# Course Descriptions

## Trigonometry

*Trigonometry* is a five-unit elective course for high school students who have successfully completed Algebra II.

The materials cover a development of trigonometry from right triangle trigonometry to oblique triangles and the polar plane. Throughout the course, students will develop trigonometric formulas and use them in real-world applications. The course seeks to help students expand their knowledge and skills so that they may achieve the following goals:

- Use trigonometry as a tool for indirect measurement.
- Model natural phenomenon with trigonometric functions.
- Perform operations with complex numbers using trigonometry.

In attaining these goals, students will begin to see the "big picture" of mathematics and understand how numeric, algebraic and geometric concepts are woven together to build a foundation for higher mathematical thinking.

## Vietnam Era

In this five-unit high school elective course, students will examine the Vietnam Era, a difficult time in U.S. history characterized by a long, unpopular war that claimed the lives of 58,000 Americans and some 3 million Vietnamese. Students will take a look at the history of the war. They will learn about why the United States got involved in Vietnam and why the United States ultimately failed to achieve its objectives.

The lessons in this course will help students to answer the following questions:

- Where is Vietnam?
- What is the history of United States involvement in Vietnam?
- What factors caused the Vietnam War?
- How did international events such as the Cold War play into the conflict?
- What was the U.S. military strategy?
- How were civilians and soldiers on both sides affected by the war?
- What was going on in the United States during the war?
- What was the outcome of the Vietnam War?

Upon completing this course, students will have a better understanding of the lessons we can learn from the experience of the Vietnam Era.

## Earth Science

Earth Science is a high school science course which explores the Earth's formation, structure, interacting systems, and place in the universe. The course uncovers concepts and processes found in:

- Astronomy – Earth's place in and interaction with space
- Geology – physical structure and dynamic processes
- Meteorology – atmosphere, weather and climate
- Oceanography – oceans and marine life

Students will have the opportunity to evaluate and explore many scientific concepts by participating in interactive lab sessions, conducting hands-on activities, and completing projects designed to improve the understanding of Earth and its dynamic functions.

The goals for this course include the following:

- Gaining increased awareness about where the Earth came from, how the Earth functions and sustains life, and how the many systems and processes of Earth rely on and balance one another
- Improving scientific evaluation skills and applying them to the study of Earth's physical geography and dynamic processes
- Discovering tools that allow for the study of Earth and its further exploration

## Integrated Math I

Integrated Math I is a mathematics course for high school students who have successfully completed either general mathematics for grade 8 or pre-algebra. This course is the first in a four sequence, integrated high school mathematics curriculum. The materials in this course integrate the topics of algebra, geometry, probability, and statistics.

Throughout the course, students will practice algebraic thinking and use algebra to model and solve real world problems. Students are exposed to several branches of mathematics and will explore ways in which each one can be used as a mathematical model in understanding the world. The course seeks to help students expand their knowledge and skills so that they may achieve the following goals:

- Gain an increased awareness of math as a life skill
- Understand how math is like a language, with a set of conventions
- Realize that while mathematical models are useful in studying the world, they have limits

In attaining these goals, students will begin to see the "big picture" of mathematics and how numeric, algebraic, and geometric concepts are woven together to build a foundation for higher mathematical thinking.

## Integrated Physics and Chemistry (IPC)

Integrated Physics and Chemistry is a course designed for high school students needing an entry level science course covering basic concepts found in chemistry and physics. Students working through IPC will begin to build understandings in physical science. Topics included in this study are:

- Matter
- Motion and Forces
- Work and Energy
- Electricity and Magnetism
- Waves

Throughout the course, students will have opportunities to observe simulations, investigate ideas, and solve problems – both on screen and away from the computer. The course seeks to help students expand their knowledge and skills so that they may achieve the following goals:

- Gain an understanding of foundational concepts in physics and chemistry
- Make careful observations of the world around them
- Analyze problems and solutions scientifically
- Integrate their science knowledge with real world situations at local, regional, national and international levels
- Appreciate the impact of science discovery on their everyday lives

## Twentieth Century American History

Twentieth Century American History is a history elective for high school students interested in examining American history during a time of change, continuity, and conflicts.

Throughout the course, students will examine America's economic, political, governmental, cultural, and technological growing pains during the 20th century. Students will grapple with the causes and effects of cooperation, competition, and conflict. This course seeks to help students develop social studies skills and expand their knowledge of history so that they may achieve the following goals:

- Understand that the interaction between continuity and change played a huge role in the events in twentieth century American history
- Realize that change happens through times of conflict and cooperation
- Develop an increased awareness of how history affects opportunities open to future
- generations
- Analyze the numerous ways new technologies and innovation transform society and culture

In attaining these goals, students will develop insight and perspective on the themes and patterns of history and a greater understanding of today's world.

## Psychology

Psychology is an introductory elective course for high school students. Throughout the course students will examine influences on human actions and beliefs, factors influencing behavior and perception, and basic psychological theories. Students will develop and apply their understanding of psychology through lessons and projects that require interaction and observation of others. The course seeks to help students expand their knowledge and skills so that they may achieve the following goals:

- Discover that the findings in Psychology influence many other disciplines;
- Understand that theories develop over time and require validation to be accepted; and
- Examine the use of various scientific methods and standards used in the study off Psychology.

## World Geography

This high school elective is designed to help students see themselves not only as citizens of their communities, their states, and their nations, but also as citizens of the world. New technologies such as aeronautics and electronic communications have brought the people of the world much closer together. People and places are interrelated and interdependent, making the understanding of geographic concepts more important than ever before.

Students of World Geography embark upon a journey around the world. They learn about the tools and technologies of geography and learn to use these tools to study their world.

Throughout the course, students are exposed to many different places and peoples in order to:

- Think about how the places they study impact the lives of those who live there,
- Understand how people adapt to and change their environments,
- Discover the relationships between physical geography and human geography, and
- Consider how people's actions, including their own, influence world events.

The geographic knowledge that students gain in this course will help them understand the relationships between people, places, and environments. Such understandings will help them interpret historic events and predict future developments.

## French I

*French I* is an entry-level high school foreign language course which explores the French language through communication, culture, connections, comparisons, and communities.

Course materials are designed to support students as they work to gain a basic proficiency in speaking, listening, reading, writing, and cultural competency. This course helps students expand their knowledge and skills to achieve the following goals:

- Use French in everyday situations in both oral and written communication.
- Use vocabulary necessary to function as a tourist in francophone countries.
- Demonstrate a basic knowledge of France and other francophone countries.
- Listen to and understand basic passages in French related to various themes.
- Read and understand basic passages in French related to various themes.
- Compare and contrast cultural aspects of francophone countries and the United States.

This course gives students an introduction into the mechanics of the French language, acquaints them with the cultural differences of francophone countries, and helps them gain a keen awareness of their own culture.

## French II

*French II* is a high school foreign language course that builds on and reviews skills and concepts taught in *French I* through further exposure to communication, cultures, connections, comparisons, and communities.

Course materials are designed to support students as they work to gain a basic proficiency in speaking, listening, reading, writing and cultural competency. This course helps students expand their knowledge and skills and achieve the following goals:

- Use basic French in everyday situations in oral and written communication.
- Use French vocabulary at the level appropriate to living in francophone countries.
- Demonstrate knowledge of France and other francophone countries.
- Listen to and understand passages in French related to various themes.
- Read and understand passages in French related to presented themes.
- Compare and contrast cultural aspects of francophone countries and the United States.

This course gives students practice using the mechanics of the French language, acquaints them with the cultural differences of francophone countries, and helps them gain a keen awareness of their own culture.

## Spanish I

*Spanish I* is an entry-level high school foreign language course that explores the Spanish language through communication, culture, connections, comparisons, and communities.

This course is intended to help students acquire a basic proficiency in speaking, listening, reading, writing, and cultural competency in order to achieve the following goals:

- Use Spanish in everyday situations in a basic manner and in both oral and written communication.
- Use vocabulary necessary to function as a tourist in Spanish-speaking countries.
- Demonstrate a basic knowledge of the Spanish-speaking world.
- Listen to and understand basic passages in Spanish related to various themes.
- Read and understand basic passages in Spanish related to various themes.
- Compare and contrast cultural aspects of Hispanic countries and the United States.

*Spanish I* introduces students to the mechanics of the Spanish language, acquaints them with the cultural differences of Hispanic countries, and helps them gain a keen awareness of their own culture.

## Spanish II

*Spanish II* is a high school foreign language course that builds upon skills and concepts taught in *Spanish I,* emphasizing communication, cultures, connections, comparisons, and communities.

Course materials are designed to support students as they gain a basic proficiency in speaking, listening, reading, writing and cultural competency in order to achieve the following goals:

- Use Spanish in everyday situations in both oral and written communication.
- Use vocabulary necessary to live in a Spanish-speaking country.
- Demonstrate an understanding of Hispanic countries.
- Listen to and understand passages in Spanish related to various themes.
- Read and understand passages in Spanish related to themes.
- Compare and contrast cultural aspects of Hispanic countries and the United States.

This course gives students practice using the mechanics of the Spanish language, acquaints them with the cultural differences of Hispanic countries, and helps them gain a keen awareness of their own culture.

## Pre-algebra

*Pre-algebra* is an introductory algebra course designed to prepare junior-high school students for *Algebra I*.

The course focuses on strengthening needed skills in problem solving, integers, equations, and graphing. Students taking pre-algebra will explore concepts taught in previous math courses at higher levels and in real world applications. Students will also practice algebraic thinking in order to model and solve real world problems. Additionally, the course exposes students to new skills and concepts that will help them in future math courses. *Pre-algebra* seeks to help students expand their knowledge and skills so that they may achieve the following goals:

- Gain an increased awareness of how math is a life skill.
- Understand how math is like a language, with a set of conventions.

In attaining these goals, students will begin to see the "big picture" of mathematics and how numeric, algebraic, and geometric concepts are woven together to build a foundation for higher mathematical thinking.

## U.S. History: Reconstruction to Present

*U.S. History: Reconstruction to Present* is a high school American history course that considers the major individuals and events that have influenced the character and direction of the United States since the Civil War.

The first semester covers a period from the era of compromises (about 1850) to the end of the Korean War one hundred years later. In this semester, students will learn about how America survived civil war to become an industrial giant and a world power.

The second semester takes students through the turbulent sixties and into the present day. Here, students encounter America's struggle to achieve equality for minorities and women. They will also observe how technology and international competition increase the complexity and pace of life for the average citizen.

This course is designed to help students arrive at the following understandings:

- American history is the story of the interaction between people, the environment, and ideas that formed America.
- America's character is a reflection of its diverse population.
- Choices made by people and nations impact and shape American history.
- America changes through times of conflict and cooperation.
- People have different views of America history depending on their perspective.

## Additional Notes

*U.S. History: Foundations to Present* and *U.S. History: Reconstruction to Present* offer students alternatives ways of studying American history. *U.S. History: Foundations to Present* is a survey course covering the full scope of American history while *U.S. History: Reconstruction to Present* begins just after the Civil War and continues to present day.

## 2010 Releases

### Mathematics 700

*Mathematics 700* is designed to prepare junior-high students for Pre-algebra. This course focuses on strengthening needed skills in problem solving, number sense, and proportional reasoning. It also introduces students to integers, equations, and geometric concepts.

Students taking *Mathematics 700* will explore concepts taught in previous math courses but at higher levels, applying the concepts to real world situations. Students will also use proportional reasoning in order to model and solve real world problems. Additionally, *Mathematics 700* exposes students to new skills and concepts that will help them in future math courses. In so doing, the course seeks to help students achieve the following goals:

- Gain an increased awareness of how math is a life skill.
- Understand how math gives us different ways to model or express the same thing.

In attaining these goals, students will begin to see the “big picture” of mathematics and how numeric, algebraic, and geometric concepts are woven together to build a foundation for higher mathematical thinking.

### Music Theory

*Music Theory* is a semester-length fine arts elective for high school students. The course requires no prior instrumental, vocal, or music theory study. Using the piano keyboard as a visual basis for comprehension, the course materials explore the nature of music, integrating these concepts:

- rhythm and meter
- written music notation
- the structure of various scale types
- interval qualities
- melody and harmony
- the building of chords
- transposition

Throughout the series of assignments, ear training exercises are interspersed with the bones of composition technique, building in students the ability not only to hear and appreciate music, but step-by-step, to create it in written form as well.

This highly interactive course culminates in the students producing original compositions, which while based on standard notation, demonstrate facets of personal expression. As the students’ ability to perform increases in the future, they will better understand music and therefore better demonstrate its intrinsic communication of emotion and ideas.

## Physical Fitness

*Physical Fitness* is a semester-length elective designed for high school students. The course focuses on the health benefits of regular physical activity and of a long term exercise program.

As students work through the course, they will learn about the many aspects of physical fitness including basic nutrition, the importance of flexibility, cardiovascular health, muscle and strength training, and realistic goal setting. Along the way, students will be required to maintain and submit an activity log in order to measure progress in course exercises as well as personal fitness goals.

Upon completion of *Physical Fitness* students should possess the knowledge and skills needed to:

analyze the key components of successful physical activity and use this analysis to determine if a program is reasonable and effective;

- describe the three main types of physical activity that should be included in a exercise regime and the health benefits of each;
- perform basic fitness exercises associated with the three main types of physical activity discussed in this course;
- identify the main motivational strategies that can be used to help the student continue in positive fitness habits once this course is complete.

## Personal Financial Literacy

*Personal Financial Literacy* is a semester-length elective designed to help high school students prepare for success in making financial decisions throughout their lives.

Topics in the course address the advantages of making sound financial decisions in both the short and long term, income planning, money management, saving and investing, and consumer rights and responsibilities.

Upon completion of *Personal Financial Literacy* students should possess the knowledge and skills needed to:

- find and evaluate financial information from a variety of sources when making personal financial decisions;
- understand the role of income, taxes, and research in developing and planning a career path;
- develop systems for managing money (including saving and investing) tied to personal financial goals;
- recognize and understand a consumer’s rights and responsibilities in a complex world market.

## AP Calculus (full year – for AP Calculus AB test)

### Prerequisites/Course Information

AP Calculus is designed to prepare you for the AP Calculus AB exam and subsequent college-level math courses. The course will focus on a balance of skills, conceptual understanding, and the use of technology.

Prior to taking AP Calculus, you should have successfully completed four years of high-school math: two years of algebra, one year of geometry, and one year of pre-calculus that includes trigonometry.

### Textbook

The textbook for the course is the seventh edition of *Calculus of a Single Variable* by Ron Larson, Robert Hostetler, and Bruce Edwards (Boston: Houghton Mifflin, 2002; ISBN 0-618-14916-3).

### Required Technology

You will need access to the following technologies for this course:

- a graphing calculator (TI-89 strongly recommended)

## AP US History

### Prerequisites/Course Information

In AP US history, students will develop a strong understanding of what kind of a people Americans are, where we came from, how we got here, and where we are going. Few courses in the high school curriculum are as rich in cultural value. The traditional political, economic, and social topics that you'll be studying in this course are supplemented by the textbook's coverage of religion, music, literature, and art.

The lessons in this course pay focus specifically on movements, developments, and events that have helped shape the United States from 1492 to 1877. Emphasis will therefore be placed upon such broad themes as wars and treaties, territorial expansion, immigration, the rise and fall of slavery, civil rights and the struggles of minorities, women's rights, the development of political parties, presidential politics, economic history, intellectual movements, religious movements, reform movements, social movements, labor history, and constitutional controversies.

### Texts

The textbook for the course is *The American Pageant: A History of the Republic*, Volume 1 by David Kennedy, et. al. (Houghton Mifflin, 2006 ISBN: 0618479287).