

# Cottage Hill Christian Academy

## CORE COURSE DESCRIPTIONS

( ) denotes credit \*indicates weighted course

### ENGLISH

**English 9 (1)** The 9<sup>th</sup> grade English program challenges students to communicate God's love to others via effective writing. It is also designed to help students acquire critical thinking skills through the literature read. Students come to understand that God's values, standards, and life principles apply to people everywhere and are evident in good literature. This course encourages students to read a wide variety of high literary quality materials: novels, poetry, short stories, essays, and plays. Students respond to their reading through oral discussion and through analytical writing. The development of thinking is supported through the writing process as students generate ideas, plan and organize their work, create drafts, and make decisions regarding revision. The mechanical conventions of writing such as grammar, usage, and mechanics are reinforced. A vocabulary program focusing on Latin and Greek roots and prefixes rounds out the 9<sup>th</sup> grade program. Summer reading is required.

**English 10 (1)** The 10<sup>th</sup> Grade English program challenges students to trace Christian principles in world literature by studying the major authors, periods, forms and works. They will respond to literature through oral discussion and through analytical writing. It is also designed to help students acquire critical thinking skills through the literature they read. Students come to understand that God's values, standards, and life principles apply to people everywhere and are evident in good literature. This course encourages students to read a wide variety of high literary quality materials: novels, poetry, short stories, essays, and plays. Summer reading is required. *Prerequisite: English 9*

**English 11 (1)** The 11 Grade English program challenges students to trace Christian principles in American literature by studying the major authors, periods, forms and works. They will respond from a Christian world view to literature through oral discussion and through analytical writing. Summer reading is required. *Prerequisite: English 10 or Honors English 10*

**AP English 11\* (1)** The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum from a Christian world view, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines. Summer reading is required. Students must take the AP exam upon completion of the course. *Prerequisite: English 10 or Honors English 10*

**English 12 (1)** The 12<sup>th</sup> Grade English program challenges students to recognize how classical British literature has transmitted the common cultural values of courage, self-sacrifice, Christian spiritual growth, appreciation of human diversity, and respect for human endeavor. Students will respond to literature through oral discussion and analytical writing. The program is also designed to help students acquire critical thinking skills through the literature they read. Students come to understand that God's values, standards and life principles apply to people everywhere and are evident in good literature. Summer reading is required. *Prerequisite: English 11, Honors English 11 or AP English 11*

**\*AP English 12 (1)** The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the ways writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works. Summer reading is required. Students must take the AP exam upon completion of the course. *Prerequisite: English 11, Honors English 11 or AP English 11*

## MATHEMATICS

**Algebra 1 (1)** Algebra I is the entry level mathematics course for Cottage Hill Christian Academy. This course examines the basic structure of real numbers, algebraic expressions, and functions. The topics studied are linear equations, inequalities, functions and systems, quadratic equations and functions, polynomial expressions, and the elementary properties of functions. Problem solving and an understanding of these topics are the major themes of this course. Honors Algebra is also available for the more advanced student.

**Algebra 2 (1)** This course has more advanced and detailed application than Algebra I. The students have real life situations displayed through the use of advanced algebraic methods. They also will be strengthening their thinking skills. Through consistent daily work and homework, the repetition will keep their basic skills in check as well as prepare for upper level mathematics. *Prerequisite: Algebra 1 and Geometry*

**Honors Algebra 2 with Trigonometry\* (1)** This course will move at a faster pace than Algebra 2 and will explore the more challenging problem sets utilizing higher level learning skills involving critical thinking and reasoning to a greater degree. The students have real life situations displayed through the use of advanced algebraic methods. They also will be strengthening their thinking skills. Through consistent daily work and homework, the repetition will keep their basic skills in check as well as prepare for upper level mathematics. *Prerequisite: Algebra 1 and Geometry*

**Geometry (1)** Geometry describes one aspect of the inductive/deductive reasoning side of mathematics for Cottage Hill Christian Academy. This course develops a structured mathematical system through the deductive development of relationships in the plane and space developed intuitively in previous years. Students will identify parallel and perpendicular lines, angle measure in triangle, direct and indirect proofs, transformations, the Pythagorean Theorem, geometric constructions, coordinate geometry, trigonometry, and surface area and volume of solids. *Prerequisite: Algebra 1*

**Honors Geometry\* (1)** Geometry describes one aspect of the inductive/deductive reasoning side of mathematics for Cottage Hill Christian Academy. This course develops a structured mathematical system through the deductive development of relationships in the plane and space developed intuitively in previous years. Students will identify parallel and perpendicular lines, angle measure in triangle, direct and indirect proofs, transformations, the Pythagorean Theorem, geometric constructions, coordinate geometry, trigonometry, and surface area and volume of solids. This course will explore the more challenging problem sets utilizing higher level learning skills involving critical thinking and reasoning to a greater degree. *Prerequisite: Algebra 1 and teacher recommendation based on grades*

**Discrete Math (1)** Discrete Math allows students to explore 20<sup>th</sup> century applications of mathematics. Topics include number sense, properties and operations, patterns, functions, algebraic structures, data analysis, statistics and probability, and geometric relationships. *Prerequisite: Algebra 2*

**Pre-Calculus\* (1)** Pre-Calculus is designed for students who have successfully completed Algebra II. This course is considered to be a prerequisite for success in calculus and college mathematics. Algebraic, graphical, numerical, and verbal analyses are incorporated during investigations of the course content standards. Parametric equations, polar relations, vector operations, conic sections, and limits are introduced. Content for this course also includes an expanded study of polynomial and rational functions, trigonometric functions, and logarithmic and exponential functions. This course will require students to apply technology such as TI-84 graphing calculators, modeling, and problem-solving. *Prerequisite: Algebra 2*

**Calculus\* (1)** Calculus is primarily concerned with developing the students' understanding of the concepts of calculus and providing experience with its methods and applications. The course emphasizes a multi-representational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. *Prerequisite: Trigonometry/Pre-Calculus*

**AP Calculus\* (1)** Calculus AB is primarily concerned with developing the students' understanding of the concepts of calculus and providing experience with its methods and applications. The course emphasizes a multi-representational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. The connections among these representations also are important. Students are required to take the AP Exam upon completion of this course. *Prerequisite: Trigonometry/Pre-Calculus*

## **SOCIAL STUDIES**

**World History II (1)** Ninth grade World History and Geography since 1500 directs students to think critically about the various forces that combined to shape the world today. Emphasis is placed on geographic impact, development of civic knowledge/responsibilities, and emerging economic systems within a chronological context. *Honors World History II is offered.*

**US History I (1)** United States History is a comprehensive two-year sequence beginning in the tenth grade with pre-discovery to 1877. The curriculum builds upon the eighth and ninth grade World History and Geography courses and focuses on critical issues and events that encompass historic, geographic, economic, and political literacy. It is aimed at producing responsible citizens who have the ability to make informed decisions. *Honors U.S. History I is offered.*

**AP US History I\* (1)** - United States History is a comprehensive two-year sequence beginning in the tenth grade with pre-discovery to 1877. The AP U.S. History course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in U.S. history. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials—their relevance to a given interpretive problem, reliability, and importance—and to weigh the evidence and interpretations presented in historical scholarship. An AP U.S. History course should thus develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in essay format.

**US History II (1)** United States History is comprehensive two-year sequence beginning in the tenth grade with pre-discovery to 1877 and continuing in the eleventh grade from 1877 to present. The curriculum builds upon the Eighth and Ninth grade World History and Geography courses and focuses on critical issues and events that encompass historic, geographic, economic and political literacy. *Honors U.S. History II is offered.*

**AP US History II\* (1)** United States History is a comprehensive two-year sequence continuing in the eleventh grade from 1877 to present. The AP U.S. History course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in U.S. history. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials—their relevance to a given interpretive problem, reliability, and importance—and to weigh the evidence and interpretations presented in historical scholarship. An AP U.S. History course should thus develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in essay. Students will be required to take the AP exam at the completion of the course. *Prerequisite: American History I, Honors American History I or AP American History I*

**Government (1/2)** American government is required one-semester social studies course for the twelfth grade. Students draw on the knowledge and skills from their previous study of American History I & II, World History, and Geography as background information. The course focuses on the origins and functions of government as well as the intellectual influences in the development of representative democracy in America. Through a detailed study of the United States constitution, students become knowledgeable of the structure and workings of government at all levels in the state nation.

**Economics (1/2)** Economics is a required one-semester study. It focuses on the workings and institutions of modern-day economic systems and economic theory rather than consumer economics content. Students apply the knowledge and understanding acquired in their study of economic factors over time to their study of contemporary problems in economics. The study of economics includes the use and interpretation of maps, charts, graphs tables, and other expressions of statistical data.

## SCIENCE

**Biology (1)** Biology will move students towards a solid foundation in the basic concepts of biological science. Course content encompasses interrelationships of living things, levels of biological organization, cellular biology, biochemistry, genetics, and evolution. This course includes laboratory work, study of specimens, projects, and a thorough understanding of scientific inquiry.

**Honors Biology (1)** This honors level biology course will cover an in-depth foundation in biology. This includes laboratory work, study of specimens, projects, and a thorough understanding of scientific inquiry. Course content encompasses interrelationships of living things, levels of biological organization, cellular biology, biochemistry, genetics, and evolution. Students should be prepared to conduct projects and write a formal lab report. Instruction centers around inquiry-based learning that is incorporated into class activities. Students will often work independently from the teacher in order to achieve student autonomy expected of honors students. Classes are structured to utilize every minute for learning and assessing understanding. Real world application and higher-level thinking are daily objectives.

**Honors Chemistry” (1)** Honors Chemistry is designed to teach critical thinking skills while exploring an in depth study of the fundamental topics of chemistry. Honors Chemistry focus is on the application of concepts, as well as detailed mathematical calculations vital to those concepts. Laboratory experiments are student directed. Course topics will cover specifically: atomic structure, electronic configuration, Bohr’s model, the periodic table and periodic law, naming ionic and covalent compounds, writing and balancing equations, atomic weights, mole, stoichiometry, gas laws, and mixtures and solutions, acids and bases, and hydrocarbons.

**CP Chemistry (1)** Chemistry is designed to cover the fundamental concepts of chemistry, as well as the facts and mathematical formulas vital to those concepts. Teacher guided laboratory experiments are conducted by students. Course topics will cover specifically: atomic structure, electronic configuration, Bohr’s model, naming ionic and covalent compounds, writing and balancing equations, atomic weights, mole, stoichiometry, gas laws, acids and bases and phases of matter.

**AP Physics\*\* (1)** Physics is a one-year high school course that addresses the conceptual and mathematical study of the physical world and how it functions. Areas studied include motion, force, momentum, planetary motion, energy, mechanics, heat, light, sound, fluids, electricity, and magnetism. Students will be required to take the AP exam at the completion of the course. *Prerequisite: Chemistry and teacher recommendation based on grades*

**CP Human Anatomy (1)** - Students will examine the relationship between the structures and functions of the body’s systems to develop a basic understanding of them in this introductory course. Exploration of the human body through gross and microscopic study will lead to a greater knowledge of systems including muscular, skeletal, nervous and cardiovascular among others, with an introduction to physiological processes. The course will also investigate disease and homeostatic imbalances of the human body. This course may be useful to those who are considering a career in the medical profession but is also helpful to any student for a better understanding of how all branches of science work together in everyday life.

**Anatomy and Physiology\* (1)** - Anatomy and Physiology contains content standards relating to the structure and function of the components of the human body. It is designed specifically for students who are interested in pursuing careers in the medical and allied-health fields. Core content emphasizes the structure and function of cells, tissues, and organs; organization of the human body; biochemistry; and the skeletal, muscular, nervous, endocrine, digestive, respiratory, cardiovascular, integumentary, immune, urinary, and reproductive systems. An important component

of this course is the laboratory setting in which students are encouraged to apply the knowledge and processes of science while independently seeking answers to questions of personal interest and importance. *Prerequisite: Biology*

**Zoology (1)** -Zoology is the study of animals. In this course, students are introduced to the diversity and complexity of the animal kingdom. Students will gain an understanding of the nine phyla of Kingdom Animalia. Emphasis is placed on the structure, physiology, development, and classification of animals. This course includes laboratory dissections.

**Genetics\* (1)** - This course discusses the principles of genetics with application to the study of biological function at the level of molecules, cells, and multicellular organisms, including humans. Topics include structure and function of genes; chromosomes and genes; biological variation resulting from recombination, mutation, and selection; population genetics; use of genetic methods to analyze protein function, gene regulation, and inherited disease. *Prerequisite: Anatomy and Physiology*

## **BIBLE**

**Bible 9 (1)** - This course is intended to give students a better understanding and knowledge of God in effort to help students grow in their faith and deepen their relationship with Christ. While the main textbook will be the Bible, this course will use two other texts to help focus in on the Doctrine of God and the Doctrine of Christ. In the Doctrine of God portion of this course, a special emphasis will be given to the attributes of God. In the Doctrine of Christ section, students will look closely at the Gospel of John. Bible 9 will begin the year with a special Freshman Seminar in effort to help students adjust to high school life.

**Bible 10: Old Testament (1/2)** - This course is intended to give students a broad understanding of the Old Testament with a particular focus on the Pentateuch and Historical books. Attention will be given to the literary, historical, and theological contents and contexts. The instructor will also select a book from the Old Testament to allow for a more in-depth study that focuses on interpretive issues, contemporary significance, and application for Christian living.

**Bible 11: New Testament (1/2)** - This course is intended to give students a thorough understanding of Paul's life, theology, and writings that include: 1-2 Thessalonians, Galatians, 1-2 Corinthians, Romans, Philippians, Philemon, Colossians, Ephesians, and the Pastoral Letters. The instructor will also select a book from the New Testament to allow for a more in-depth study that focuses on interpretive issues, contemporary significance, and application for Christian living.

**Bible 12: Christian Missions (1/2)** - This course is intended to give students a thorough understanding of the church, the mission of the church, and the challenges the church has faced throughout the span of history. Attention will also be given to the study of missions and the various challenges that Christians face in the 21st century.