



## High School Course Catalog 2020-2021

Welcome to the Dayspring Christian Academy High School Course Catalog. Here you will find our course offerings in the various disciplines, which represent the rich and elevated curriculum commensurate with a Principle Approach® education. Dayspring Christian Academy is committed to continue to *excel still more* in every arena of our school. Our desire is to prepare our students to be lifelong disciples of Jesus Christ who are equipped to lead in their area of calling, whether through College and Career or Honors courses.

The Honors High School Honors (HHS) is now a distinct entity within the school, having completed the three-year pilot phase. Honors courses typically feature additional studies and assessment strategies beyond the College and Career courses. See the document: “Honors Program Overview” for details. Students in the Class of 2023 now have the opportunity to apply for admission into our HHS Program. Honors High School students in the Classes of 2021 and 2022 should indicate their desire to continue in the program on their new HHS application. An application is available online and in the office of the Director of Curriculum and Instruction.

### PLEASE NOTE

Dayspring Christian Academy participates in the College Board’s Advanced Placement® (AP) program. Taking an AP exam in the springtime is an opportunity by which our students may launch their college careers. Many of our students seek to accelerate their college placement by taking the exam in any of our nine AP courses: Biology, Psychology, Calculus AB, Calculus BC, Statistics, English Composition, British Literature (pending approval), U.S. History, and Studio Art: 2D Art and Design.

Additionally, Dayspring partners with Cairn University in order to offer students another opportunity to build their college transcript while completing high school. Students who take dual credit courses can earn college credits at a discount, so there is great potential for savings while further preparing themselves with college-level thinking and coursework. Cairn is fully accredited, so dual credits may be used there or transferred to other accredited colleges and universities. Dayspring dual credit courses include AP Biology, Honors Chemistry, AP Calculus AB, AP Calculus BC, AP English Literature and Composition, Honors British Literature (pending approval), AP Psychology, AP U.S. History, and AP Statistics. Dual Credit and AP Courses are so designated in the heading of those courses, along with the number of credits granted. Because not all colleges accept dual credit and/or AP scores, students should check with their colleges of choice to be certain of their policies.

If you have questions about any of the courses contained in the catalog, please contact the Director of Curriculum and Instruction.

Sincerely,

Dr. Michel R. Myers  
Headmaster

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## BIBLE

### **Christology & Soteriology**

GRADE NINE

FOUR QUARTERS; 1.0 CREDIT

The definition of *Christology* is the study of the person of Christ. *Soteriology* is the study of His work. This course seeks to develop an understanding of Christ's eternal existence as one of the persons of the triune Godhead as well as His dual nature (full deity and full humanity); His incarnation; His earthly life and ministry, including His death, resurrection, ascension; His current ministry; and His future return and reign. His preeminence in history and in the life of a believer is emphasized. Significant time is given in the use of apologetics arguments, specifically, pertaining to the reliability of Scripture and Jesus' historical reality, deity, crucifixion and resurrection.

### **Christian Doctrines**

GRADE TEN OR ELEVEN

FOUR QUARTERS; 1.0 CREDIT

This course presents an in-depth look at the ten major doctrines found in the Holy Bible. These include Bibliology, Paterology, Christology, Pneumatology, Anthropology, Hamartiology, Soteriology, Angelology, Ecclesiology, and Eschatology. The students consider what a worldview is through a study of the book of Ecclesiastes. Ten disciplines – theology, philosophy, ethics, biology, psychology, sociology, law, politics, economics, and history – are viewed from a secular humanist, Marxist/Leninist, Hindu, Islamic, Cosmic Humanist, and Postmodern perspectives and are compared with Biblical Christianity. Solutions to life's challenges are searched out in Scripture, and the strength and power of a truly biblical worldview is verified.

### **Hermeneutics**

GRADE TEN OR ELEVEN

FOUR QUARTERS; 1.0 CREDIT

Students learn disciplines of biblical hermeneutics (interpretation). Students apply studies of surface meaning, science, geography, history, culture, literature, and language, including a word study in the original language (Hebrew or Greek), to their treatment of a chosen Bible passage, with a view to unlocking a depth of meaning and a breadth of application. Upon the studies on the passage, students compose an essay of interpretation and application, and present it orally or online.

### **Worldviews Analysis**

GRADE TWELVE

FOUR QUARTERS; 1.0 CREDIT

Students further develop and demonstrate a biblical worldview and a facility for general worldview dialogue by reviewing and analyzing key documents and other media from Western history, with a focus on modern—especially visual—media, and by engaging in discussion and debate with those of differing worldviews. The primary worldviews studied include Islam, Cosmic Humanism and its many related religions (such as Hinduism, Buddhism, New Age), Postmodernism, Marxism, Secular Humanism, Rationalism, and Biblical Christianity.

## CLASSICAL

### **Logic**

GRADE TEN

TWO QUARTERS; 0.5 CREDIT

Students study the biblical foundation of logic and begin the critique and construction of logical arguments. Students study and compose propositions, syllogisms, and sophisms (fallacies) from Isaac Watts' approach; another, more modern, approach to argument analysis (including the discovery of fallacies) will also be followed. The Lincoln-Douglas debate structure is presented. Students prepare and engage in a formal debate.

### **Rhetoric**

GRADE TEN

TWO QUARTERS; 0.5 CREDIT

Students develop “the art of speaking with propriety, elegance and force” (Webster, 1828). Students follow biblical models of composition, then practice techniques of effective delivery, with attention given to volume, enunciation, articulation rate and pause, inflection, facial expression, eye contact and gesture.

## ENGLISH

### **American Literature I (Colonial Period – Federal Period)**

GRADE NINE

FOUR QUARTERS; 1.0 CREDIT

Students engage in the reading and study of American literature spanning the Colonial Period to 1865. This literature is fiction, including prose and poetry, and non-fiction, including sermons and essays. The course also includes writing (oration and literary analysis) and speaking and listening (orations and memorized poetry) supported by the formal study of grammar and vocabulary.

### **American Literature II (Civil War Period – Twentieth Century)**

GRADE TEN

FOUR QUARTERS; COLLEGE AND CAREER, 1.0 CREDIT

HONORS COURSE, 1.3 CREDITS [SUMMER REQUIREMENTS]

Students engage in the reading and study of American literature spanning 1865 through the Twentieth Century. This literature is fiction, including prose, drama, and poetry. The course also includes writing (oration and literary analysis) and speaking and listening (orations and memorized poetry) supported by the formal study of grammar and vocabulary. The honors level of this literature course is designed for academically motivated students who are inclined to engage in research and a high level of self-directed academic scholarship.

### **British Literature**

GRADE TWELVE

FOUR QUARTERS; COLLEGE AND CAREER, 1.0 CREDIT

DUAL CREDIT HONORS/AP COURSE (PENDING APPROVAL) 1.3 CREDITS [SUMMER REQUIREMENTS]

Students study British literature, including poetry, essays, drama, and the novel from the Anglo-Saxon Period through the Twentieth Century. Students in the dual credit honors/AP course launch their understanding of literary theory and criticism, both of which are essential to the study of literature. The honors level of this literature course is designed for academically motivated students who are inclined to engage in research and a high level of self-directed academic scholarship.

### **English Language and Composition**

GRADE ELEVEN

FOUR QUARTERS; COLLEGE AND CAREER, 1.0 CREDIT

DUAL CREDIT HONORS/AP COURSE, 1.3 CREDITS [SUMMER REQUIREMENTS]

Students read and analyze a wide variety of non-fiction and fiction literature; they develop discernment in their appreciation of authors' ideas and the expression of those ideas. They examine the strategies that authors use to achieve their purposes. Students compose in a variety of modes, applying principles of logic, grammar and rhetoric. The course also includes speaking and listening (orations and memorized poetry) supported by the formal study of grammar and vocabulary. The honors level of this course is designed for academically motivated students who are inclined to engage in research and a high level of self-directed academic scholarship.

## **EL English Courses (EL/International Students)**

### **English Foundations**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

This is an entry-level course specifically designed for international high school students. It emphasizes the development of the foundational skills of communication, particularly speaking and writing, with the goal that students will speak and write excellently in a manner that glorifies God. The course includes instruction in English grammar, composition, reading, oral presentation, vocabulary acquisition, as well as a basic research strategies and practices. The course also contains a study of the elements of literature with a foundational analysis of one classic novel. The instructor addresses specific writing tendencies of English language learners and how to avoid common errors.

### **English Grammar and Composition**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

This is a second-year course in which students further develop skills of listening, speaking, reading, writing, and critical thinking requisite for effective communication of information, ideas, and concepts in a manner that glorifies God. This ESL course includes extensive instruction and practice in English grammar, composition, vocabulary, and research strategies. Additionally, students refine their study skills of outlining, listening, note-taking, paraphrasing, and summarizing and apply these to research projects and specific Bible readings. Students also identify elements of literature and analyze one classic novel and several poems, as well as make personal application of biblical and literary themes.

### **Rosetta Stone American English**

ALL GRADES

TWO-FOUR QUARTERS; 0.50 TO 1.0 CREDIT

This is a computer-based immersive language-learning method offered by Dayspring Christian Academy to the English learner. It is designed to support the student in acquiring English as a second language through the modalities of speaking, listening, reading, and writing. Students schedule to take this 0.5- or 1.0-credit course during the school day in addition to taking English Foundations and/or English Grammar and Composition.

### **Course Foundations for ESL/International Students**

ALL GRADES

Courses for which the international or ESL student's English language ability warrants course modifications beyond the first quarter transition period will be identified on the transcript as a foundations course for that specific course and will be identified as such on the report card comment.

## FINE ARTS: ART

### **Art**

GRADE TEN OR ELEVEN

FOUR QUARTERS; 1.0 CREDIT (ONE 1.0-CREDIT ART COURSE IS A PREREQUISITE FOR ART II AND AP STUDIO ART)

Students study the rise and fall of ideas, artistic expressions, and values evidenced in the major art eras from Rome to the present. Special consideration is given to the cause-effect relationship between art and environment, as well as worldview impact on each era and transition. Students are directed toward art as a career, as a ministry, or as an expression of personal creativity and develop a portfolio for art school, if applicable. Students gain a biblically founded, articulate view of a selected art (or related) term via a word study and artistic response, and they create projects that reveal Christian excellence, biblical thinking, clarity of thought, and relevance to the individual art based upon each studied era. Special emphasis is given to selected art movements and associated key characteristics. This course will rotate with another art course (TBD) on a biennial basis.

Field study: The Philadelphia Museum of Art (1 day); ACSI Fine Arts Festival (1 day; by invitation)

### **Art II**

GRADE TWELVE

FOUR QUARTERS; 1.0 CREDIT (PREREQUISITE: A 1.0-CREDIT ART COURSE)

Students develop their art skills through detailed instruction and practice of selected media. The impact of the Enlightenment is examined through the shift of worldview in society as the fruit and thorns of such changes in thinking are identified. Specifically, the development of art is traced from “Luncheon on the Grass” and Impressionism through Dadaism to contemporary modern art. Historical responses, like the PRB, and their role in the art world today are studied and discussed. Key movements are scrutinized as case studies and various projects serve as experiential study. After a historical backdrop to the state of the arts today has been laid, the impactful relationship between relativism and Modern and Postmodern art is examined. Students grapple with the appropriate response and/or integration into the contemporary art world and deduce their Christian role and response to art today.

Field study: Lancaster City/Gallery Row; ACSI Fine Arts Festival (1 day; by invitation)

### **AP Studio Art: 2-D Art & Design**

GRADE TWELVE (PREREQUISITE: A ONE-CREDIT ART COURSE AND TEACHER APPROVAL)

FOUR QUARTERS; AP COURSE, 1.3 CREDITS [SUMMER REQUIREMENTS]

This course for advanced art students follows the prescribed College Board Advanced Placement (AP) curriculum and promotes artistic development as students explore the process of sustained investigation in art and its documentation. Students develop mastery (i.e., “quality”) in concept, composition, and execution of 2-D design. Students develop a coherent plan of action—a concentration—from which to craft a cohesive body of work involving the investigation of a strong underlying visual design idea. Students also explore a variety of concepts and approaches in 2-D design so that they are able to demonstrate versatility in techniques through one or more media. The course includes student analysis of their own artwork and that of their peers. Students consider artistic integrity and what constitutes plagiarism as they develop a portfolio.

Field Studies: Lancaster City/Gallery Row (1 day); ACSI Fine Arts Festival (1 day; by invitation)

## FINE ARTS: MUSIC

### **Choir**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

This is a non-auditioned, elective course; all interested students are encouraged to join. Students rehearse and perform music from a variety of genres including sacred, contemporary, classic choral literature, and spirituals. Students learn basic sight reading with solfege and rhythm reading with counting. They also learn to sing in foreign languages, practice good vocal technique, and perform in four-part harmony with some divisi. High school choir performs at school concerts and other events including the Patriot's Celebration Dinner and Remember America Speaker Series. Students are required to purchase choir attire in their first year in high school choir, a cost of approximately \$100. Field Study: ACSI Fine Arts Festival (1 day)

### **Musicianship**

GRADE TEN OR ELEVEN

FOUR QUARTERS; 1.0 CREDIT

This class reviews the basics of reading musical notation then advances to key signatures/circle of 5ths, chord theory, intervals, and advanced rhythm. Students build practical musicianship skills through ear training, writing musical dictations, sight singing, bucket drumming, and individual keyboard practice. In singing, drumming, and keyboards, students are based on their individual progress, advancing from their skill level upon entering the class. This course will rotate with another music course (TBD) on a biennial basis.

### **Performance Choir**

GRADES TEN, ELEVEN, TWELVE

FOUR QUARTERS; 0.2 CREDITS (IN ADDITION TO THE 1.0 CREDIT FOR HIGH SCHOOL CHOIR)

This is auditioned choir designed for students with more advanced musicianship skills. Students in Performance Choir also participate in High School Choir. This group rehearses one period per 6-day cycle. Students are required to log individual practice time at home, usually 45 minutes per week. Students rehearse and perform more challenging literature with an emphasis on vocal blend, divisi and jazz harmony, diction, and a cappella singing. Performance choir performs at school concerts and other events including the Patriot's Celebration Dinner, Remember America Speaker Series, and Christmas caroling. Field Studies: ACSI Fine Arts Festival (1 day); Christmas caroling in local retirement communities (1 day)

## HISTORY

### **Economics**

GRADE TWELVE

TWO QUARTERS; 0.5 CREDIT

The science of economics is studied from a position of discerning a biblical model for scarcity, choices, private property, work, stewardship, production and the distribution of goods, services, and wealth. Monetary systems and markets as well as the government role in the economy are also examined. Practical economics suggests an actual use of previously learned mathematical knowledge and theories as they relate to life skills. Students discern wise, biblical practices related to personal finance. Specific subtopics include saving, budgeting, debt, career planning, consumer awareness, investing and retirement, insurance, taxes, giving, and the effects of money on relationships.

### **History of Christianity**

GRADE TWELVE

TWO QUARTERS; 0.5 CREDIT

This course is an introduction to the 2000-year history of the Christian Church. The course offers a general overall understanding of the major people and events in the history of the Church of Jesus Christ. At the feast of Pentecost, the Christian Church was instituted with the coming of the Holy Spirit, which Peter said was a fulfillment of the prophecy of Joel. From this humble beginning with 120 disciples (Acts 1:15), the Church eventually spread to cover the whole earth, fulfilling Jesus' injunction to take the Gospel to the ends of the earth (Acts 1:8). As the history of the Church unfolds over the period of 2000 years, students differentiate between the human institution of the church from the divine institution of the body of Christ whose head is the Incarnate Son of God, Jesus Christ, and whose directives are through the divine authority of the Holy Scriptures, God's written revelation to mankind. This historical journey of both the human and the divine is signified by God's direct intervention, the intrigue of human history, and the ultimate triumph of the church.

### **Rudiments of American History**

GRADE NINE

FOUR QUARTERS; 1.0 CREDIT

A rudiment is a *first principle or element; that which is to be first learned* (Webster, 1828). The "Rudiments Course" is a study of history from the providential view, seeking to discern the internal, causative nature of events, thereby to identify God's Hand in history. The course follows the development of liberty and law, identifying the main documents of liberty and their historical settings as well as examining the impact of both Christian and pagan character in the founding of this nation. As students learn to think governmentally, they see the purpose and plan of God for America as a nation and for themselves as American Christians. Students develop an awareness of the role they have to play in the restoration of America to its biblical foundation and Gospel purpose.

Field Study: Boston (4 nights)

## **U.S. History**

GRADE ELEVEN

FOUR QUARTERS; COLLEGE AND CAREER, 1.0 CREDIT

AP COURSE AND DUAL CREDIT, 1.3 CREDITS [SUMMER REQUIREMENTS]

Beginning with Columbus' discovery to the present this course is a study of the first Christian Constitutional Republic. The study traces the growth, development, and deterioration of the American Republic. Emphasis is placed on the westward expansion, slavery and racism, the Civil War, the growth of capitalistic business, immigration, progressivism, the ascendancy of the United States to a world power, the World Wars, the infiltration of socialism and the welfare state, the Cold War, and the decline of the influence of Christianity. In addition to the American Presidents, emphasis is given to key political, religious, business, and cultural figures in American history. There are additional requirements for the AP level course. The honors level of this history course is designed for academically motivated students who are inclined to engage in research and a high level of self-directed academic scholarship.

Field Studies: New York City (1 night); Philadelphia (1 day, AP section only)

## **World History**

GRADE TEN

FOUR QUARTERS; COLLEGE AND CAREER, 1.0 CREDIT

HONORS COURSE, 1.3 CREDITS

This course highlights the beginning of human civilization from tribal communities to the consolidation of empires to the advent of nation-states. The impact of a society's understanding of God on the view of the individual, government, education, work, and commerce is traced. Students think governmentally in order to understand current events and issues today's world, deducing historical and worldview causes as they seek biblical answers to the complex problems that modern societies face. The honors level of this history course is designed for academically motivated students who are inclined to engage in research and a high level of self-directed academic scholarship.

Field Study: Washington, D.C. (1 night)

## LANGUAGES

### **ASL I**

GRADE NINE

4 QUARTERS; 1.0 CREDIT

American Sign Language (ASL) is in the top 10 of languages used in the United States. Students are introduced to a new culture and a language cherished by people who are Deaf and Hard of Hearing. Students are able to hold a basic conversation in ASL as well as have a vocabulary of over 500 words. Students are able to ask and answer questions in ASL. They demonstrate their knowledge of Deaf culture as well as Deaf History and the people who are important to that history. Progress videos are made of each student throughout the course. Texts used in the course include *Signing Naturally Level 1* and Elaine Costello's book, *Signing: How to Speak with Your Hands*. The class is taught in English for the culture and history lessons and in ASL for the language teaching.

### **ASL II**

GRADE TEN

4 QUARTERS; 1.0 CREDIT

American Sign Language (ASL 2) takes the students to the next level in the language. They continue to learn vocabulary, grammar, and culture. Most (85%) of this class is taught in ASL, and students are required to respond in ASL. Students are videoed to show progress in expression. The curriculum *Signing Naturally Level 2* is utilized along with supplemental materials. By the end of the year students who work hard are well on their way to learning a second language.

### **New Testament Greek**

GRADE TWELVE

FOUR QUARTERS; 1.0 CREDIT

Students learn the Greek of the New Testament (Koine, or "common" Greek), with occasional reference to Classical (Attic) and Homeric Greek. After a foundation in Greek phonetics, students learn the three noun declensions, and all tenses, moods and voices of verbs. Students learn the more common grammatical constructions and they develop some familiarity with high-frequency New Testament vocabulary (those words used 42+ times in the NT). Students translate a class-chosen chapter or more from the New Testament. They practice reading from the New Testament, analyzing word forms, and learning exegesis as a tool to further biblical understanding. Students consider God's choice of Greek as the language for His New Testament.

### **Spanish I**

GRADE NINE

FOUR QUARTERS; 1.0 CREDIT

This course develops a knowledge of Spanish pronunciation and introductory Spanish vocabulary and grammar and provides practice in basic conversation. Vocabulary themes include greetings and farewells, get-to-know-you dialogues, times and weather, clothing, family, and common regular and irregular verbs. Grammar concepts include number and gender of nouns, sentence structure, and present tense verb conjugations. Students memorize a passage of Scripture in Spanish, do various group projects and presentations throughout the year, and complete an individual research project on a Central American country.

## **Spanish II**

GRADE TEN

FOUR QUARTERS; 1.0 CREDIT

This course includes a review of Spanish I and continues to develop a knowledge of basic Spanish vocabulary and grammar and to provide practice in basic conversation. Vocabulary themes include items in and around the house, food and meal words, the world around us, body words, religion and worship, travel and recreation, and additional regular and irregular verbs. New grammar concepts include direct and indirect object pronouns and past tense verb conjugations. Students memorize a passage of Scripture in Spanish, do various group projects and presentations throughout the year, and complete an individual research project on a South American country.

## **Spanish III**

GRADE ELEVEN (BY PERMISSION, ONLY)

FOUR QUARTERS; 1.0 CREDIT

INDIVIDUALIZED, SELF-PACED, DIGITAL PROGRAM (ADDITIONAL COST MAY APPLY)

This course continues to develop a knowledge of additional Spanish vocabulary and grammar and provides practice in basic conversation.

## MATHEMATICS

### **Algebra I**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

In this course in the methodology of Algebra I, teaching methodologies for will vary but center around involve three-pronged hybrid instruction that includes small group teacher interaction, project and problem collaboration, and independent computer-based practice. Here students solve algebra problems including the following: equations and inequalities containing variables, powers, and exponents; absolute value; proportions and percents; scientific notation; linear functions; polynomials; systems of linear equations; and quadratic functions and equations. Students also clarify how God can be known—at least in part—and honored through the study of algebra. This course is intended to prepare the student for Algebra II.

### **Algebra II**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

In this continuing course in the methodology of Algebra, students learn to work extensively with functions, including linear, quadratic, polynomial, logarithmic, and exponential functions. They work with real, imaginary, rational and irrational numbers. In working with various types functions, students will create models for the real world and solve inequalities in the context of application problems. In conjunction with linear functions, students are also introduced to matrix operations. They work with concepts and applications in probability, sequences, and series, in addition to an introduction to trigonometry. Students also determine how God can be known—at least in part—and honored through the study of algebra. In this course students will use a graphing calculator.

### **Geometry**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

Students study the features and properties of the various subsets of lines, planes, and space, prove congruency theorems using deductive reasoning, use simple tools to construct various plane figures, and apply theorems and elementary trigonometry principles to problems and real-life scenarios. Students also consider how God can be known—at least in part—and honored through the study of geometry.

### **Pre-Calculus**

ALL GRADES

FOUR QUARTERS; 1.0 CREDIT

Students review arithmetic and geometric sequences, as well as the Cartesian coordinate system, and they will analyze and utilize the following types of functions and equations: polynomial, exponential, logarithmic, trigonometric, parametric, and polar. Students explore logarithms, study trigonometry, analyze conic sections, preview matrices and probability, and develop a foundation for differential and integral calculus. All of these will be done with an emphasis on mathematical modeling and applying the techniques to real-life scenarios. Throughout the course, students also determine that God can be known—at least in part—and honored through this preparatory study of calculus.

## **Calculus AB (AP)**

ALL GRADES

FOUR QUARTERS; AP COURSE AND DUAL CREDIT, 1.3 CREDITS

This course provides a rigorous exploration of the first year in calculus. Students calculate limits, define continuity and its relationship to differentiability, calculate derivatives using the limit definition and derivatives rules, and solve problems related to both contextual and analytical applications of derivatives and rates of change. Students also calculate integrals and solve problems related to accumulation of change, differential equations, area between curves, and the volume of solids. Throughout the course, students determine how God can be known—at least in part—and honored through the robust study of calculus. Students will use a graphing calculator.

## **Calculus BC (AP)**

ALL GRADES

FOUR QUARTERS; AP COURSE AND DUAL CREDIT, 1.3 CREDITS

This course provides a review of Calculus AB, including limits, derivatives, integrals and function analysis. From there, the course continues with a coverage of infinite series (including power series and Taylor series), convergence and divergence, and parametric, vector and polar functions. The course also covers conic sections in greater detail and ends with a study of hyperbolic functions. This course provides a review of Calculus AB, including limits, derivatives, integrals and antiderivatives, and function analysis. Students extend their knowledge of integration to include integration by parts, linear partial fractions, improper integrals, logistical models with differential equations, and the arc length of a curve. From there, the course continues with a coverage of surface area and volume of solids of revolution, slope fields, infinite series (including power series and Taylor series), convergence and divergence, and parametric, vector, and polar functions. The course also covers conic sections in greater detail and ends with a study of hyperbolic functions. Students also determine how God can be known—at least in part—and honored through their deepening study of calculus. Students will use a graphing calculator.

## **Liberal Arts Mathematics**

GRADE ELEVEN OR TWELVE

FOUR QUARTERS; 1.0 CREDIT

In this high school mathematics elective, students focus on developing problem-solving skills and critical thinking, which are critical to understanding and impacting today's society. They work with logic and sets, measurement and conversions, basic geometry, number systems, financial math, probability, statistics, and voting systems. Elements of consumer math will be present throughout the course, as students focus on connections and applications to the real world. Students also determine how God can be known—at least in part—and honored through the study of mathematics. This course blends online and face-to-face instruction. Liberal Arts Mathematics is intended as an alternative to precalculus in the junior year for students pursuing a non-STEM major in college. The course is available to seniors as well. A scientific calculator is required.

## **Statistics (AP)**

GRADE ELEVEN OR TWELVE [PRIMARILY A SELF-PACED STUDY]  
FOUR QUARTERS; AP COURSE AND DUAL CREDIT, 1.3 CREDITS

Students explore and understand data, examine the relationships between variables, learn about gathering data, explore randomness and probability, relate statistics to the real world, and work with inference. Statistics is “a collection of facts respecting the state of society, the condition of a people in a nation or country, their health, longevity, domestic economy, arts, property and political strength, the state of the country” (Webster). Statistics can be considered a way of reasoning; a collection of tools and methods; particular calculations to help us understand the world. The real, imperfect world. It is about variation. “Statistics is the art of distilling meaning from data” (Boch).

## **PHYSICAL EDUCATION**

### **High School Physical Education**

GRADE NINE  
FOUR QUARTERS; 1.0 CREDIT

Students learn the importance of maintaining an active lifestyle by which they can glorify God in their best possible health. Team concepts and good sportsmanship are highlighted as students learn life lessons through the competitiveness of sports.

## SCIENCE

### **Anatomy and Physiology**

GRADE ELEVEN OR TWELVE  
FOUR QUARTERS; 1.0 CREDIT

This course examines the intricate design of the human body through the study of the structural and functional arrangement of its various components. The structural study includes the identification and examination of the physical design and the arrangement of the various systems and organs comprising the human body and how they work together in unity, emphasizing the economy of God. The functional study examines and explores the chemical and cellular processes that coordinate within the body as a whole and are necessary for maintaining the proper performance of all body functions. In addition, the course looks at common pathologies and proper care of the various systems and the body as a whole. Additionally, students learn the biblical basis for the origin of man and study problems with modern evolutionary claims.

### **Biology**

GRADE NINE  
FOUR QUARTERS; 1.0 CREDIT

Biology is the study of living organisms existing in the natural realm. Since the creation of Adam, man has been involved in the naming, dominion, and care of God's plants and animals. The creatures of the earth were designed as a benefit to man and are therefore worthy of observation and study. Because of man's fall, students also study life and its processes in order to survive the resultant diseases, infestations and harmful organisms. Since God is the Creator of all things, He is the one most qualified to set guidelines for understanding and interpreting His creation. This course is designed to introduce foundational concepts of biology while instilling an appreciation for the power of God, which is displayed through the creatures He has made. Throughout the course, students are exposed to secular views regarding life's origin and development as well as the biblical and scientific problems with these views. Areas of study include the nature of science, taxonomy, cytology, genetics, zoology, botany and basic ecology.  
Field Study: Application is made annually for a day field study (1 day) with the Chesapeake Bay Foundation.

### **Biology (AP)**

GRADE ELEVEN OR TWELVE  
FOUR QUARTERS; AP COURSE; DUAL CREDIT, 1.3 CREDITS [SUMMER REQUIREMENTS]

This course for advanced students follows the prescribed College Board Advanced Placement (AP) curriculum. AP Biology is designed to offer students a solid foundation in introductory college-level biology. By structuring the course around the four big ideas, enduring understandings, and science practices, students develop an appreciation for the study of life, which helps them to identify and understand unifying principles within a diversified biological world. The process of inquiry in science and developing critical thinking skills is the most important part of this course, providing students opportunities to distinguish between facts and interpretations and relate that to the conflicting ideas of naturalism and creationism.

Field Study: Penn State Hershey Biomedical Research Center (1 day)

## **Chemistry**

GRADE TEN

FOUR QUARTERS; COLLEGE AND CAREER, 1.0 CREDIT

DUAL CREDIT HONORS COURSE, 1.3 CREDITS

This course serves as an introduction to the foundation of science through biblical analysis of the fundamental principles of chemistry. Students explore the concepts of the nature of matter, atomic structure and theory, dimensional analysis, chemical reactions, stoichiometry and applying the Scientific Method in a laboratory setting, establishing clear and concise hypotheses and thorough analysis and conclusions. Mastery of the vocabulary of chemistry is emphasized. The students make practical applications of chemical principles to many areas of life and living and appreciate the complexity of God's design at the molecular level. The honors level of this science course is designed for academically motivated students who are inclined to engage in research and a high level of self-directed academic scholarship. Additionally, the honors level course includes additional studies, experiments, and a demonstration of the Scientific Method through an individual or group research project. (Note: Students who apply for dual credit through Cairn University will earn 4 credits.)

## **Physics (Honors)**

GRADE ELEVEN OR TWELVE (PREREQUISITE: ALGEBRA 2)

FOUR QUARTERS; 1.3 CREDITS

Physics is the study of the fundamental laws of nature as they pertain to the properties and interaction of matter and energy. Throughout the year, students use a hands-on approach during regular lab time to experiment with and observe learned concepts. They encounter the laws of motion, gravitational attraction, and thermodynamics. Students identify and apply the relationships among force, mass, velocity and acceleration, identify properties of sound waves and of fluids and electromagnetic radiation, construct basic electrical circuits, and briefly look at nuclear and quantum physics. Students complete the year with a final project.

## **STEAM: Advanced Design Application**

GRADE TWELVE

FOUR QUARTERS; 1.0 CREDIT

This course focuses on the application of STEAM (Science, Technology, Engineering, Arts, and Mathematics) with the goal of developing technological literacy. It addresses two key areas of technology: energy and manufacturing. Teaching methodologies center around practical, logical problem-solving skills used in the engineering design process as students apply STEAM skills to solving challenges related to real-world applications. Much of the class time is invested in doing hands-on projects in a small group setting. Students also are made aware of STEM- and STEAM-related career opportunities.

Field study: Harley Davidson Manufacturing Plant (1 day)

## EXTRA-DEPARTMENTAL SUBJECTS

### **Apprenticeship**

GRADE ELEVEN

FOUR QUARTERS; 1.0 CREDIT

This course is designed to prepare students for a successful transition to college and/or a career path after high school. The students focus on spiritual, academic, aptitude, and personality strengths and align them with career possibilities and interests. They participate in a four-day shadowing experience in careers of their choosing in May. SAT/ACT preparation and an understanding of the college application and acceptance process are included in this course. Students use the information to design a path of further study or training. They prepare a personalized college and career portfolio to share with parents and to use for senior year plans and college visits.

Field Studies: College visit and campus tour, with Junior Project research (1-2 days);

Apprenticeship Week (individualized plan: 4 days)

### **Computer Science**

GRADE NINE, TEN, ELEVEN, OR TWELVE

FOUR QUARTERS; 1.0 CREDIT

Students explore the field of computer science, learn the role of the basic components of a computer, and practice developing software to control the behavior of the computer as well as the correct practices to implement it.

### **Computer Science Principles (Honors)**

GRADE 12

4 QUARTERS; 1.3 CREDITS; PASS/FAIL

INDEPENDENT 36-WEEK DIGITAL PROGRAM (FINAL PROJECT REQUIRED); AP EXAM AVAILABLE

This course introduces the student to the efficient, algorithmic processes of computer science and the art of programming. Topics are sequential and include abstraction, algorithms, data structures, resource management, security, software engineering, and web development. The course leads students to address real world problems in the areas of biology, cryptography, finance, forensics, and more. Languages include C, PHP, and JavaScript. The course itself concludes on April 30, 2020. Computer Science Principles is considered preparatory for the AP CS Principles exam and is taught primarily by Dr. David Malan, a Harvard University professor of the Practice of Computer Science at the School of Engineering and Applied Sciences. For a fee, students who earn a satisfactory score (70% or higher) on each of the course's assigned problems are also eligible to receive a verified certificate from HarvardX.

### **Psychology (AP)**

GRADE TWELVE

FOUR QUARTERS; AP COURSE AND DUAL CREDIT, 1.3 CREDITS

Course material emphasizes how scientific studies have advanced the understanding of human growth and behavior. At the same time, students learn that while solid studies have provided insights, these studies have also led to questions and theories that conflict in their conclusions. Students are challenged to evaluate the insights gained through proper scientific inquiries described in the text and lecture presentations in light of their biblical worldview. Critical thinking rather than blind acceptance is expected. Whatever field the student ultimately enters, this ability to use ethical, scientific thinking will be an asset.