

**GALILEO ACADEMY OF SCIENCE & TECHNOLOGY**

**1150 Francisco Street  
San Francisco, California 94109  
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**10TH GRADE  
COURSE SELECTION SHEET  
FALL 2011-2012**

**Course #    Course**

**ENGLISH:**

1.    1026    **English 10 1 and 2**  
The Ethnic Experience in Literature is designed to introduce the student to a variety of ethnic literary texts coming from writers from a variety of ethnic groups (including Native-American, Asian American, Haitian-American, and Jewish-American writers, and Latin-American) whose particular American experiences have shaped a truly diverse American identity.
- 1042    **English 10 Honors 1 and 2**  
1054    **English 10 .6**  
Specially designed academic instruction in English.
- 1374    **ELD/English Language Development 1 (Beginning)**  
1376    **ELD/English Language Development 3 (Intermediate)**  
1378    **ELD/English Language Development 5 (Early Advanced)**  
1380    **ELD/English Language Development 7 (Advanced)**

**SOCIAL STUDIES:**

2.    1510    **Modern World 1 and 2**  
The first semester of this course examines the ideas and the events which shape the modern world with emphasis on the later 18th, 19th and 20th centuries. The second semester approaches world history, economics, culture and current events from a regional point of view.
- 1511    **Modern World 1 and 2 Honors**
- 1720    **World History AP**  
The AP World History Course is designed to create an understanding of how global processes and the interactions of different societies have created the complex world we live in today. While the class introduces selective factual knowledge, equally important is the development of analytical skills.
- The course is presented in five units that measure the historic advancement of all areas of the world. We study the foundations and early complex societies (to 500 B.C.E.), early classical societies (including Mediterranean empires and the unification of China), the post-classical era (the influence of religions, philosophy, trade and cross-cultural interaction), global interdependence (exploration and colonialism) and modern history (revolution, industry and global realignment).
- The course also teaches “Habits of Mind” or an understanding of themes that include human-environmental interaction, development of cultures, politics, economic systems and social structure. The ability to read and write historically is necessary for college level work.
- 1514    **Modern World 1.6 and 2.6**  
Specially designed academic instruction in English.
- 1519    **Modern World 1.8C and 2.8C**  
Primary language support in Chinese.
- 1521    **Modern World 1.8S and 2.8S**  
Primary language support in Spanish.

**PHYSICAL EDUCATION:**

3.    2540    **P.E. 3**  
The course is a continuation of P.E. 1 and 2 with emphasis placed on learning advanced skills in activity areas.
- 2921    **JROTC**  
PE must be taken as an Independent Study course.

(OVER)

**MATHEMATICS:**

4. 2110      **Geometry 1 and 2**  
 Students in this course will study the California Geometry Standards. The following topics: logic and reasoning, angle relationships and angle relationships with transversal through parallel lines, angle measurement and construction, congruence and similarity, proofs, angles of polygons, properties of polygons, perimeter, area,
- 2111      **Geometry 1 and 2 Honors**  
 This one year course covers the Geometry California State Standards in a more in-depth approach than the Geometry course. Students will regularly deal with more challenging problems, including complex word problems and more emphasis on geometric proofs. New topics are approached more rapidly and immediately adopted. Topics are studied in greater detail. Precise terminology is emphasized and not explained on tests. Minimal review of previously learned algebra, other topics or technology is provided. Students are expected to review on their own.
- 2113      **Geometry 1.6 and 2.6**  
 Specially designed academic instruction in English.
- 2115      **Geometry 1.8C and 2.8C**  
 Primary language support in Chinese.
- 2117      **Geometry 1.8S and 2.8S**  
 Primary language support in Spanish.
- 2130      **Advanced Algebra 1 and 2**  
 Students in this course will continue their study of functions and their graphs: linear, quadratic, exponential, logarithmic, rational and irrational. This includes transformations of graphs, representing functions in multiple ways and understanding the connections among the representations and using functions to model real-world situations. They will also study systems of linear functions, systems of linear inequality, solving polynomial and rational equations, sequences and series, and probability and statistics.
- 2131      **Advanced Algebra 1 and 2 Honors**  
 This one year course covers the Algebra II California State Standards in a more in-depth approach than the Algebra II course. Students will regularly deal with more challenging problems, including complex word problems. New topics are approached more rapidly and immediately adopted. Topics are studied in greater detail. Precise terminology is emphasized and not explained on tests. Minimal review of previously learned algebra, other topics or technology is provided. Students are expected to review on their own.
- 2147      **Adv. Algebra 1.6 and 2.6**  
 Specially designed academic instruction in English.
- 2144      **Adv. Algebra 1.8C and 2.8C**  
 Primary language support in Chinese.
- 2143      **Adv. Algebra 1.8S and 2.8S**  
 Primary language support in Spanish.
- 2015      **Advanced Algebra Finite 1 and 2**  
 This course is an alternative for those who want to continue their math instruction beyond Geometry, but don't necessarily need to prepare for advanced courses such as pre-calculus or calculus. There is extensive use of scientific calculators throughout the course. In addition to units in the text, there are units which involve using computers such as the statistics unit and the computer applications unit. There is also a unit on banking and finance. Many of the units parallel the regular Advanced Algebra curriculum, but there is a little more time spent on discrete areas of mathematics than in the regular Advanced Algebra course.
- 2017      **Advanced Algebra Finite .6**  
 Specially Designed Academic Instruction in English.

**SCIENCE:**

5. 3012      **Biology AP (Advanced Placement)**  
 This course is the equivalent to an introductory college level biology course. The course differs from 9<sup>th</sup> grade Biology in respect to the textbook used, range and depth of topics covered and effort required of students. In the spring, a cumulative AP Biology exam is administered by the College Board. Successful completion of the exam could lead to college credit.  
**Students must apply with the instructor in order to take AP Biology.**  
*Fulfills one year of UC-d lab life science requirement*

- 3210     **Physiology 1 and 2**  
This course examines the structure and function of the human body.  
Career Path – Biological Science and Health.  
*Fulfills one year of UC-d lab life science requirement*
- 3196     **Physiology 1.6 and 2.6**  
Specially designed academic instruction in English.
- 3056     **Chemistry 1 and 2**  
This course reflects the California standards in chemistry that include: atomic / molecular structure, nuclear chemistry, chemical bonds, kinetics, thermodynamics, gases, solutions, chemical reactions, equilibrium, stoichiometry.  
*Prerequisite:* C or higher in 1<sup>st</sup> year algebra D or higher in Chemistry 1 required to continue into Chemistry 2 (or instructor's consent)  
*Career Path – Environmental Science (Preparation for AP), and Health.*  
*Fulfills one year of UC-d lab physical science requirement*
- 3073     **Conceptual Chemistry 1 and 2**  
This is a general introductory chemistry course that covers all of the chemistry standards, but does not emphasize mathematics.  
*Career Path – Environmental Science (Preparation for AP), and Health.*  
*Fulfills one year of UC-d lab physical science requirement*
- 3057     **Chemistry 1 and 2 Honors**  
This course reflects the California standards in Chemistry (see Chemistry). Course goes into more depth and higher workload (including laboratory) than regular Chemistry.  
C or higher in Honors Chemistry 1 required to continue into Honors Chemistry 2 (or instructor's consent)  
*Prerequisite:* B (or higher) in 1<sup>st</sup> year algebra *and* recommendation of current science teacher (or consent of instructor)  
*Career Path – Environmental Science (Preparation for AP), and Health.*  
*Fulfills one year of UC/CSU-D lab physical science requirement and earns extra honors credit*
- 3059     **Chemistry 1.6 and 2.6**  
Specially designed academic instruction in English.
- 3075     **Environmental Science 1 and 2**  
Environmental Science is an interdisciplinary course, designed to further students' understanding of ecological interactions, environmental problems, and their possible solutions. Topics of concern include population growth, pollution, waste disposal, soil conservation, food production, pesticide hazards, wilderness and wildlife conservation, environmental laws, and ethics.  
*Career Path – Environmental Science.*  
*Fulfills one year of UC-g elective requirement*
- 3085     **Environmental Science 1.6 and 2.6**  
Specially designed academic instruction in English.
- 3101     **Environmental Science AP (Advanced Placement)**  
This course offers students a unique and exciting opportunity to explore the natural world through hands on learning and weekly trips to the Presidio National Park. While working side-by-side with professional scientists, students will gain valuable workplace and life experience. Students participating in the class will earn an extra five high school science credits and at least one college credit from City College.  
*Career Path – Environmental Science.* This course prepares students to take the national advanced placement exam, which if passed successfully allows them to obtain college credit for the course.  
*Prerequisite:* Completion of Environmental Science OR completion of Biology with a C or better AND a letter of recommendation from a teacher  
*Fulfills one year of UC-d lab physical science requirement*

(OVER)

3270     **Physics 1 and 2**  
Students study the most central concepts of physics including mechanics, the wave model, electromagnetism, special relativity, geometric optics and the conservation laws (mass, energy, and momentum).  
*Prerequisites:* C or higher from prior math class *and* completion of or concurrent enrollment in Advanced Algebra *or* consent of instructor  
*Fulfills one year of UC-d lab physical science requirement*

3273     **Physics 1.6 and 2.6**  
Specially designed academic instruction in English.

3295     **Physics 1 and 2 Honors**  
Students study the most central concepts of physics including mechanics, the wave model, electromagnetism, special relativity, geometric optics and the conservation laws (mass, energy, and momentum). Course goes into more depth and higher workload than regular Physics.  
*Prerequisites:* B or higher from prior math class *and* completion of or concurrent enrollment in Advanced Algebra *or* consent of instructor  
*Fulfills one year of UC-d lab physical science requirement*

3021     **Biotechnology and Genetics Program**  
***Principles of Biotechnology 1***  
Are you curious about why you look like your parents? Do you know how bacteria can make medical drugs for us? Why is biotechnology a hot topic in the news? How can you make bacteria glow in the dark? We have the answers and you are invited to join our study program!  
*Fulfills one year of UC-d lab life science requirement*

Fall Semester Program  
Basic Microbiology Techniques  
Basic Molecular Biology Concepts  
DNA Purification and Manipulation  
Human Genetics (Probability and Genetic Disorders)  
Spring Semester Program  
PCR  
Bacteria Transformation  
Ethics in Genetic Engineering  
Job Shadowing Day at Genentech  
Come and explore the endless possibilities of tomorrow's science!  
*Career Path - Biological Science and Health*

3022     ***Principles of Biotechnology 2***  
*UC-d lab life science requirement pending approval process of course*  
**Fall Semester**  
Bacterial Transformation  
Human Immunology  
Protein Structure & Function  
**Spring Semester**  
Protein Isolation & Chromatography  
Immunology tests  
ELISA & Western Blot

**ELECTIVES:**

6.     2446     **Computer Applications**  
In this first of three Academy of Information Technology (AOIT) courses, students will explore topics including protocols, networking, servers, and programming. A wide variety of languages (including HTML, JavaScript, and Scratch) will be used with the goal that students become fluent and flexible computer users. In terms of Galileo's school goals, this course teaches lifelong, adaptive learning. Since technology will continue to change over time, those who learn now to teach themselves new skills will be at an advantage. No previous computer experience is required. This course is a prerequisite for introduction to Computer Programming. Students who find they enjoy creative thinking and technology should plan to continue in this sequence.

6051

**Web Design: Computer Art 3-4 Digital Arts & Media Pathway**

Students build websites using Photoshop, HTML code, Cascading Style Sheets, Adobe Dreamweaver and Flash for animations. By the end of fall semester, each student will be able to launch a simple web portfolio. By the end of spring semester, students will produce more complex large-scale web projects. Aside from computer skills, this is a class in design and communication.

9808

**AVID 2 (Advancement Via Individual Determination)**

Intensive academic support course designed to introduce students to a college preparatory curriculum including exposure to college campuses and guest speakers. See Ms. Choi-Dea in counseling if you have any questions.