### SCIENCE DEPARTMENT COURSE DESCRIPTIONS
(ALL COLLEGE PREP COURSES ARE DENOTED WITH A “P”)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Earth Science <strong>P</strong></td>
<td></td>
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<tr>
<td>Conceptual Physics <strong>P</strong></td>
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<tr>
<td>Biology <strong>P</strong></td>
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<tr>
<td>Honors Biology <strong>P</strong></td>
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<tr>
<td>AP Biology <strong>P</strong></td>
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<tr>
<td>Chemistry <strong>P</strong></td>
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<tr>
<td>Honors Physics <strong>P</strong></td>
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<tr>
<td>Physical Anthropology <strong>P</strong></td>
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<tr>
<td>Physiology <strong>P</strong></td>
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<td>Honors Physiology <strong>P</strong></td>
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<tr>
<td>Crime Science</td>
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<tr>
<td>Health</td>
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<tr>
<td>Integrated Science 1 <strong>P</strong></td>
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Two 18-week science courses (20 units) are required for graduation. The district requires that one course should be a physical science and the other should be a life or biological science. All science classes offered in the science department are 18-week courses. Health is a 9-week course and is required for graduation. Health and Crime Science do not count toward the two-term science requirement.

### INTEGRATED SCIENCE 1 (5 cr. Physical and 5 cr. Life)  
Integrated Science 1 provides the student with a comprehensive view of science concepts and principles, as well as offering the student numerous opportunities to develop science process skills. Students will be introduced to biology, chemistry, earth science, and physics, with emphasis on the California State Content Standards for Integrated Science 1. This course provides a foundation to all of the other science courses at Del Campo High School.

### BIOLOGY  
Biology is a California Standards-based college-prep, laboratory science course. Students study a wide range of topics, including laboratory investigation, cells, genetics, evolution, ecology, and physiology.

### HONORS BIOLOGY  
*Prerequisite: Geometry and teacher recommendation.*  
Honors biology is a California Standards-based college-prep, laboratory science course and covers the material in greater detail than Biology, requiring significantly more mathematical and analytical skills. Students study a wide range of topics, including investigation, cells, biochemistry, evolution, ecology, and physiology.

### AP BIOLOGY  
*Prerequisite: "C or better in Chemistry*  
This course conforms to the guidelines set forth by the College Board for all AP Biology courses and covers all the topics in the AP Biology Course Description. These include biochemistry, cell structure and function, metabolism, genetics, molecular basis for inheritance, DNA technology, evolution, microbiology classification, plants, animals, animal physiology, and ecology. All these topics are integrated throughout the curriculum using the eight major themes from the AP Biology Curriculum Requirements. This is a laboratory class in which students are expected to use collected data to solve biological problems.

### CHEMISTRY  
*Prerequisite: “C" or better in Algebra 1 and Biology.*  
This California Standards-based course is recommended for students considering any college major having physics or chemistry requirements, including the biological sciences. Chemistry topics include the periodic chart, atomic structure, gas laws, acid-base, and stoichiometry. Laboratory work is an essential part of this course.
HONORS CHEMISTRY
10 11 12
Prerequisite: “B” or better in Geometry, concurrent enrollment in Algebra 2 Conceptual Physics or teacher recommendation.
Subject matter covered in this California Standards-based course is the same as that covered in chemistry except there is a stronger emphasis placed upon problem solving and laboratory work. Computer acquisition/analysis of laboratory data is introduced. Students should know excel spreadsheet.

AP CHEMISTRY 11 12
Prerequisite: “C” or better in Chemistry or Honors Chemistry, “C” or better in Algebra 2
AP Chemistry is the equivalent of the general chemistry course usually taken during the first year of college. Topics covered include atomic theory and structure, chemical bonding, nuclear chemistry, gases, kinetic molecular theory, liquids and solids, solutions, reaction types, stoichiometry, equilibrium, kinetics, thermodynamics, chemical reactivity, the periodic table, and an introduction to organic chemistry. Laboratory work prepares students for a sophomore-level chemistry course in college. Students enrolling in this class are required to take the AP exam at their own expense.

EARTH SCIENCE 11 12
Earth Science is a California Standards-based multi discipline college-prep class. Students will use the scientific method to observe and analyze Earth’s place in the universe (Astronomy, the creation of our solar system and Earth), dynamic Earth processes (plate-tectonics, volcanoes, earthquakes, and rocks), energy in the Earth system (climate), biogeochemical cycles (water, Nitrogen, Carbon- Oxygen cycles), structure and composition of the atmosphere (Green house effect and Ozone), and California geology.

HONORS PHYSICS 11 12
Prerequisite: C or better in Algebra II, concurrent enrollment in pre-calculus or teacher recommendation.
Honors Physics is a rigorous California Standards-based course which covers the same laws of physics covered in Conceptual Physics but with a much stronger emphasis on mathematical problem-solving and computer acquisition/analysis of laboratory data.

PHYSIOLOGY 10 11 12
Prerequisites: C or higher in Biology
Physiology is based on the California State Standards for Biology and is an advanced biological study of the anatomy (structure) and physiology (function) of the major systems of the human body and is of value to all students who want to understand their own body structure and functioning. It is particularly beneficial to anyone who plans to take a similar course at the college level. Laboratory investigations include the detailed dissection of a fetal pig for a comparative anatomical study of the human body.

HONORS PHYSIOLOGY 11 12
Prerequisite: B or higher in Biology and teacher recommendation.
This honors version of Physiology is identical to the non-honors version but has the additional requirement of an extensive research paper beyond all of the regular requirements.

CRIME SCIENCE 11 12
Prerequisite: Anatomy/Physiology or Chemistry concurrently
This course depicts the role of the forensic scientist in the criminal justice system and attempts to make science relevant and pertinent to the interests and goals of the student. Forensic science offers the knowledge and technology of science needed to compare physical evidence related to a crime scene.
PHYSICAL ANTHROPOLOGY

Prerequisite: Successful completion of Algebra and Biology
This college-prep, lab science course provides students with a detailed understanding of the development of the human species as biological organism, as well as a complex and diverse group of changing cultures. Students will analyze human and primate physiology, genetics, social structure, and human change over time. Students will use Laboratory skills and critical thinking skills to evaluate critical and stimulating topics such as bio-technology ethics, cultural-origin, and evolution.

HEALTH
This class takes a proactive and holistic approach in teaching health and wellness. Physical, mental – emotional, intellectual, social and spiritual wellness issues will be emphasized in regards to alcohol and drugs, tobacco issues and family life/sexuality education. The importance of good decision making and communication skills are also addressed. Lifestyle diseases such as heart disease, cancer, diabetes and obesity will also be covered. Health is a one semester class and a graduation requirement.