

iQ Academy Kansas

High School Course Catalog 2011–2012

AP COURSES**

AP ART HISTORY

CREDIT 1.0

Grade Level: 11, 12

This course is designed to foster in students an understanding and knowledge of architecture, sculpture, painting, and other art forms within diverse historical and cultural contexts. Students examine and critically analyze major forms of artistic expression from the past and the present from a variety of cultures. In addition to visual analysis, this course emphasizes understanding works in context, considering such issues as patronage, gender and the functions and effects of works of art. Prior art training is not a prerequisite nor does the course cater exclusively to future Art History majors. This course was designed to precisely meet the requirements of Advanced Placement Art History.

AP BIOLOGY

CREDIT 1.0

Grade Level: 10, 11, 12

Pre-requisite: High School level Biology and Chemistry

This course is a comprehensive analysis of general biology that includes biochemistry, molecular biology, genetics, mechanisms of evolution, evolutionary history of biological diversity, plant and animal form and function, and ecology. The AP Biology course is designed to be the equivalent of a college introductory biology course usually taken by biology majors or pre-medical students their first year. The textbook used, the range and depth of topics covered, discussion topics and kinds of labs done in this course are equivalent to those taking this course in college. College Board guidelines are followed in determining the course.

AP CALCULUS A B

CREDIT 1.0

Grade Level: 11, 12

Pre-requisite: Knowledge of algebra, geometry, trigonometry, analytic geometry, and elementary functions

This is a college level course that prepares students for the Advanced Placement exam in May. This course introduces limits, differentiation, and integration of functions. Students will find and evaluate finite and infinite limits graphically, numerically, and analytically. They will find derivatives using a variety of methods including The Chain Rule and Implicit Differentiation. They will use the First Derivative Test and The Second Derivative Test to analyze and sketch functions. Each unit contains exam preparation content for the AP Calculus AB exam.

AP CHEMISTRY

CREDIT 1.0

Grade Level: 11, 12

Pre-requisite: High School level Chemistry

Advanced Placement Chemistry is equivalent to a full-year introductory college course in general chemistry. Student will learn fundamental analytical skills to logically assess chemical problems proficiently. Through fascinating and elaborative lessons, students will develop the skills necessary to arrive at conclusions based on informed judgment and present evidence in clear and persuasive essays.

AP COMPUTER SCIENCE A

CREDIT 1.0

Grade Level: 11, 12

Pre-requisite: Algebra II or equivalent. Previous programming experience and basic understanding of networks and computer systems

Computer Science A emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development and is the equivalent of a first-semester college level course in Computer Science. It also includes the study of data structures, design, and abstraction.

AP ENGLISH LANGUAGE

CREDIT 1.0

Grade Level: 11

Pre-requisite: Sophomore English with a minimum grade of B

The academic objectives of this course adhere to those outlined by the College Board in preparation for the Advanced Placement Exam in Language and Composition. AP Language and Composition explores the relationship between what authors say and how they are trying to say it. The literary component of the course provides a range of genres, including nonfiction, fiction, drama, and poetry. In the analysis of these works, students are exposed to both style—the more language-based approach to exploring meaning—and rhetoric, the analysis of author argument and structure. In terms of styles, students will explore how elements of language—such as tone, diction, and syntax—influence the overall meaning. In terms of rhetoric, students will examine various appeals, aspects of writer's credibility, irony, and the overall use of logic to explore how effectively an author presents her/his position. In any aspect of analysis, students are obliged to consider the author's overall theme. By understanding the purpose of a piece of writing, we recognize the elements of language as an integral too with which author is develop their work. Writing assignments cover both the expository and argumentative aspects of writing. In addition to the exploration of American and global themes of literature, students will discern how styles of writers have evolved over the last several centuries.

AP ENGLISH LITERATURE

CREDIT 1.0

Grade Level: 12

Pre-requisite: Completion of Junior English classes with B average

This is a college level class that ultimately prepares students for the Advanced Placement exam in May. In addition, it provides students with other skills associated with the most advanced classes in high school English, including research skills. When they have completed the class, students will have acquired the reading and critical thinking skills necessary for understanding challenging new material, analyzing that material to deduce meaning, and applying what they have learned to their world. They will have the composition skills needed to communicate their understanding effectively to a variety of audiences. Students will read and analyze classic works of literature because these works contain literary qualities that merit study and provoke thinking, not because of a requirement to know a particular work or author. They will also look at modern and contemporary works as they examine all genres: plays, short stories, poetry, essays, and novels.

AP ENVIRONMENTAL SCIENCE

CREDIT .5

Grade Level: 11, 12

Pre-requisite: Algebra I and two years of lab science

This course is designed to acquaint you with the physical, ecological, social, and political principles of environmental science. The scientific method is used to analyze and understand the interrelationships between humans and the natural environment. The course shows how ecological realities and the material desires of humans often clash, leading environmental degradation and pollution. The course consists of six chapters covering the following topics: Earth's Systems, Human Population Dynamics, Natural Resources, Environmental Quality, Global Changes, and Environment and Society. Chapters are divided into several subsections, each of which contains text, animations, laboratory simulations, and video presentations by experts.

AP EUROPEAN HISTORY

CREDIT 1.0

Grade Level: 11, 12

This course is the study of the social, economic, cultural, intellectual, political and diplomatic history of Modern Europe and its place in the history of the world from the fall of Constantinople to the fall of the Berlin wall and the Soviet Union. The course will be taught at a level and with rigor equivalent to that required of students in a college freshman or sophomore Modern European History course. Students will develop an understanding of the major periods, ideas, movements, trends, and themes that characterize European history from approximately 1450—the high Renaissance—to the present. Students develop the ability to analyze historical evidence and express understanding and analysis in writing. The course will prepare students for the College Board examination in European History.

**AP and Advanced Placement Program are registered trademarks of College Entrance Examination Board. KC Distance Learning has been authorized to use the AP designation by successfully passing the The College Board's reviews.

AP FRENCH LANGUAGE**CREDIT 1.0****Grade Level: 12***Pre-requisite: French III*

AP French Language students apply their French grammar and vocabulary knowledge and their listening, reading, speaking, and writing skills to a wide variety of real-world contexts. Students learn to speak fluently and accurately, write complicated compositions, and comprehend native speakers. The equivalent of a college-level language course, AP French Language prepares students for the AP Exam and for further study of French language, culture, and literature.

AP MACROECONOMICS**CREDIT .5****Grade Level: 11, 12**

Macroeconomics is an emphasis on how the economic system works as a whole. Students study how the economy is measured by using concepts such as gross domestic product (GDP) and other indicators. They examine concepts such as inflation, unemployment, world trade patterns, and the role of the Federal Reserve Bank. Students engage in decision-making processes to create an environment where high employment and a higher standard of living are achievable by using the economic tools of fiscal and monetary policy. This course prepares students for the AP Exam in Macroeconomics.

AP MICROECONOMICS**CREDIT .5****Grade Level: 11, 12**

Microeconomics emphasizes how individuals make choices with limited resources. Students will examine concepts such as supply and demand, factors of production, roles of labor and management, the relationship between the environment and the economy, and the impact of the government on individual decision making processes. Students study the stock market as an investment option and trace various stocks through the semester using the Wall Street Journal and the Internet as resources. This course prepares students for the AP Exam in Microeconomics.

AP PHYSICS B**CREDIT .5****Grade Level: 11, 12***Pre-requisite: Physics strongly recommended but not required; Trigonometry*

AP Physics is a yearlong introduction to the algebra-based major areas of physics—mechanics, fluids, waves, optics, electricity, magnetism and modern physics (atomic and nuclear). Students learn to think like scientists: making predictions based on observations, writing hypothesis, designing and completing experiments, and reaching conclusions based on the analysis of data derived from these experiments. Students apply the concepts of physics to their everyday experiences and current events and issues in science and engineering. The course provides opportunities for guided inquiry and student-centered learning to foster critical thinking skills.

AP PSYCHOLOGY**CREDIT .5****Grade Level: 10, 11, 12***Pre-requisite: Biology*

This course is a survey of psychology that introduces students to the major topics of the field, the terminology and methodology of psychology, and the historical and current understanding of human behavior and thought-processes. Students learn to analyze human experiences like psychologists do and to apply what they have learned to the world around them. The focus of the course is to prepare students to take the Advanced Placement Psychology course administered by the College Board in the spring of each year.

AP SPANISH LANGUAGE**CREDIT 1.0****Grade Level: 12***Pre-requisite: Spanish III*

AP Spanish Language students practice perfecting their Spanish speaking, listening, reading, and writing skills. They study vocabulary, grammar, and cultural aspects of the language, and then apply what they've learned in extensive written and spoken exercises. By the end of the course, students will have an expansive vocabulary and a solid, working knowledge of all verb forms and tenses. The equivalent of a college-level language course, AP Spanish Language prepares students for the AP Exam and for further study of Spanish language, culture, or literature.

AP STATISTICS**CREDIT 1.0****Grade Level: 11, 12***Pre-requisite: Two years of high school algebra*

AP Statistics data analysis is dependent on the use of technology. Students should have access to computers that include software capable of doing data analysis. Students will be required to interpret output generated by statistical software programs. Students are not expected to learn how to use various statistical programs. In addition, one of the following Texas Instruments calculators is required, TI-83, TI-83+, TI-84, TI-84+, or a TI-89. The TI-83+ is the most popular calculator for AP Statistics. In most cases the calculator is sufficient, but the fundamental tool of data analysis is the computer.

AP U.S. GOVERNMENT**CREDIT .5****Grade Level: 11, 12***Pre-requisite: U.S. History*

This course will survey the complex subjects of U.S. Government and politics. We will analyze in some detail the processes and institutions (both formal and informal) through which the political system functions and policy decisions are made. This analysis will include the Constitutional structure of Government, participatory politics, the formal institutions of power, the extra constitutional influences on those institutions, and public policy and individual rights and liberties.

AP U.S. HISTORY**CREDIT 1.0****Grade Level: 11, 12**

AP U.S. History is a survey course with extensive chronological coverage on a broad variety of topics to include economic history, cultural and intellectual history, and social history, in addition to political-constitutional and diplomatic history. This course covers all of the material outlined by the College Board as necessary to prepare you to pass the AP U.S. History exam.

AP WORLD HISTORY**CREDIT 1.0****Grade Level: 11, 12**

AP World History covers the history of the world from 600 CE to the present with an introduction unit on the period before (covering around 8000 BCE to 600 CE). The course emphasizes “patterns of change” and the connections between the various world cultures throughout the time period being studied. Students will gain an understanding of the global experiences of humanity and be able to apply that knowledge to their growth and development as “world citizens.” The class has two major goals: (1) to prepare students to be successful on the AP World History exam, and (2) to provide students with an understanding on why the world developed the way it did.

LANGUAGE ARTS**ENGLISH 9****CREDIT 1.0****Grade Level: 9**

This course is designed as an introductory Language Arts course. The emphasis in this course is on the multiple types of Mass Media our students encounter on a daily basis. Emphasis is made on a variety of “real world” reading and writing skills.

ENGLISH 10**CREDIT 1.0****Grade Level: 10**

Students will learn to read critically with full comprehension across genres and be able to communicate through effective writing. Students develop critical reading, writing, viewing, listening, and speaking skills as they explore world literature, both classic and modern, and connect it to their respective cultures and their own lives. The NWREL rubric for the 6 + 1 Traits of Writing™ is used as a basis for writing instruction. Students learn new vocabulary, language, and literature skills in each unit. Students are taught thinking skills and are called upon to apply them in learning activities. Language and literature skills are taught with the purpose of personal application, so that students can use the skills to improve their own reading, writing, and speaking. As students complete this course, they will see the relevance that this course has in their daily life and future academic and career goals and begin making appropriate plans.

AMERICAN LITERATURE AND COMPOSITION CREDIT 1.0 Grade Level: 11*Pre-requisite: English 10*

American Literature and Composition is a comprehensive English class that combines a study of language, composition, oral communication, thinking skills, research, and literature. The literary focus is literature of America, beginning with the early 19th century and progressing to the modern era. The goal is to help students become effective independent thinkers, readers, writers, listeners, viewers, and speakers. Each unit combines appropriate skills in these areas with a specific literary focus. The course begins with a diagnostic writing assignment that will help teachers identify student strengths and weaknesses.

HUMANITIES AND COMPOSITION CREDIT 1.0*Pre-requisite: American Literature & Composition***Grade Level: 12**

This is a class that will prepare students for the skills they will need to be successful in college and in life. When they have completed the class, students will have acquired the reading and critical thinking skills necessary for understanding challenging new material, analyzing that material to deduce meaning, and applying what they have learned to our world. They will have the composition skills needed to communicate their understanding effectively to a variety of audiences. Students will read and analyze classic works of literature because these works contain literary qualities that merit study and provoke thinking, not because of a requirement to know a particular work or author. They will also look at modern and contemporary works as they examine all genres: plays, short stories, poetry, essays, and novels. Students will learn to apply critical literary terms as tools for learning, understanding, and communication. Learning activities include close reading, paraphrasing, discussions, essays, short answer exams, research papers, reflective journals, web quests, oral presentations, and others. The unit structure below identifies the main headings of the units only. Most units will include a combination of genres and activities. The structure to the class is not based upon a sequence of chronology, national origin, or genres. It is instead based upon the sequence that best supports the learning needs of the student.

JOURNALISM**CREDIT .5****Grade Level: 9, 10, 11, 12**

The basics of journalism, including laws and ethics, freedom of the press and the principles of journalistic writing, are powerful tools. In the early 1970s, two Washington Post reporters uncovered a scandal known as Watergate and eventually a president was forced to resign. In this course, you'll learn how to generate story ideas, conduct an interview and then put it all together as you write both news and sports stories. You'll also be introduced to feature writing and editorials. The course is the equivalent of a one-semester course.

MATH**PRE-ALGEBRA****CREDIT 1.0****Grade Level: 9, 10, 11, 12**

This course builds upon the essential skills of arithmetic as they apply to algebra. Real numbers and linear equations, linear inequalities, factoring, fractions, graphing and some elements of geometry are stressed.

ALGEBRA IA**CREDIT 1.0****Grade Level: 9**

The content of Algebra I will be spread out over a two year period. This course will spend the year going over the material of 1st semester from a typical Algebra I course.

ALGEBRA IB**CREDIT 1.0****Grade Level: 10**

The content of Algebra I will be spread out over a two year period. This course will spend the year going over the material of 2nd semester from a typical Algebra I course.

ALGEBRA I**CREDIT 1.0****Grade Level: 9, 10, 11, 12**

The purpose of this course is to allow the student to gain mastery in working with and evaluating mathematical expressions, equations, graphs, and other topics in a year long algebra course. Topics included are real numbers, simplifying real number expressions with and without variables, solving linear equations and inequalities, solving quadratic equations, graphing linear and quadratic equations, polynomials, factoring, linear patterns, linear systems of equality and inequality, simple matrices, sequences, and radicals. Assessments within the course include multiple-choice, short answer, or extended response questions. Also included in this course are self-check quizzes, audio tutorials, and interactive games. The course content has been appropriately chunked into smaller topics to increase retention and expand opportunities for assessment. With each topic, quizzes are presented to the student. Audio readings are included with every portion of content, allowing auditory learners the opportunity to engage with the course. Test pools and randomized test questions are utilized in quizzes as well as unit exams, ensuring that students taking the course will not be presented with the same exams. Additionally, the course includes additional practice activities (such as cloze activities), as well as pre-topic vocabulary lists, that introduce key vocabulary in English and in Spanish.

GEOMETRY**CREDIT 1.0****Grade Level: 10, 11, 12***Pre-requisite: Successful completion of both semesters Algebra I*

This is a comprehensive course featuring geometric terms and processes, logic and problem solving. The course includes topics such as parallel lines and planes, congruent triangles, inequalities and quadrilaterals. Various forms of proof are studied. Emphasis is placed upon reasoning and problem solving skills gained through study of similarity, areas, volume, circles, and coordinate geometry.

ALGEBRA II**CREDIT 1.0****Grade Level: 10, 11, 12***Pre-requisite: Algebra I*

In this course students will use their prior knowledge from previous courses to learn and apply Algebra II skills. This course will include topics such as functions, radical functions, rational functions, exponential and logarithmic functions, trigonometry, geometry, conic sections, systems of equations, probability, and statistics. Students will apply the skills that they learn in this course to real world situations.

TRIGONOMETRY – FALL SEMESTER**CREDIT .5****Grade Level: 10, 11, 12***Pre-requisite: Algebra I, Algebra II, and Geometry*

This course is designed to go through the topics of Trigonometry and the related real world applications of trigonometric topics. After students complete this course they will have an understanding of how trigonometry is used in day to day life and how it relates to other mathematical topics.

PRE-CALCULUS – SPRING SEMESTER**CREDIT .5****Grade Level: 10, 11, 12***Pre-requisite: Trigonometry*

This course is designed to go through the major topics of Pre-Calculus and to prepare students to move on to Calculus. After completing this course students will understand polynomial functions, polar coordinates, complex numbers, conic sections, exponential functions, logarithmic functions, sequences, and series.

CALCULUS**CREDIT 1.0****Grade Level: 11, 12***Pre-requisite: Pre-Calculus*

This course introduces limits, differentiation, and integration of functions. Students will find and evaluate finite and infinite limits graphically, numerically, and analytically. They will find derivatives using a variety of methods including The Chain Rule and Implicit Differentiation. They will use the First Derivative Test and The Second Derivative Test to analyze and sketch functions. Subsequently, students will find antiderivatives using a variety of methods including substitution. They will evaluate integrals using a variety of methods including numerical integration. They will understand and apply Riemann sums, definite integrals, and The Fundamental Theorem of Calculus. In particular, they will differentiate and integrate logarithmic, exponential, and inverse trigonometric functions. They will solve simple differential equations that can be solved by separation of variables and use them to solve applied problems. They will use integration to determine the area between two curves, volume, and surface area. Finally, they will apply integration to determine work, center of mass, and fluid force. The use of graphing calculator is considered an integral part of the course and students will use a graphing calculator throughout this course.

CONSUMER MATH I & II**CREDIT 1.0****Grade Level: 11, 12**

This comprehensive review and study of arithmetic skills apply to both personal and vocational business opportunities. Topics include whole numbers, fractions, percentages, basic statistics, and graphs. Practical applications in finance, taxes, budgeting, banking and home ownership are provided.

INTEGRATED MATH**CREDIT 1.0****Grade Level: 11, 12***Pre-requisite: Algebra I*

Students will build mathematical skills that will allow them to solve problems and reason logically. Students will be able to communicate their understanding by organizing, clarifying, and refining mathematical information for a given purpose; students will use everyday mathematical language and notation in appropriate and efficient forms to clearly express or represent complex ideas and information.

SOCIAL STUDIES**WORLD GEOGRAPHY****CREDIT 1.0****Grade Level: 11, 12**

This Geography course will examine a broad range of geographical perspectives covering all of the major regions of the world. Each region will be reviewed in a similar structure in order for students to more clearly see the similarities and differences between each region. Specifically, the course will explore where each region is located along with its physical characteristics, including absolute and relative location, climate, and significant geographical features. The exploration will then continue on to look at each region from a cultural, economic, and political perspective, closely examining the human impact on each region from these perspectives as well as how human activities impact the environments of the region.

WORLD HISTORY**CREDIT 1.0****Grade Level: 9, 10, 11, 12**

This course is a survey of world history from prehistoric to contemporary times. Students will learn about the socioeconomic, political, and ideological conditions of various time periods as they study historical events and cultural achievements of world regions. Using primary and secondary sources, they will utilize critical thinking and problem solving skills as they complete assignments establishing real-world connections. The course content has been appropriately chunked into smaller topics to increase retention and expand opportunities for assessment. With each topic, quizzes are presented to the student. Audio readings are included with every portion of content, allowing auditory learners the opportunity to engage with the course. Test pools and randomized test questions are utilized in quizzes as well as unit exams, ensuring that students taking the course will not be presented with the same exams. Additionally, the course includes additional practice activities (such as cloze activities), as well as pre-topic vocabulary lists, that introduce key vocabulary in English and in Spanish.

U.S. HISTORY I & II**CREDIT 1.0****Grade Level: 10, 11, 12**

This course is a survey of world history from prehistoric to contemporary times. Students will learn about the socioeconomic, political, and ideological conditions of various time periods as they study historical events and cultural achievements of world regions. Using primary and secondary sources, they will utilize critical thinking and problem solving skills as they complete assignments establishing real-world connections. The course content has been appropriately chunked into smaller topics to increase retention and expand opportunities for assessment. With each topic, quizzes are presented to the student. Audio readings are included with every portion of content, allowing auditory learners the opportunity to engage with the course. Test pools and randomized test questions are utilized in quizzes as well as unit exams, ensuring that students taking the course will not be presented with the same exams. Additionally, the course includes additional practice activities (such as cloze activities), as well as pre-topic vocabulary lists, that introduce key vocabulary in English and in Spanish.

U.S. GOVERNMENT**CREDIT .5****Grade Level: 11, 12**

U.S. Government is the study of the historical backgrounds, governing principles, and institutions of the government of the United States. The focus is on the principles and beliefs upon which the United States was founded and on the structure, functions, and powers of government at the national, state, and local levels. The principles of popular sovereignty, separation of powers, checks and balances, republicanism, federalism, and individual rights will be examined as will the roles of individuals and groups in the American political system. Students will compare the American system of government with other modern systems and assess the strengths and problems associated with the American system.

CIVICS**CREDIT .5****Grade Level: 10, 11, 12**

Civics can be expressed as a study in citizenship and government. This course will provide the learner with a basic understanding of civic life, politics, and government; a short history of its foundation and development, what rights the American government guarantees its citizens, and a survey of the duties and responsibilities American citizens must exercise in order to maintain their government. It will introduce the workings of our own and other political systems as well as the relationship of American politics and government to world affairs.

ECONOMICS**CREDIT .5****Grade Level: 10, 11, 12**

Economics is the study of how societies use limited resources to satisfy their unlimited wants and needs. It is the foundation of this course as students learn how fundamental decisions about the four factors of production; land, labor, capital, and entrepreneurship are made. Key topics covered include: law of supply and demand, saving, borrowing, and spending, the Federal Reserve System and the money supply, and the role of government in an open market economy.

PSYCHOLOGY**CREDIT .5****Grade Level: 10, 11, 12**

The purpose of this course is to investigate why human beings think and act the way they do. This is an introductory course and will broadly cover several areas. Students will be expected to expand and go further into the topics. Theories and current research will be presented for the student to critically evaluate and understand. Each unit will present the terminology, theories and research that are critical to the understanding of the topic. Assignments and assessments will be included as well as tutorials and interactive drills.

SOCIOLOGY**CREDIT 1.0****Grade Level: 10, 11, 12**

This course offers a study of human relationships in society. Additional emphasis is placed upon culture, social structure, the individual in society, societal institutions and social inequality.

CONTEMPORARY WORLD ISSUES CREDIT: 1.0 Grade Level: 9, 10, 11, 12

In this course students will compare governments, economies, cultures, and geography of the world. Emphasis will be placed on the civics, politics, economics, structures, processes and policies of United States and then compared with those of the international community. Students will use what they know and learn about the United States and the world to analyze current events and contemporary issues. Reasoning and research skills will be applied to the content throughout the course.

SCIENCE**BIOLOGY †****CREDIT 1.0****Grade Level: 9**

This course is an introduction to general biology and to the processes of scientific inquiry and thinking. It will include the fundamental principles of living organisms including physical and chemical properties of life, cellular organization and function, the transfer of energy through metabolic systems, cellular reproduction, the classification of living things, and the six kingdoms of life. The main focus is to present biological information in an understandable and straightforward way that will capture the students' interest dealing with up-to-date principles and concepts. The course content has been appropriately chunked into smaller topics to increase retention and expand opportunities for assessment. With each topic, quizzes are presented to the student. Audio readings are included with every portion of content, allowing auditory learners the opportunity to engage with the course. Test pools and randomized test questions are utilized in quizzes as well as unit exams, ensuring that students taking the course will not be presented with the same exams. Additionally, the course includes additional practice activities (such as cloze activities), as well as pre-topic vocabulary lists, that introduce key vocabulary in English and in Spanish. †Board of Regents Approval Pending

CHEMISTRY †**CREDIT 1.0****Grade Level: 10, 11, 12***Pre-requisite: Lower level science courses and Algebra I*

This course adheres closely to standards for the teaching of chemistry. It emphasizes the mathematical, theoretical and experimental basis of modern chemistry. Emphasis is placed on the use of theoretical and mathematical concepts to explain and predict chemical behavior. An overview of the significant learning objectives that are presented in this course include Measurement, Atomic Structure, Chemical Bonding, Conservation of Matter, Stoichiometry, Gases, Acids and Bases, Solutions, Chemical Thermodynamics, Reaction Rates, Chemical Equilibrium, Organic Nomenclature, Biochemistry, and Nuclear Chemistry. †Board of Regents Approval Pending

EARTH SCIENCE †**CREDIT 1.0****Grade Level: 10, 11, 12**

This introductory Earth Science course incorporates the body of knowledge and facts accumulated from people's observations of the Earth around them and the skies above them. This observed information of the earth has evolved over centuries into the branch of science known as earth science. Earth science has several different branches of study: the solid earth (geology), the earth's waters (hydrology and oceanography), the earth's atmosphere (meteorology), and the universe beyond earth (astronomy). Using careful observation and experimentation, students will learn to effectively analyze and evaluate the earth's natural phenomena and their causes, as well as, its relationship in the universe by focusing on the four major areas of study. The course content has been appropriately chunked into smaller topics to increase retention and expand opportunities for assessment. With each topic, quizzes are presented to the student. Audio readings are included with every portion of content, allowing auditory learners the opportunity to engage with the course. Test pools and randomized test questions are utilized in quizzes as well as unit exams, ensuring that students taking the course will not be presented with the same exams. Additionally, the course includes additional practice activities (such as cloze activities), as well as pre-topic vocabulary lists, that introduce key vocabulary in English and in Spanish. †Board of Regents Approval Pending

ENVIRONMENTAL SCIENCE †**CREDIT 1.0****Grade Level: 10, 11, 12**

This course is an upper level science course. Environmental Science is a multidisciplinary field that draws from all the sciences in addition to other fields. This course will help students better understand the relationship between humans and the world in which we live. Environmental science applies the principles of pure sciences such as biology, chemistry, ecology, and others. †Board of Regents Approval Pending

PHYSICAL SCIENCE †**CREDIT 1.0****Grade Level: 10, 11, 12**

This course provides students with instruction in the nature of science, including scientific processes, the scientific method, and scientific inquiry. It covers safety in the lab and the field, principles for conducting experiments, and the need for scientific communication. The course then covers the atomic nature of matter, classification of the elements, the periodic table, acids, and bases. Next, students are introduced to energy. They learn what energy is and the various forms of energy. They explore energy transformations and specifically discuss the production of electricity. The course discusses energy in motion, with emphasis on defining work, power, velocity, acceleration, forces, and gravity. Students learn about Newton's laws of motion and simple machines and have the opportunity to design their own machine using the basic principles of physics. Finally, the course discusses the composition and structure of the universe, the life cycles of stars, and space exploration.

†Board of Regents Approval Pending

PHYSICS**CREDIT 1.0****Grade Level: 10, 11, 12***Pre-requisite: Algebra II; Geometry is also recommended*

The goal of physics is to describe the physical world using a small number of basic assumptions, concepts, and equations. In this course, emphasis is placed on relating physics to the everyday world. Students explore the concepts involved with motion in one- and two-dimensions, forces, work and energy, momentum and collisions, circular motion and gravitation. They recognize the importance of the laws of thermodynamics. Students learn the characteristics of waves and describe the behavior of waves with emphasis on light and sound. They understand the relationship between electricity and magnetism. Finally, the students gain a simple understanding of atomic physics. Approximately 40% of the course involves virtual laboratory investigations. Some activities will require ordinary household items such as rulers, meter sticks, balls or marbles, string, paper and pencils. **Part 1** focuses on understanding motion. Students learn kinematic equations and apply them to various situations. They explore forces, work and energy and apply these concepts in the special case of circular motion. Heat and the laws of thermodynamics are covered. **Part 2** focuses on waves, in particular sound and light. The course then moves to understanding electricity and magnetism and the relationship between the two. It concludes with a basic exploration of atomic physics.

†Board of Regents Approval Pending

WORLD LANGUAGES**WORLD LANGUAGES****CREDIT 1.0****Grade Level: 9, 10, 11, 12**

During the first semester, students are introduced to two languages—Spanish and German. Students learn basic Spanish vocabulary in the first three units and then begin the German language. The second semester will continue the introduction to the German language and will finish up with an overview of Japanese.

SPANISH I**CREDIT 1.0****Grade Level: 9, 10, 11, 12**

Spanish I has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

SPANISH II**CREDIT 1.0****Grade Level: 9, 10, 11, 12***Pre-requisite: Spanish I*

Spanish II has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

SPANISH III**CREDIT 1.0****Grade Level: 10, 11, 12***Pre-requisite: Spanish II*

Spanish III has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

ADVANCED SPANISH**CREDIT 1.0****Grade Level: 11, 12***Pre-requisite: Spanish III*

This fourth year of Spanish is a continuation of the first three years. The student will continue to sharpen listening, speaking, reading, and writing skills through activities that are based on pedagogically proven methods of world language instruction. Throughout the material, students learn to express themselves using an ever increasing vocabulary, present-tense verbs, past-tense verbs, articles, and adjectives. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Culture is sprinkled throughout the course in an attempt to help the learner focus on the Spanish speaking world and their culture, people, geographical locations, and histories.

FRENCH I**CREDIT 1.0****Grade Level: 9, 10, 11, 12**

French I has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

FRENCH II**CREDIT 1.0****Grade Level: 9, 10, 11, 12***Pre-requisite: French I*

French II has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

FRENCH III**CREDIT 1.0****Grade Level: 10, 11, 12***Pre-requisite: French II*

This course is a continuation of the beginning level courses that will help the student continue learning the French language. In this course, the student will learn listening, speaking, reading, and writing skills through activities that are based on pedagogically proven methods of world language instruction. Throughout the material (feelings, transportation, work, countries, future, health, home, measurements, professions and personal history), students learn to express themselves using an ever increasing vocabulary, present, past, future, and conditional-tense verbs, articles, adjectives, and increasingly complex grammatical structures. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Culture is sprinkled throughout the course in an attempt to help the learner focus on the French speaking world and their culture, people, geographical locations, and histories. The course is aligned to the national Foreign Language standards.

ADVANCED FRENCH
Pre-requisite: French III

CREDIT 1.0

Grade Level: 11, 12

This course is a continuation of the beginning level courses that will help the student continue learning the French language. In this course, the student will learn listening, speaking, reading, and writing skills through activities that are based on pedagogically proven methods of world language instruction. Throughout the material (feelings, transportation, work, countries, future, health, home, measurements, professions and personal history), students learn to express themselves using an ever increasing vocabulary, present, past, future, and conditional-tense verbs, articles, adjectives, and increasingly complex grammatical structures. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Culture is sprinkled throughout the course in an attempt to help the learner focus on the French speaking world and their culture, people, geographical locations, and histories. The course is aligned to the national Foreign Language standards.

GERMAN I

CREDIT 1.0

Grade Level: 9, 10, 11, 12

German I has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

GERMAN II

CREDIT 1.0

Grade Level: 9, 10, 11, 12

Pre-requisite: German I

German II has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

GERMAN III

CREDIT 1.0

Grade Level: 10, 11, 12

Pre-requisite: German II

German III has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

ADVANCED GERMAN

CREDIT 1.0

Grade Level: 11, 12

Pre-requisite: German III

This fourth year of German builds upon the first three levels. Students will continue to sharpen their reading, writing, and listening skills as well as learn skills to think critically and express themselves on topics relevant to German culture. This fourth level will include authentic texts, current culture, and literature from Germany, Austria, and Switzerland. Every two units will be a special focus on a particular region or city from these areas; these will include such things as culture, tourism, and current events. Students will learn vocabulary, grammar skills, and cultural competency to express themselves on variety of topics in German. Cultural topics include: contemporary and classical music, expressing opinion, German history, transportation, family weekend travel, free time activities, youth and technology, multiculturalism, holidays, education, career, and travel in a foreign country.

JAPANESE I

CREDIT 1.0

Grade Level: 9, 10, 11, 12

Japanese I has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

JAPANESE II

CREDIT 1.0

Grade Level: 10, 11, 12

Pre-requisite: Japanese I

Japanese II has been carefully designed to meet the standards of the American Council on the Teaching of Foreign Languages (ACTFL). These standards call for a method of teaching that focuses on successful communication through speaking, writing, reading, and listening, as well as a thorough grounding in aspects of culture. Each unit embodies all of these standards in accordance with the theories described in this document. Unit activities blend different forms of communication and culture to ensure that the student meets all standards. Course strategies include warm-up activities, vocabulary study, reading, threaded discussions, multi-media presentations, self-checks, practice activities and games, oral and written assignments, projects, quizzes, and exams. Learning activities in each unit are focused upon a specific theme.

MANDARIN (CHINESE) I

CREDIT 1.0

Grade Level: 9, 10, 11, 12

This is a beginning level course that will introduce the student to a variety of areas of Mandarin Chinese (simplified). In this course, the student will learn listening, speaking, reading, and writing skills through activities that are based on pedagogically proven methods of world language instruction. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Culture is sprinkled throughout the course in an attempt to help the learner focus on the Chinese speaking world and their culture, people, geographical locations, and histories. The course is aligned to national Foreign Language standards.

MANDARIN (CHINESE) II

CREDIT 1.0

Grade Level: 9, 10, 11, 12

Pre-requisite: Mandarin (Chinese) I

This course is a continuation of a beginning level course that will introduce the student to a variety of areas of language learning. In this course, the student will learn listening, speaking, reading and writing skills through activities that are based on pedagogically proven methods of world language instruction. Throughout the five units of material (daily routine, animals, hobbies, the body, and descriptions), students learn to express themselves using an ever increasing vocabulary, present tense verbs, articles, and adjectives. Grammar is introduced and practiced in innovative and interesting ways with a variety of learning styles in mind. Culture is sprinkled throughout the course in an attempt to help the learner focus on the Chinese speaking world and their culture, people, geographical locations, and histories. The course is aligned to the national Foreign Language standards.

LATIN I

CREDIT 1.0

Grade Level: 9, 10, 11, 12

Latin I is an introduction to the basics of Latin grammar. It is intended to help you develop the skills necessary to translate basic sentences from Latin to English and English to Latin, and for reading simple connected passages of Latin prose and poetry. In the first semester, we cover the first 10 chapters of Wheelock's Latin grammar. In the process, you will learn how verb conjugations and noun declensions work in a highly inflected language, how to analyze the structure of Latin sentences and translate English sentences into well-formed Latin equivalents, and you will begin to read connected excerpts from ancient authors. In the second semester, we cover chapters 11 through 20 of Wheelock's Latin grammar. In the process, you will learn how verb conjugations and noun declensions work in a highly inflected language, how to analyze the structure of Latin sentences and translate English sentences into well-formed Latin equivalents, and you will begin to read connected excerpts from ancient authors.

LATIN II
Pre-requisite: Latin I

CREDIT 1.0

Grade Level: 9, 10, 11, 12

Latin II is the continuation of Latin grammar and a deeper study of Roman Mythology and history. The grammar in Latin II reviews topics from Latin I with expanding use of declensions, adjectives, adverbs, and cases. These skills will be used to translate longer Latin texts to English that require more knowledge of grammar rather than just vocabulary recall. The culture part of the course is an in-depth study of The Odyssey, the underworld, the rulers and kings of Rome, and entertainment.

ELECTIVES

Accounting A & B

CREDIT .5

Grade Level: 9, 10, 11, 12

Through this course, students will gain a foundation in the skills needed for college accounting courses, office work, and managing their own small businesses. These skills are necessary for any student planning to major in Business in college. In this Introduction to accounting, students who have never had prior accounting training are given an overview of the three forms of accounting: financial, cost, and management accounting. The course helps build an appreciation for the role of accounting in managing a profitable business. It covers the basic concepts, conventions and rules of the double entry system. It introduces techniques to analyze ratios from the balance sheet. The concept of ethics, integrity, and confidentiality and rigor are woven through all the chapters.

ART APPRECIATION

CREDIT .5

Grade Level: 9, 10, 11, 12

This one-semester course will introduce learners to the various forms of the visual arts, such as painting, sculpture, film, and more. Students will learn how to look at a work of art, identify and compare key characteristics in artworks, and understand the role art has played throughout history. Through hands-on activities, virtual museum tours, discussion, and research, learners will develop an overall appreciation for the art they encounter in their daily lives.

CAREER PLANNING

CREDIT .5

Grade Level: 9, 10, 11, 12

In this half-credit course, students will use an informative interactive process to explore career and life options that fit their individual interests, needs, and skills. Students begin with a thorough examination of their own interests, aptitudes, achievements, and personality styles. Then, they explore potential career matches, examining job market information, conducting informational interviews, and plotting training and educational paths. Along the way, students learn to craft effective resumes and letters, and to handle job interview situations.

DIGITAL PHOTOGRAPHY

CREDIT .5

Grade Level: 9, 10, 11, 12

In the Digital Photography lessons, students begin by learning general photographic concepts. Then composition skills are added to photographs and image-editing techniques are practiced. Students learn how to use layers, crop images, color and lighting concepts, hue and saturation, and exposures and special effects. Graphic design, artistic elements, and software skills are taught while producing graphic images. The concept of design as a manner of visual communication is carried throughout. Students build a portfolio of work and explore the fields of photography, graphic arts, advertising, and illustration.

DRIVER'S SAFETY/DRIVER'S EDUCATION **CREDIT .5** **Grade Level: 9, 10, 11, 12**

This course is a foundation of theory for responsible driving. Emphasis is placed upon mechanics of driving, execution of driving operations and rules of safe driving. This course is the equivalent of a one-semester course.

HEALTH

CREDIT .5

Grade Level: 9, 10, 11, 12

This Health course will help you develop the knowledge and skills you need to make healthy decisions that allow you to stay active, safe, and informed. The lessons and activities are designed to introduce students to important aspects of the main types of health: emotional and mental, social and consumer, and physical. Among other topics, you will explore nutrition, understanding and avoiding disease, first-aid and CPR, and human sexuality. You will find out about the components of a healthy lifestyle and ways to approach making healthy choices and decisions.

LIFE SKILLS

CREDIT .5

Grade Level: 9, 10, 11, 12

Life Skills is designed to increase student knowledge and ability in skills necessary for everyday living. The course emphasizes defining personal values, goal-setting and planning, making decisions and solving problems, evaluating information and dealing with media and peer pressure, communication and relationships, decision making, wellness and personal safety, and contributing to your community.

MUSIC APPRECIATION

CREDIT .5

Grade Level: 9, 10, 11, 12

This one semester course introduces students to the elements, instrumentation, and historical periods of music. Students will learn significance of surroundings and time periods and how they both influenced the music of the day. Students will listen to and evaluate several types of music, and will be assessed through projects, presentations, and exams on their knowledge and understanding of music.

NUTRITION AND WELLNESS **CREDIT .5**

Grade Level: 9, 10, 11, 12

This half credit course will introduce the student to an overview of good nutrition principles that are needed for human physical and mental wellness. Discussion of digestion, basic nutrients, weight management, sports and fitness, and life-span nutrition is included. Application to today's food and eating trends, plus learning to assess for reliable nutrition information is emphasized.

PERSONAL FINANCE

CREDIT .5

Grade Level: 9, 10, 11, 12

Understanding financial management concepts is an important life skill. From credit to insurance to taxes, it is imperative that students understand the consequences of their choices. Wisely managing their money, students become citizens that are more responsible. A thorough understanding of financial concepts, with practical application through activities and projects, will enable students to leave this course with applicable, useful skills for life. This course surveys the basic personal financial needs of most individuals and emphasizes the basics of budgeting, saving, checking, investments, credit, the wise use of insurance, and paying and preparing income tax returns. After high school, students face a world filled with possibilities, and the more knowledge they can acquire, the higher the probability that their financial future will be secure. Students taking this course will learn to better prepare for their financial futures.

PHYSICAL EDUCATION

CREDIT 1.0

Grade Level: 9, 10, 11, 12

This course focuses on the fundamental components and principles of fitness. The course examines safety guidelines, proper technique, and exercise principles such as the FITT. Students will assess their current level of fitness in relation to the five components of physical fitness: flexibility, cardiovascular health, muscular strength, muscular endurance, and body composition. Students will also learn strategies to help them begin, design, and maintain an exercise program to keep them fit for life.

TECHNOLOGY

COMPUTER APPLICATIONS

CREDIT 1.0

Grade Level: 9, 10, 11, 12

In this introductory course, students learn how to use Microsoft Word, Excel, and PowerPoint to create, analyze, edit, share and publish information for a variety of audiences and purposes. Through step-by-step tutorials and a project-based approach to learning, student become familiar with the key concepts and basic skills of today's information technology sector.

GAME DESIGN

CREDIT .5

Grade Level: 9, 10, 11, 12

This course will introduce students to the basic skills necessary for game design. They will study the various games in the industry and analyze their approach in terms design and development. The student will explore the processes and art of making game elements like story, levels, sound, user interfaces, and levels. This analysis will include an orientation to the gaming market and innovative techniques' impact on it. Finally, the student will merge all these elements into a functional prototype showing their understanding of the game design process.

WEB DESIGN**CREDIT .5****Grade Level: 9, 10, 11, 12**

This one-semester course introduces students to the mechanics and elements of web design. Students will learn the key elements of design and HTML, the concepts of planning and organizing websites, and documentation and copyright issues associated with website design. Students will progress through the course, engaging in a variety of project-based assessments to evaluate their understanding.

PROGRAMMING I (VB.NET) CREDIT .5**Grade Level: 11, 12**

This course presents basic programming and teaches the essential concepts of VisualBasic.net (VB.NET). As an introduction to VB.NET, students will see the basic uses of the programming language, its similarities to the English language (and others), and its flexibility as a programming language. The course helps participants understand the processes involved in software development and object-oriented programming. This is an introductory course that could lead to careers such as software engineer, developer, or game designer. The course participants will also complete a series of hands-on projects covering built-in data types, operators, control structures, classes, and objects.

PROGRAMMING II (JAVA) CREDIT .5**Grade Level: 11, 12**

Pre-requisite: Programming I (VB. Net)

This introductory-level course presents the understanding of JAVA and how to build a stand-alone application (such as a countdown clock or leap year indicator). This course is designed for first time learners who have very little programming background except that introduced in Programming I: VB.NET. The student will also learn the techniques of JAVA, how JAVA can be used in crossplatform programming, and the robustness of the JAVA program. At the end of the course, students will be able to write basic programs using JAVA and could pursue further instruction in any programming language.

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