

High School Curriculum Guide 2007-2008

High School Humanities: *Modern World History and World Literature*

The high school humanities course covers the history of civilizations from the origins of humankind through modern society over two years, with an emphasis on understanding significant historical moments as well as the art and literature of the corresponding time periods. The B year course, including 2006-7, covers ancient, classical and medieval civilizations and the foundations of literature including *Gilgamesh*, *The Odyssey*, and Arthurian Legends. The A year course, including 2007-8, continues the investigation of world history from the Renaissance through the industrial revolution, and students engage in an exploration of world literature to complement this course by reading authors such as Shakespeare, Dickens, Achebe, Garcia Marquez, and Ibsen. From a historical standpoint, students examine the development of civilizations in order to understand the diversity of the human experience and types of societies. Additionally, students work to improve writing and editing skills, important abilities for high school students. They have the opportunity to write both creative and expository pieces with a priority placed on writing comprehensive analytical essays expressing their own ideas with clear prose. The ultimate goal is for students to feel confident analyzing texts and expressing well supported arguments in both oral and written forms. Assessment is based on a students' essay writing, group and individual projects, and tests. Guiding questions for the course include: What are the essential components of a civilization? What constitutes a "successful" civilization from political, economic, social, and cultural viewpoints? Why do some civilizations fail while others succeed? How have various civilizations treated "outsiders"? What literary themes are similar across time and culture; what literary styles are uniquely their own?

History

The text for this course is *World History: Connections to Today* along with supplementary primary documents and other works by scholars in the field. Class assignments related to history texts focus on uncovering the author's assumptions, viewpoint, and gaps in the research and allow students to hone their skills as critical thinkers. Students also participate in project-based tasks both collaboratively and individually in order to connect seminal moments in history to their own life experiences and current issues around the globe. Class is discussion-based in order for students to continue to develop their own skills for formulating an argument, providing evidence, and reshaping their own understandings of an issue. Students should expect to read each night using active reading strategies such as underlining/highlighting, note taking and outlining.

Literature

The literature of the world is as diverse as it is complex, drawing on common themes, cultural values, and varied styles. The study of literature in this course emphasizes the themes transcending time and culture while also identifying the ways that literature can

help readers to understand the uniqueness of a particular society. The world literature selected for the year often corresponds with the historical periods examined in social studies and also draws on major works of the literary canon. In addition to poems, short stories, and plays, texts may include: *Romeo and Juliet*, *A Tale of Two Cities*, *Love in the Time of Cholera*, and *Things Fall Apart*. While much of this literature is challenging, students advance their skills as critical readers in order to better understand both historical time periods and recurrent themes in literature. Students become familiar with the literary canon and hone skills for reading and interpreting poetry, prose, and plays.

Class discussions focus on identifying literary styles and writing conventions such as figures of speech. In addition to assigned work, students are expected to spend time each week reading a book of their own choice. Once a trimester, students have the opportunity to present on a book agreed upon by both student and teacher.

Writing

It is essential for students to feel confident expressing and defending their thoughts through written prose. Students engage in a variety of writing processes, including personal narrative, poetry, reader response, journaling, and analytical essays. Students review major grammar concepts and incorporate these concepts into their writing and editing processes so they can confidently polish their work. Students spend time in class revising their work, as well as that of their peers. They develop skills for writing clearly and concisely while also using advanced sentence structure. As students develop their own writing style, the course also emphasizes composing a persuasive essay with a clear thesis, use of evidence to build an argument, and a concluding understanding. Formal written work will range in length from one page to ten.

Mechanics and Skills

The nuts and bolts of writing are practiced and perfected in the high school years. Students continue to review skills learned in previous years and are expected to regularly incorporate correct grammar, advanced vocabulary, and careful editing in all written work. Vocabulary development in the high school focuses specifically on SAT preparation and Greek and Latin roots. Students develop skills to first learn new vocabulary words, recognize them in context, and, finally, use them in their own speaking and writing. *3 Dimensions of Vocabulary Growth* is the text used for vocabulary lessons. In addition, regular weekly lessons focus on reviewing major concepts of grammar. In particular, students review: phrases (verbals, prepositional phrases), misplaced and dangling modifiers, clauses, subject/verb agreement, complements, figures of speech, active/passive voice, use of comma and semicolon, types of sentences, and sentence combining. Students develop skills as editors of their own writing and that of their peers in order to immediately utilize these grammar concepts. Additionally, focus lessons are taught as common usage errors occur. The two primary texts used for grammar in this course are *Rules of the Game III* and *Editor in Chief: C1*. Studying grammar and vocabulary helps students develop their skills as readers, writers, and communicators.

High School Mathematics:

Geometry

The geometry course is designed to promote mastery in this new subject while reinforcing students' algebra skills. The primary text for the course is *Geometry, Seeing, Doing, Understanding 3rd ed.*, by Harold Jacobs. As the title suggests, students in this course learn by doing and come away from projects and assignments with a clear understanding of the "why" as well as the "how to" of geometry. The class continually uses algebra to solve geometric problems, thereby reviewing and strengthening algebra skills as they draw connections across the disciplines.

The course begins by examining deductive reasoning as the basis for geometric proof. Students learn classic constructions using a compass and straight edge and then add protractor and rulers to verify what they have deductively proved. Topics covered in the first half of the year include: direct and indirect proof; lines and angles; congruence; inequalities; parallel lines; and quadrilaterals. Additional topics explored in the second half of the year include: similarity, right triangle trigonometry, circles, regular polygons, geometric solids and non-Euclidean geometry.

Midyear, while continuing its regular study of geometry, the class meets for a special math/philosophy seminar. Students read sections of Euclid's *Elements* as they explore classical proofs and the basis of knowledge in this seminar.

While mastering the fundamentals of geometry, each student also further develops his/her own creative problem solving abilities. This objective is accomplished through a variety of challenging problems calling on varied techniques to reach solutions. Throughout, each student is encouraged to think and reason while drawing on all of his/her previous mathematics study.

Hands-on applied projects, such as building three-D-models and learning traditional measurement and surveying techniques, give students the opportunity to practice and develop skills such as estimation, technical drawing, statistical analysis and use functions and equations. Students prepare for standardized tests such as the SAT by practicing test-taking strategies, working on computational speed in daily warm-ups and completing a spiral review of algebra skills and material from previous years. This course challenges students to see mathematics in an entirely new way, as computation gives way to examining the relationships between shape and space.

Algebra II

The Algebra II course explores advanced topics in Algebra, while reviewing and strengthening student's previous understanding of this essential language of higher mathematics. The primary text for the course is *Algebra II*, published by Holt, Rinehart, and Winston. Students in this course learn new skills and implement these skills in a variety of realistic scenarios. In addition to regular problem sets and daily homework

assignments, the class completes long-term applied math projects, thereby reviewing and strengthening mathematical skills and drawing connections across the disciplines.

The year begins with an in-depth study of linear equations. Students review solving and graphing linear systems and deepen their knowledge as they explore absolute value and inequalities. Students are then introduced to functions, function notation and graphs of various functions. Over the course of the year, as students gain new skills in combining, evaluating, and writing functions, they are introduced to new and increasingly challenging functions such as quadratic, exponential, logarithmic and irrational and trigonometric functions.

While mastering the abstractions of algebra, each student also further develops his/her own creative problem solving abilities. This objective is accomplished through a variety of challenging problems calling on varied techniques to reach solutions. Throughout, each student is encouraged to think and reason while drawing on all of his/her previous mathematics study.

Students prepare for standardized tests such as the SAT by practicing test-taking strategies, working on computational speed in daily warm-ups and completing a spiral review of algebra and geometry skills from previous years. This course challenges students to see the further abstractions of algebra as tools for inquiry, prediction and modeling.

Pre-Calculus

The Pre-Calculus course reviews topics in algebra while furthering students' understanding of functions, trigonometry and conic sections in preparation for calculus. The primary resource for the course is *Pre-Calculus, A Multimedia Course*, published by Thinkwell. Students in this course use materials such as online tutorials, interactive homework assignments and videos to guide their study.

The year begins with an extensive review of algebra. Students review the basic operations in algebra that allow for equation manipulation and solving. After reviewing the basics of equations, students deepen and extend their knowledge in imaginary numbers, and absolute values as they tackle problems that require more complex solutions. Students then extend their knowledge of functions as they explore how the different sets of functions relate to each other. The study of functions leads to an in-depth study of trigonometry. To conclude the year, students examine several special cases such as conic sections, probability and sequences in their final preparation for calculus.

While preparing for the transition into the theoretical world of calculus, students also further develop their own creative problem-solving abilities. This objective is accomplished through a variety of challenging problems calling on varied techniques to reach solutions. Throughout, each student is encouraged to think and reason while drawing on all of his/her previous mathematics study.

Students prepare for standardized tests such as the SAT by reviewing test-taking strategies, practicing standardized tests and working on computational speed in daily warm-ups and completing a spiral review of algebra and geometry skills from previous years. This course challenges students to make the bridge to calculus as they come to a more complete understanding of function and begin to examine the concept of rate of change.

9th – 12th Grade Science: *Biology*

Science provides students with the tools to think about and investigate the world in which we live. Because of the personal relevance of biology to students' lives they quickly realize that science is not merely a collection of facts and theories.

The high school biology class is a combined laboratory and field course that surveys the major topics in biology while demanding that students apply biologic theories to inform their local studies. Using the local environment and Miller and Levine's *Biology* textbook as their primary resources, students explore the entire scope of a traditional biology course. By year's end, students have a deeper understanding and appreciation for life's complexities and diversity.

The year begins with an in-depth survey of biologic interactions within the local environment. The class studies the different plant zones, habitats, and species in our own backyard. With a survey of the local habitats complete, students apply universal concepts such as climax and succession, population growth, and energy flow to inform their understanding of ecosystems around the world. With that newfound understanding, students will participate in discussions of biodiversity and humans in local and global environmental interactions. As students learn to pose deeper and more challenging questions, they formalize their examination of how living organisms are classified, organized, live, reproduce, and evolve.

After students examine biology on a large ecological scale the course shifts focus and goes back to look at the roots of life. Their studies begin on the very small scale of biochemical compounds, the chemical basis of life. They learn that it is the combination of these tiny molecules that provides the structure of the cell. A particular focus is placed on understanding cell structure and function, as these are the building blocks of all living organisms. Students then study genetics and evolution as their studies return to questions of the diversity of life. This leads to systems of classification and a look at microorganisms. Students then complete a survey of the plant and animal kingdoms and study anatomy, physiology and the human body. In this final unit, students apply their theoretical knowledge of anatomy and physiology.

Science concepts are also integrated into other curriculum areas on a regular basis. Reading, writing, mathematics, and technology are highlighted as an integral part of science. Students are expected to write thoughtful and accurate lab reports and regularly present their findings to the class.

Experimentation and Lab Skills:

The unique characteristic of science is that it generates theories and laws that must be consistent with observations. Much of the evidence from these observations is collected during laboratory investigations. In biology, as in all sciences, students spend a significant amount of time developing the skills required to successfully conduct and report laboratory experiments. Throughout the process, students have opportunities to design investigations, engage in scientific reasoning, manipulate equipment, record data, analyze results, and discuss their findings. As they develop their skills, students will be able critique scientific investigations for quality by asking the following questions: Is your sample large enough? If you or another person were to repeat the experiment, would the same results be obtained? Are there different ways to test your question? Are there other ways that you could explain your results? These skills and knowledge are an important part of inquiry—the process of asking questions and conducting experiments as a way to understand the natural world.

Problem Solving Skills:

This course teaches students to become curious and engaged scientific thinkers. It gives them the ability to assimilate a large body of information and apply that knowledge to predicting outcome and solving problems. This is not a skill that comes easily to every student but one we work on diligently to ensure students meet with success. The method of solving problems by using basic mathematic and scientific principles combined with critical thinking is central to all branches of science.

Lab experiments, field studies, real world connections to other courses, and investigations into everyday life enlighten and excite students. In addition to studying the traditional biology curriculum, the class regularly examines relevant current events and topics in biology by reading articles in the *New York Times*, *Discover*, and *Scientific American*. Throughout, students are challenged to reexamine the living world around them through the lens of the principles of biology.

9th Grade Spanish

The highlight of the freshman year is a language immersion trip, where students travel to a Spanish speaking country to study Spanish and live with a host family. They are confident enough in their language skills to actively engage and seek out Spanish conversations, and their conversational abilities are strengthened through their language immersion studies and homestays. Students also have the opportunity to speak with native Spanish speakers in the community and interact with the Hispanic community for class projects.

In the classroom, students use technology for presentations and assignments, which may include pod casting, creating a *videonovela*, or creating an interactive lesson to be taught

to younger students. They also enjoy multileveled classes that create a conversational atmosphere. The class goal is to use Spanish whenever possible for instruction and conversation.

Students round out this level in Spanish understanding and using the present progressive, the preterit, and imperfect tenses. The ninth grade begins the *Exprésate II* textbook and reads a book, such as *Susanna and Javier*, in Spanish during the year.

The curriculum provides a foundation in the 5 C's of the National Standards for foreign language instruction:

- Communication in the target language
- Connections with other disciplines
- Comparisons that develop insight into the nature of language and culture
- Cultural experiences
- Communities – students learn how to communicate in a multilingual community

10th/11th Grade Spanish

Students at this level receive formal language training and explore other cultures and countries through the use of multi-media. Their level of understanding has grown to where they can pick out meanings in conversations with native speakers and comprehend more complex texts. They are confident enough in their language skills to actively engage and seek out Spanish conversations, and they have the opportunity to speak with native Spanish speakers in the community and interact with the Hispanic community for class projects. Students use technology for presentations and assignments, which may include pod casting, creating a *videonovela*, or creating an interactive lesson to be taught to younger students. The class goal is to use Spanish whenever possible for instruction and conversation. Students round out this level in Spanish understanding and using the preterit, imperfect, and future tenses and the subjunctive mood.

The curriculum provides a foundation in the 5 C's of the National Standards for foreign language instruction:

- Communication in the target language
- Connections with other disciplines
- Comparisons that develop insight into the nature of language and culture
- Cultural experiences
- Communities – students learn how to communicate in a multilingual community

Students at this level receive formal language training and explore other cultures and countries through the use of multi-media. Their level of understanding has grown to where they can pick out meanings in conversations with native speakers and comprehend more complex texts. This group uses the *¡Exprésate! Level II* textbook and reads short stories and poems by authors such as Pablo Neruda, Alfonsina Storni, and Vicente Riva Palacio.

Advanced Spanish

Students qualified for Advanced Spanish continue their studies in their junior and/or senior year through the study of Spanish literature, formal composition, and conversation. Seniors who are interested may arrange a term abroad to further their understanding of the Spanish language and culture. During their senior year, talented students may prepare and sit a national exam in Spanish language, such as the AP or SAT II Spanish exam.

9th – 12th Grade Visual Art

Art is a process that requires the combination of learned technical skills and the ability to think creatively and conceptually. Students have the opportunity to deepen their particular artistic interests by exploring a variety of disciplines. With a variety of artistic media that matches their interests and skills, students can find an avenue that individually suits their emotional and technical level of meaningful communication.

Upper School art is designed to give students exposure to more advanced techniques and materials. Students select from a wide range of offerings, including drawing, painting, sculpture, mixed media, printmaking, photography, ceramics, and digital imaging. Emphasis is placed on observational and technical skills, problem solving, personal style, and conceptual thinking. Students participate in formal and informal critiques of their work in the interest in understanding ‘how’ and ‘why’ individuals work in specific ways, not to compare and see who is the “best”. Discussion facilitates the formulation of personal preference and opinion in relation to appreciation and historical study, as well as allowing for the development of an “art dialect”.

The 9th, 10th and 11th grade artists begin their year with the design and production of a logo for a non-profit organization called The Ethiopian Family Fund. They will be working with a professional graphic designer, Dave Johnson, with the firm Icedesigns, a few times this trimester to help them successfully go through the process of creating a logo. While working on the logo, they continue with observational drawings of the world immediately around them here at school and on experiential trips. Building on previous experience, daily rituals and constant observation, students further develop their technical skills through a variety of media. Emphasis is placed on design elements, art principles, observational skills, creative problem solving, and original thought. Art history, criticism, and aesthetics are integral parts of each lesson. Sketchbook assignments in and out of class provide technical practice, idea generation and preparation for class projects/missions.

9th- 12th Grade Music

Taking advantage of the Rock and Roll Academy studio space, the students have the chance to play all the instruments and carve out their own creative space. A “learn by doing” approach encourages students to share their knowledge with each other, completing the essential loop of true understanding. Listening skills, developing confidence and gaining a creative grasp of technology are primary goals. We continue our cultural and historical approach to learning American music, coming to recognize major contributors and significant stylistic periods. We then bring this understanding, feel and technique for the music into performance and feel the power and creative joy of making and sharing this music. Students commonly perform various musical selections on a variety of instruments gaining invaluable musical experience as well as experiencing the teamwork required to succeed in a performance ensemble. For this age group, performance is also an opportunity to serve as musical role models for the rest of school.

9th-12th Grade Physical Education

The goal of the ninth through twelfth grade physical education program is to provide students with physically enhancing and rewarding experiences outdoors that contribute to a lifetime of healthy and active endeavors. Students focus on building general fitness and coordination to improve athleticism and on solidifying their foundations in various “lifetime” sports. Sound work ethic and sportsmanship is expected and graded. Ninth through twelfth graders participate in sport units such as soccer, ultimate frisbee, and others of their choice. Students use the skills and concepts of heart rate monitoring, student-led yoga and stretching, breathing, warm-up and cool-down and endurance to encourage the synthesis of mind and body. Students train for winter sports through agility and strength exercises. Classes take place on the Lawson Hill field throughout the school year and in classrooms when weather dictates. Like all disciplines at the Telluride Mountain School, students are expected to uphold the core values of responsibility, respect, integrity, and love of learning.