. Students will have guidance when attempting to complete scholarship applications and essays as well.

### **Leadership 12**

Students at The Brook Hill School have been required to participate in community service throughout their academic years here. Organizations such as Student Council and National Honor Society stress the need for involvement through required service hours. As servants of our Lord, we are instructed to serve others. As seniors at The Brook Hill School, it is important to leave a legacy of involvement and serve as an example to younger students. Each senior will take part in an individual or small group project. Students will meet regularly and will be guided through the planning stages and encouraged to maintain their pace as they implement a community service project of significance.

