

Indiana Academy
COURSES OF INSTRUCTION
2010-2011

APPLIED ARTS

ESSENTIALS OF LIVING .50 unit/Semester

A comprehensive course introducing the student to the basic skills needed to make wise decisions in the following areas: food choices, career planning, relationships, personal and environmental resource management, home design, and clothing. Requirements include classroom activities, food and sewing lab experiences.

INTRODUCTION TO TECHNOLOGY .50 unit/Semester

This laboratory, hands-on course will survey the five main areas of technology: biotechnology, construction, manufacturing, communication, and transportation. The main theme will be problem solving, creativity, and inventiveness using the most simple, cost efficient, technological approach in special target situations in each of the five areas. The projects, short term and long term, will compose the major portion of the course and the grade.

KEYBOARDING .50 unit/Semester

A study of the fundamental principles of touch keyboarding, formatting and word processing. Instruction includes the basics of the Windows operating system, Microsoft Word, and software to assist in developing speed and accuracy. Course assumes no previous keyboarding experience.

BIBLE

BIBLE 09 1 unit per year

A study of the plan of salvation as it relates to the young Christian. The establishing of that plan and its application to early humanity as is set forth in the book of Genesis and its ratification by Jesus Christ as is outlined in the book of Matthew. In addition to studying these two Bible books and related texts, the course explains the origin and history of the Scriptures.

BIBLE 10 1 unit per year

A guide to a better understanding of the heritage, principles, and operation of God's church. Students will survey Old Testament history from Exodus to the rebuilding of Jerusalem under Nehemiah. Major emphasis will also be placed on the development of Christianity from apostolic times through the rise of Roman Catholicism, the Reformation, and the more recent religious movements. The founding and growth of Seventh-day Adventism will conclude this overview of Christian history.

BIBLE 11 1 unit per year

Basic Bible truths are brought into focus through a study of the books of Romans, Hebrews, Daniel and Revelation. In addition, one unit of study is devoted to Bible Beliefs.

BIBLE 12 1 unit per year

Counsel is taken from Proverbs for Christian living and character development as each student seeks to enjoy life to the fullest now while also preparing to live for eternity. Specific topics include self-esteem, values, habits, teachability, handling conflict, knowing God's will, choosing a career, preparation for marriage, and winning friends for eternity.

COMPUTER

COMPUTER APPLICATIONS I .50 unit/Semester

A general computer literacy class designed for all students as an extension to their keyboarding skills. Major focus is on practical experience with word processing, creating reports and tables. Students will also learn how to use spreadsheets, presentations, and the Internet for research.

COMPUTER APPLICATIONS II .50 unit per year

Prerequisite: Introduction to Computer Applications
An extended computer literacy class that is designed to further develop student's skills in word processing, spreadsheets, and presentations, through practical experience and completion of assigned projects. Students will also gain a basic introduction to desktop publishing, databases, and photo/graphic editing. Additional material covered includes a basic understanding of how computers work, a history of its development and the ethics of its use.

DESKTOP PUBLISHING 1 unit per year

Prerequisite: Computer Applications I, or permission of the instructor, A grade of B or better in English 9 & 10
The student will become familiar with InDesign and newspaper publishing. The students will become familiar with digital photography, layout and design, journalism, and working on projects in a team. The team will develop and produce a bimonthly paper to be distributed throughout the school and posted on the web page.

VIDEOGRAPHY & VIDEO PRODUCTION

1 unit per year

This course will be a combination of digital photography and videography. The students will first learn the basic techniques of composition, lighting, etc in still photography. They will learn about digital cameras, picture transfer, resolutions, basic modification, and use of the basic functions of Adobe Photoshop.

They will then apply these principles to videography, which is an extension of photography. This will include video camera types—their choice, care, and use; video formats, compression types, and be able to capture in .avi and MPEG1 and MPEG2 formats. They will compare several different popular video editing programs including ULEAD Media Studio Pro, and Adobe Premier. They will learn video capture to the computer and many video editing techniques within the video editing program. They will make a personal portfolio of projects that will include: digital pictures taken and modified, 2-3 short videos, that may include a promo video, how to video, informational video, or music video. They will also be responsible for videoing, editing, and production of a section of the Indiana Academy Year in Review for the current year, and will assist in the final production of a VHS and DVD of this project.

During first semester, all students will be required to own or rent a digital still camera (with memory card or USB access). During second semester, students will be required to own or rent a video camera.

ENGLISH

ENGLISH 9

1 unit per year

Through the integrated study of literature, composition, grammar, and oral communication, grade 9 students develop their use of language as a tool for learning and thinking and as a source of pleasure. Students practice identifying, analyzing, and composing with different elements, structures, and genres of written language.

Literature instruction focuses on reading and comprehending a broad variety of literature while applying appropriate reading strategies to enhance literary skill and appreciation. Specifically, students will identify and analyze elements of story structure, identify literature by genre, identify the author's purpose and perspective, recognize bias, analyze elements of drama, and survey a variety of poetic styles. Students will also use reading as a vehicle for vocabulary expansion.

The composition component of language arts requires students to write for various audiences and purposes while strengthening skills in paragraph and multi-paragraph writing. The course will emphasize nature-based descriptive poetry and prose, culminating in the creation of a short story. The writing process will include prewriting, drafting,

revising, and publishing. Technology will be used to enhance overall presentation.

Grammar instruction will focus on identifying parts of speech, utilizing guidelines for proper punctuation, and correcting common usage errors.

Oral communication emphasizes effective listening and speaking techniques and provides opportunities for students to integrate other reading and language arts skills as they learn to express ideas verbally. Oral presentations will include a well-researched and coherently organized message, effective delivery techniques, audience rapport, and proper speech mechanics. Critical listening and participant skills include identifying and analyzing characteristics of a speaker's presentation, active participation in group discussions, note-taking, and peer collaboration for group assignments.

ENGLISH 10

1 unit per year

Language arts instruction is cumulative. Therefore, grade 10 reinforces many of the activities and skills of grade 9.

Literature assignments will focus on opportunities to respond critically, reflectively, and imaginatively to short stories, drama, and poetry selected from a variety of world cultures. Specifically, students will identify and analyze elements of story structure, identify literature by genre, identify the author's purpose and perspective, recognize bias, analyze elements of drama, and survey a variety of poetic styles. Students will also use reading as a vehicle for vocabulary expansion.

The composition component of language arts requires students to write for various audiences and purposes while strengthening skills in paragraph and multi-paragraph writing. Composition will emphasize sensory description and revision skills, culminating in the creation of a short story. The writing process will include prewriting, drafting, revising, and publishing. Technology will be used to enhance overall presentation.

Advanced instruction is given in proper grammar, punctuation, and usage to solidify command of the material covered in English 9.

Oral communication skills are also promoted. Oral presentations will include a well-researched and coherently organized message, effective delivery techniques, audience rapport, and proper speech mechanics. Critical listening and participant skills include identifying and analyzing characteristics of a speaker's presentation, active participation in group discussions, note-taking, and peer collaboration for group assignments.

ENGLISH 11

1 unit per year

Through the integrated study of literature and composition, grade 11 students further develop their use of language as a tool for learning and thinking and as a source of pleasure. In English 11, students move from predominantly analyzing and using elements of written language to making judgments based on their analysis.

This course provides a survey of American literature from various periods. Literature instruction focuses on opportunities to develop criteria for judging and analyzing literary works such as short stories, novels, speeches, essays, and poetry. Students will select appropriate reading strategies to distinguish elements in literature that make it a reflection of the social, economic, or cultural thought of its time and place. In addition to fostering critical thinking skills, literature assignments will be used to enhance vocabulary.

Composition assignments will focus on literary and historical analysis. Essays and papers will involve having a thesis, topic sentences, supporting points with specific examples, and an identified audience. The writing process includes outlining, drafting, revising and editing, peer feedback, and publishing using word-processing technology. A major research paper will highlight the academic writing process. Students will learn and follow guidelines from the MLA style manual.

A review of grammar will be conducted, including instruction on punctuation and usage.

ENGLISH 12

1 unit per year

Grade 12 continues to refine students' ability to learn and communicate about language and literature. English 12 will reinforce and enhance the writing and analytical skills introduced in English 11.

This course will survey British literature from Anglo-Saxon times to the modern era. Literature instruction focuses on opportunities to develop criteria for judging and analyzing literary works such as short stories, novels, speeches, essays, and poetry. Students will select appropriate reading strategies to distinguish elements in literature that make it a reflection of the social, economic, or cultural thought of its time and place. In addition to fostering critical thinking skills, literature assignments will be used to enhance vocabulary.

Composition assignments will focus on literary and historical analysis. Essays and papers will involve having a thesis, topic sentences, supporting points with specific examples, and an identified audience. The writing process includes outlining, drafting, revising and editing, peer feedback, and publishing using word-processing technology. A major term paper will highlight the academic writing process. Students will learn and follow guidelines from the MLA style manual.

Oral communication instruction centers on a persuasive speech, which will include a well-researched and coherently organized message, effective delivery techniques, audience rapport, and proper speech mechanics. Critical listening and participant skills include identifying and analyzing characteristics of a speaker's presentation, active participation in group discussions, and note-taking.

A review of grammar will be conducted, including instruction on punctuation and usage.

FINE ARTS

ADVANCED CHORUS/KEYNOTES

.500 unit per year

This advanced choir fulfills the fine arts requirement for graduation as well as several of the goals included in the mission statement of the school. It also addresses the aesthetic development portion of the stated curriculum of Indiana Academy. Its purpose is to sing a variety of religious and secular music and to improve the music skills/aptitude of each student. Music styles will range from the Medieval to the Modern periods. Songs included may be in different languages or sung acapella. It will include learning of choral/vocal music skills, cooperative learning strategies for improved instruction, and a solid basis for the completion of national and denominational standards in the arts. This is a 16-voice traveling choir divided evenly among the voice parts. Membership is by audition only and depends on many factors, including satisfactory school citizenship and deportment, as well as faithful attendance at rehearsals and concerts. Concurrent enrollment in Beginning Chorus--Choralanas is required.

APPLIED MUSIC/PRIVATE LESSONS

.250 unit per year

Applied music offers high school students the opportunity to receive small group or private instruction designed to develop performance skills. Instruction is designed so that students are enabled to associate music study with other disciplines. A variety of music methods and repertoire is utilized to refine students' abilities in listening analyzing, interpreting and performing. Private lessons are open to all students in voice, piano, organ, conducting and band instruments. Lessons are scheduled during the school week at a convenient time for students/faculty. It is the responsibility of the student to meet all appointments. A minimum of 10 lessons per semester constitutes credit.

BEGINNING CHORUS/CHORALANAS

.500 unit per year

The concert choir fulfills the fine arts requirement for graduation as well as several of the goals included in the mission statement of the school. The goal is to sing a variety of religious and secular music and to improve the music skills/aptitude of each student. Music styles will range from the Medieval to the Modern periods. It also addresses the aesthetic development portion of the stated curriculum of Indiana Academy. It will include learning of choral/vocal music skills, cooperative learning strategies for improved instruction, and a solid basis for the completion of national and denominational standards in the arts. Performances include singing two major concerts and making several trips to Indiana churches and schools. A voice check is done upon entrance into the organization for placing students in correct voice parts.

BEGINNING CONCERT BAND

.500 unit per year

This class fulfills the fine arts requirement for graduation as well as several of the goals included in the mission statement of the school. It also addresses the aesthetic development portion of the stated curriculum of Indiana Academy. Its purpose is to play a variety of religious and secular music and improve the student's instrumental music skills at the same time. Music styles will range from Medieval to Modern periods. It will include learning of instrumental music skills, cooperative learning strategies for improved instruction, and a solid basis for the completion of national and denominational standards in the arts. The students will rent instruments from the school if they do not own their personal instruments. The band is open to all students who play an instrument. Performances include two major concerts and several off-campus concerts. An audition is given for placement.

BEGINNING STRING ENSEMBLE

(Group Lesson)

.25 unit per year

This ensemble is for students who would like to learn an orchestra instrument. Structured as a group lesson, students will use a standard strings method book and simple string orchestra arrangements to prepare themselves for performance. Instruction is designed so that students are enabled to associate music study with other disciplines. Group teaching will be utilized to refine students' abilities in listening, analyzing, interpreting, and performing.

HANDBELL CHOIR

.500 unit per year

This course fulfills the fine arts requirement for graduation as well as several of the goals included in the mission statement of the school. It also addresses the aesthetic development portion of the stated curriculum of Indiana Academy. Its purpose is to play a variety of music styles ranging from the Medieval to the Modern day musical period. It will include learning of instrumental music skills, cooperative learning strategies for improved instruction, and

a solid basis for the completion of national and denominational standards in the arts. Also it will further develop Handbell ringing techniques, music reading skills, and performance abilities. This is a 12-member auditioned ensemble. Programs include Music department functions and other special events on campus, and representing the academy in off-campus performances.

MUSIC APPRECIATION/MUSIC THEORY

1 unit per year

Students taking this course receive instruction designed to explore music and major musical style periods through understanding music in relation to both Western and Non-western music history and culture. Activities include but are not limited to (1) listening to, analyzing, and describing music; (2) evaluating music and music performance; and (3) understanding relationships between music and the other arts, as well as disciplines outside of the arts.

Students taking this course also develop skills in the analysis of music and theoretical concepts. Students: (1) develop ear training and dictation skills; (2) compose works that illustrate mastered concepts; (3) understand harmonic structures and analysis; (4) understand modes and scales; (5) study a wide variety of musical styles; and (6) study traditional and nontraditional music.

Class is available as needed.

PREPARATORY CONCERT BAND

(Group Lesson)

.25 unit per year

This band is for students who would like to learn a band instrument. Structured as a group lesson, students will use a standard band method book and simple band arrangements to prepare themselves for concert band. Instruction is designed so that students are enabled to associate music study with other disciplines.

FOREIGN LANGUAGE

SPANISH I

1 unit per year

This foreign language course provides instruction enabling students to discuss the many reasons for learning a language and to develop an understanding of the people who speak it. Students are able to apply effective strategies for language learning and show a willingness to experience various aspect of the Spanish culture. Within this context, the course provides students with opportunities in Spanish reading, translation, pronunciation, conversation and culture that will enable the student to build and grow in his knowledge of the second most important language in the United States today. Additionally, students will learn about nonverbal communication, awareness of current events, major holidays and geographical features of various Latin countries, salutations, courtesy behaviors and appropriate etiquette in a variety of social settings.

SPANISH II

1 unit per year

Level II Spanish language courses enable students to participate in classroom and extracurricular activities related to the language studied as well as to participate in conversations dealing with daily activities and personal interest. Students are able to: ask questions regarding routine activities; participate in conversations on a variety of topics; relate a simple narrative about a personal experience or event; interact in a variety of situations to meet personal needs, such as asking permission, asking for or responding to an offer for help, and expressing preferences pertaining to everyday life; understand main ideas and facts from simple texts over familiar topics; read aloud with appropriate intonation and pronunciation; and write briefly in response to given situations, for example: postcards, personal notes, phone messages, and directions, as well as write letters using culturally appropriate format and style. Additionally, students become: familiar with major geographical features, historical events, and political structures of the country(ies) being studied; familiar with different aspects of the culture, including the visual arts, architecture, literature and music, using the foreign language where appropriate; able to extend and respond to hospitality as a host or a guest; and aware of time expectations, such as arriving for appointments and social engagements.

HEALTH & PHYSICAL EDUCATION

ACROBATICS

.500 unit per year

Students wishing to be on the acrobatics team need to be determined, committed, athletically inclined, and willing to grow in those spheres. The team's activities include demonstrations and positive lifestyle promotion. The desire to share one's faith through acrobatics is an important quality of all team members.

HEALTH EDUCATION

.50 unit per year

The purpose of this class is to develop a proper understanding of health concepts important to young people that they can use for life.

High school health education provides the basis for continued methods of developing knowledge, concepts, skills, behaviors, and attitudes related to student health and well-being. This course includes the major content areas in a planned, sequential, comprehensive health education curriculum as expressed in the North American Division of Seventh-day Adventist Curriculum Guide: (1) Growth and Development; (2) Mental and Emotional Health; (3) Community and Environmental Health; (4) Nutrition; (5) Family Life; (6) Consumer Health; (7) Personal Health; (8) Alcohol, Tobacco, and Other Drugs Substance Abuse (9) Intentional and Unintentional Injury; and (10) Health Promotion and Disease Prevention.

Students are provided with opportunities to explore the effect of health behaviors on an individual's quality of life. This course assists students in understanding that health is a lifetime commitment by analyzing individual risk factors and health decisions that promote health and prevent disease. Students are also encouraged to assume individual responsibility for becoming competent health consumers. A variety of instructional strategies, including technology, are used to further develop health literacy.

PHYSICAL EDUCATION I .50 unit per year

Students are taught the importance of taking care of the body God has given them through involvement in such sports as running, football, soccer, volleyball, and softball. This course addresses the application of rules and sportsmanship, as well as cooperative skills. Ongoing assessment includes written and performance-based skill evaluation.

Physical Education I continues the emphasis on health-related fitness and developing the skills and habits necessary for a lifetime of activity. This program includes skill development and the application of rules and strategies of complex difficulty in at least three of the following different movement forms: (1) health-related fitness activities (cardio respiratory endurance, muscular strength and endurance, flexibility, and body composition), (2) aerobic exercise, (3) team sports, (4) individual and dual sports, (5) gymnastics, (6) outdoor pursuits, (7) aquatics, (8) recreational games. Ongoing assessment includes both written and performance-based evaluations.

PHYSICAL EDUCATION II .50 unit per year

Physical Education II emphasizes a personal commitment to lifetime activity and fitness for enjoyment, challenge, and social interaction. This course provides students with opportunities to achieve and maintain a health-enhancing level of physical fitness and increase their knowledge of fitness concepts. It includes at least three different movement forms. Movement forms may include: (1) health-related fitness activities (cardio respiratory endurance, muscular strength and endurance, flexibility, and body composition), (2) aerobic exercise, (3) team sports, (4) individual sports, (5) outdoor pursuits, and (6) recreational games. Ongoing assessment includes both written and performance-based skills evaluations.

HISTORY & SOCIAL STUDIES

ECONOMICS

.50 unit/Semester

Economics includes a study of the allocation of scarce resources and their alternative uses for satisfying human wants. This course examines basic models of decision making at various levels and in different areas including: (1) decisions made as a consumer, producer, saver, investor, and voter; (2) business decisions to maximize profits; and (3) public policy decisions in specific markets dealing with output and prices in the national economy.

UNITED STATES GOVERNMENT

.50 unit/Semester

United States Government provides a framework for understanding the nature and importance of responsible civic participation and for learning the rights and responsibilities of individuals in a constitutional democracy. The course enables students to explore the historic origins and evolution of political philosophies into contemporary political and legal systems. Constitutional structure and the processes of the legislative, executive, and judicial branches of the national, state, and local levels of government are examined. Students learn to draw conclusions about the impact and interrelationships of history, geography, and economics upon our system of government. They also learn to demonstrate an understanding of the governmental structures of the United States and other political systems, as well as the relationship of American government to world affairs. Students learn to analyze theories of individuals and groups in the political process by identifying and analyzing political issues. They also learn to access data from primary and secondary resources and use current technology to access relevant source materials and as a tool for producing documents in support of learning projects. Students have opportunities to take, defend, and evaluate positions on current issues that impact political decision making. They should understand their ability to influence policies and decisions as individuals and in groups.

Related learning experiences in the school and community enable students to learn how to participate effectively in the political process. The study of United States government also offers student opportunities to develop knowledge, inquiry skills, and the means to preserve and improve our constitutional democracy.

A survey of the backgrounds, origins, and development of government in the United States of America with an introduction to the fundamental philosophies of government, Christian and non-Christian, viewed in comparison and contrast.

UNITED STATES HISTORY **1 unit per year**

United States History emphasizes national development in the late nineteenth and the twentieth centuries and builds upon concepts developed in previous studies of American history. Students in this course also identify and review

significant events, figures, and movements in the early development of the nation. After providing such a review, the course gives major emphasis to the interaction of historical events and geographic, social, and economic influences on national development in the late nineteenth and twentieth centuries. A chronological, topical, or comparative approach can be used in developing themes from America's past as they relate to life in Indiana and the United States today.

Students demonstrate the ability to trace and analyze chronological periods and examine the relationships of significant themes and concepts in United States history. Students will be able to sequence historical events, examine cause and effect, identify different perspectives, and relate historical situations to current issues. Opportunities are given to develop inquiry skills by gathering and organizing information from primary source material and a variety of historical and contemporary sources, accounts, and documents. Investigation of themes and issues include analysis of the importance of cultural pluralism and diversity of opinion in American society. Students learn to exercise their skills as citizens in a democratic society by engaging in problem solving and civic decision making in the classroom, school, and community settings.

Investigation of themes and issues include an analysis of the importance of cultural pluralism and diversity of opinion in American society. Students are given opportunities to exercise their skills as citizens in a democratic society by engaging in problem solving and civic decision making in the classroom, school and community settings.

United States History is the study of the development of the United States from pre-colonial times to the present day. Whenever possible, it is studied in the light of the Spirit of Prophecy. Past political problems are studied in reference to today's situations.

WORLD HISTORY AND CIVILIZATION

1 unit per year

World History and Civilization provides for a study of selected world cultures, past and present. The content of this course provides a basis for students to compare and analyze patterns of culture, emphasizing both the diversity and commonality of human experience and behavior. This course emphasizes the interaction of local cultures with the natural environment, as well as the connections among civilizations from earliest times to the present. This course may be designed to focus on: (1) prehistory; (2) early world civilizations, including the rise of civilizations of the Middle East, Africa, and Asia; (3) the classical civilizations of Europe, Asia, Africa, and Latin America; and (4) the development of modern societies. This course might also trace important themes in human history or be designed to focus on a comparative study of two or more selected societies.

A survey of the origins and development of Western Civilization emphasizing the response of history to the prophecies of the Bible in the framework of the Great Controversy and God's eternal purpose.

MATHEMATICS

ALGEBRA I 1 unit per year

Prerequisite: Math 8 and Satisfactory Completion of the Math Placement Exam

Algebra I provides a formal development of the algebraic skills and concepts necessary for students who will take other advanced college-preparatory courses. In particular, the instructional program in this course provides for the use of algebraic skills in a wide range of problem-solving situations. The concept of function is emphasized throughout the course. Topics covered include properties of real numbers; solving, graphing, and writing linear equations and linear inequalities; solving systems of equations and systems of open sentences in two variables; exponents and exponential functions; solving quadratic functions by factoring, graphing, and the quadratic formula; basic operations with polynomials; rational expressions; and properties of radicals. Use of graphing calculators to explore functions is emphasized and encouraged throughout the course. **A student who receives an "F" for the first semester will not be allowed to continue into the second semester of this course.**

ALGEBRA II 1 unit per year

Prerequisite: Geometry

Algebra II is a course which expands on the topics of Algebra I and provides further development of the concept of a function. Topics covered include: linear equations and functions; systems of linear equations and inequalities; matrices and determinants; quadratic functions; polynomials and polynomial functions; power functions; exponential and logarithmic functions; rational equations and functions; conic sections; sequences and series; trigonometry; and introductory topics from probability and statistics. Use of graphing calculators to explore functions is emphasized and encouraged throughout the course. **A student who receives an "F" for the first semester will not be allowed to continue into the second semester of this course.**

GEOMETRY 1 unit per year

Prerequisite: Algebra I

Geometry provides students with experiences that deepen the understanding of shapes and their properties. Deductive and inductive reasoning as well as investigative strategies in drawing conclusions are stressed. Properties and relationships of geometry figures include the study of: angles; lines; planes; parallel and perpendicular lines;

congruent and similar triangles; ratio and proportion; polygons and their areas; circles; properties of special right triangles; trigonometry; constructions; volumes of solids; and coordinate geometry. An understanding of proof and logic is developed. **A student who receives an "F" for the first semester will not be allowed to continue into the second semester of this course.**

PRE-ALGEBRA 1 unit per year

Prerequisite: Math 8

Pre-Algebra provides the mathematical background, skills, and thinking processes necessary for the successful completion of Algebra. Topics include: (1) whole numbers, (2) integers, (3) rationals, (4) decimals and their applications, (5) number theory, (6) ratios, (7) proportions, (8) percents, (9) equations, (10) graphing, (11) square roots, and (12) appropriate geometric concepts. The instructional program of this course provides for the understanding and use of the concepts as well as their application through appropriate problem-solving situations.

PRECALCULUS 1 unit per year

Prerequisites: Algebra II with a grade of C or above

Precalculus is a course which expands on the topics of Algebra II as well as provides an introduction to calculus. Topics covered include: functions and graphs; polynomial functions; power functions; rational functions; exponential and logarithmic functions; logistic modeling; trigonometric functions; analytical trigonometry; polar coordinates; vectors; matrix algebra; systems of equations; analytical geometry; discrete mathematics; and introductory topics from calculus such as limits, derivatives and integrals. Use of graphing calculators to explore functions is emphasized and encouraged throughout the course. **A student who receives an "F" for the first semester will not be allowed to continue into the second semester of this course.**

SCIENCE

ANATOMY & PHYSIOLOGY

1 unit per year

Prerequisite: Biology; Chemistry encouraged

Students will have the opportunity to learn the structures of the human body, chemical, electrical, and other physiological processes, and how they interact to maintain the intricate balances needed for optimal health. Labs, dissections, and computer aids will demonstrate the concepts learned. Especially recommend for any student considering a health-related profession.

Quarter 1: Organization of the body, systems, cavities, planes. Organization of matter into cells, tissues, organs. Skeletal system.

Quarter 2: Muscular system and Nervous system.

Quarter 3: God's eight natural health guidelines, Endocrine, Digestive, and Respiratory systems.

Quarter 4: Circulatory, Reproductive, and Excretory systems.

BIOLOGY **1 unit per year**

Biology I provides, through regular laboratory and field investigations, a study of the structures and functions of living organisms and their interactions with their environment. At a minimum, this study exposes the functions and processes of cells, tissues, organs, and systems within various species of living organism and the roles and interdependencies of organisms within populations, communities, ecosystems, and the biosphere. Student's have opportunities to: 1) gain an understanding of the history of the development of biological knowledge, and the scientific evidences on various sides of the origin of life theories; 2) explore the use of biology in various careers; and 3) cope with biological questions and problems related to personal needs and social issues.

Quarter 1: Nature of science and biology. Chemical principles and their basis in life. Cell structure and function. Ecology.

Quarter 2: Cell energy balance in respiration and photosynthesis. Nucleic acids and protein synthesis. Cell growth and division. Introduction to genetics.

Quarter 3: Genes and chromosomes. Human heredity and genetic engineering. Origins of life- the theories of Creation and evolution and the scientific evidences for each.

Quarter 4: Survey of the five kingdoms – Monera, Protista, Fungi, Plantae, Animalia.

CHEMISTRY **1 unit per year**

Prerequisites: Biology, and Algebra I with a minimum grade of C

This course is designed for students who are planning a career in medicine and/or other biological sciences. It allows students to synthesize useful models of the structure of matter and the mechanisms of its interactions through laboratory investigations of matter and its chemical reactions. Students have opportunities to: 1) gain an understanding of the history of chemistry; 2) explore the issues of chemistry in various careers; 3) cope with chemical questions and problems related to personal needs and social issues; and 4) learn and practice laboratory safety.

Topics covered include the study of matter; the atomic model; the periodic table; chemical formulas; chemical bonding; the mole; chemical reactions and equations; properties of the elements and groups of elements; molecular structure and geometry; polar molecules; thermodynamics; states of matter; solutions; and acids and bases. **A student who receives an "F" for the first semester will not be allowed to continue into the second semester of this course.**

EARTH SCIENCE **1 unit per year**

Earth Science is the study of the Earth, its characteristics, meteorological phenomena, and outer space. Major topics include geology, astronomy, meteorology, and oceanography. As students study geomorphic features and major geologic processes of the past, present and future, they should gain a greater appreciation of God as the Creator and Sustainer of the Universe. Topics will be taught from a content and concept basis with an emphasis on scientific processes and correlations with biblical accounts of Creation and the Flood.

INTEGRATED CHEMISTRY & PHYSICS **1 unit per year**

Integrated Chemistry-Physics introduces the fundamental concepts of scientific inquiry, the structure of matter, chemical reactions, forces, motion, and the interactions between energy and matter. This course will serve students as laboratory-based introduction to possible future course work in chemistry or physics while ensuring a mastery of the basics of each discipline. The ultimate goal of the course is to produce scientifically literate citizens capable of using their knowledge of physical science to solve real-world problems and to make personal, social, and ethical decisions that have consequences beyond the classroom walls.

PHYSICS **1 unit per year**

Prerequisite: Algebra II

This course is designed for students who have a strong background in mathematics and/or are planning a career in mathematics, engineering, or other areas of science. Emphasis is given to the use of mathematics in the solution of practical problems. Students have opportunities to: 1) acquire an awareness of the history of physics and its role in the birth of technology; 2) explore the uses of its models, theories, and laws in various careers; and 3) cope with physics questions and problems related to personal needs and social issues. Lab experiments are integrated throughout the course.

Topics covered include the study of the metric system; one and two-dimensional motion; acceleration; forces; vectors; gravity; momentum; work and energy; simple machines; states of matter; mechanics; wave motion; sound; light; reflection and refraction; mirrors and lenses; series and parallel circuits (electricity); magnetism; electromagnetism; and atomic and nuclear physics. **A student who receives an "F" for the first semester will not be allowed to continue into the second semester of the course.**