

SCIENCE DEPARTMENT

General Science - 9 A/B (P)

Grade 9: *Concurrent* enrollment in 2-year Algebra *or* Algebra I.

Biology A/B (P)

Grade 9: Successful completion of 8th grade science and math courses (B average), *recommended* concurrent enrollment in Geometry.

Grades 10, 11, 12: Successful completion of General Science A/B (D average).

Honors Biology A/B (H)

Grade 9: Successful completion of 8th grade science and math courses (A average), *recommended* concurrent enrollment in Geometry.

Grades 10, 11, 12: Successful completion of General Science A/B (B average).

General Science - 10/11/12 A/B (P)

Not for Grade 9

Grades 10, 11, 12: Concurrent enrollment in 2-year Algebra *or* Algebra 1 *or* higher math class.

**9th Grade Teacher
Recommendation**

Chemistry A/B (P)

Grade 10, 11, 12: Successful completion of Biology A/B (B average) *or* Honors Biology A/B (C average). Successful completion of Algebra I A/B *or* 2-year Algebra C/D (B average). *Concurrent* enrollment in Geometry, *or* successful completion of Geometry (B average).

Geology A/B (P)

Grade 10, 11, 12: Successful completion Algebra I A/B (C average). Successful completion of Biology A/B *or* Honors Biology A/B (C average).

[SUMMER ASSIGNMENT](#)

Marine Science A/B (P)

Grade 11, 12: Successful completion of Biology A/B (C average).

Physics A/B (P)

Grade 11, 12: Successful completion of Algebra II A/B (B- average).

Physiology & Anatomy A/B (P)

Grade 11, 12: Successful completion of Biology A/B (C average), *recommended* successful completion of Chemistry A/B (C average).

AP Biology A/B (AP)



Grade 11, 12: Successful completion Biology A/B (B average) *or* Honors Biology A/B (C average). Successful completion of Chemistry A/B (B average).

[SUMMER ASSIGNMENT](#)

AP Chemistry A/B (AP)

Grade 11, 12: Successful completion of Chemistry A/B (B average).

[SUMMER ASSIGNMENT](#)

AP Environmental Science A/B (AP)



Grade 11, 12: Successful completion of Biology A/B (B average) *or* Honors Biology A/B (C average). Successful completion of Chemistry A/B (C average) *or concurrent* enrollment in Chemistry.

[SUMMER ASSIGNMENT](#)

AP Physics I A/B (AP)

Grade 11, 12: Successful completion of Chemistry A/G *or* Physics A/B (B- average). Successful completion of Math Analysis (B- average). *Recommended* concurrent enrollment in Calculus.

[SUMMER ASSIGNMENT](#)

**PHYSICAL
SCIENCE**

**LIFE
SCIENCE**



COURSE TITLE: Biology A/B (H)

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long			<i>Graded on a 5-point GPA scale.</i>
GRADE LEVEL:	<input checked="" type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12	
PREREQUISITE:	<i>9th: Successful completion of 8th grade science and math courses (A average), recommended concurrent enrollment in Geometry.</i> <i>10th, 11th, 12th: Successful completion of General Science A/B (B average).</i>				
HOMEWORK:	Yes				
SUMMER ASSIGNMENT:	No				
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input type="checkbox"/> AP	<i>life science</i>	

This course is aligned with the **NGSS Life Standards.

The **Honors Biology A/B** course fulfills the general education requirement for **life science** and is available to 9th through 12th grade students. Grades earned in this course are calculated on a 5-point scale and are therefore weighted. This course may be recommended for the 9th-grade student who has successfully completed 8th-grade science and math courses with an A average. It is recommended that a 9th-grade student enrolling in Honors Biology A/B also be concurrently enrolled in Geometry.

Honors Biology A/B is a year-long advanced college preparatory laboratory science course designed to develop an understanding of the Life Science Disciplinary Core Ideas as outlined by the High School NGSS Life Standards. The Disciplinary Core Ideas covered in this course are: *From Molecules to Organisms: Structures and Processes, Ecosystems: Interactions, Energy, and Dynamics, Heredity: Inheritance and Variation of Traits, and Biological Evolution: Unity and Diversity*. Laboratory activities in this course stress the development of essential skills, such as detailed observation, accurate recording, experimental design, data interpretation, and analysis. Passing both terms of this course student will meet the life science unit **graduation requirement** and the **UC laboratory science requirement**

COURSE TITLE: Chemistry A/B (P)

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long			
GRADE LEVEL:	<input type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12	
PREREQUISITE:	<i>Successful completion of Biology A/B (B average) or Honors Biology A/B (C average).</i> <i>Successful completion of Algebra I A/B (P) or 2 Year Algebra C/D (B average).</i> Concurrent enrollment in Geometry, or successful completion of Geometry (B average).				
HOMEWORK:	Yes <i>Daily homework is given to reinforce in-class direct instruction and makes up a significant percentage of the overall grade</i>				
SUMMER ASSIGNMENT:	No				
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input type="checkbox"/> AP	<i>physical science</i>	

This course is aligned with the **NGSS Physical Science Standards.

The **Chemistry A/B** course fulfills the general education requirement for **physical science** and is available to 10th through 12th-grade students who meet the prerequisite requirements.

Chemistry is a two-semester course in inorganic chemistry is aligned to the Next Generation Science Standards. As a college preparatory course, chemistry includes a detailed study of matter, the periodic table, chemical bonding, reactions, and related topics with laboratories making up a significant percentage of the content. Passing both terms of this course student will meet the physical science **unit graduation requirement** and the **UC laboratory science requirement**.

COURSE TITLE: General Science A/B (P) - 9th

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long		
GRADE LEVEL:	<input checked="" type="checkbox"/> 9	<input type="checkbox"/> 10	<input type="checkbox"/> 11	<input type="checkbox"/> 12
PREREQUISITE:	Concurrent enrollment in 2-year Algebra A/B or Algebra 1 A/B.			
HOMEWORK:	Yes			
SUMMER ASSIGNMENT:	No			
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input type="checkbox"/> AP	<i>physical science</i>

This course is aligned with the **NGSS Earth & Space Standards and course-specific **NGSS Physical Science Standards**.

The **General Science A/B - 9th** course fulfills the general education requirement for **physical science** and is available to 9th grade students. This course is recommended for all 9th grade students and is available to those students who do not meet the requirements of Biology A/B or Honors Biology A/B.

General Science A/B - 9th is a year-long college preparatory laboratory course is designed to provide an overview of the physical sciences. This course is aligned with the High School Next Generation Science Standards and covers Earth Science, Chemistry, and Physics. Matter, energy, introductory chemistry, chemical bonding, and scientific investigation are concepts all presented in the first semester as a way of understanding the major themes in earth sciences. The majority of the year is spent on relevant earth science topics including the Earth's atmosphere and energy budget, climates and climate change, global oceanic and atmospheric circulation patterns, oceanography, astronomy and physical geology including tectonic activity and volcanism. Basic concepts of physics such as speed, acceleration, and Newton's Laws are covered during the second semester of this course. Passing both terms of this course meets the physical science unit **graduation requirement** and the **"g" elective requirement for the UC**.

COURSE TITLE: General Science A/B (P) - 10th/11th/12th

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long		
GRADE LEVEL:	<input type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12
PREREQUISITE:	Concurrent enrollment in 2-year Algebra A/B or Algebra 1 A/B.			
HOMEWORK:	Yes			
SUMMER ASSIGNMENT:	No			
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input type="checkbox"/> AP	<i>physical science</i>

** This course is aligned with the **NGSS Earth & Space Standards** and course-specific **NGSS Physical Science Standards**.

The **General Science A/B - 10th/11th/12th** fulfills the general education requirement for **physical science** and is available to all 10th-12th grade students who meet the prerequisites.

General Science A/B - 10th/11th/12th is a year-long college preparatory laboratory course is designed to provide an overview of the physical sciences. This course is aligned with the High School Next Generation Science Standards and covers Earth Science, Chemistry, and Physics. Matter, energy, introductory chemistry, chemical bonding, and scientific investigation are concepts all presented in the first semester as a way of understanding the major themes in earth sciences. The majority of the year is spent on relevant earth science topics including the Earth's atmosphere and energy budget, climates and climate change, global oceanic and atmospheric circulation patterns, oceanography, astronomy and physical geology including tectonic activity and volcanism. Basic concepts of physics such as speed, acceleration, and Newton's Laws are covered during the second semester of this course. Passing both terms of this course student will meet the physical science unit **graduation requirement** and the **"g" elective requirement for the UC**.

COURSE TITLE: Geology A/B (P)

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long		
GRADE LEVEL:	<input type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12
PREREQUISITE:	Successful completion of Algebra 1 A/B (C average). Successful completion of Biology A/B or Honors Biology A/B (C average). Recommended enrollment in CTE Environmental Resources Pathway.			
HOMEWORK:	Yes, nightly			
SUMMER ASSIGNMENT:	Yes	Located at http://righettiscience.com/Courses/index.html		
REQUIREMENTS FULFILLED:	<input checked="" type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input type="checkbox"/> AP	<i>physical science</i>

This course is aligned with the **NGSS Physical Science Standards and course-specific **CTE Model Curriculum Standards for the Environmental Resources Pathway**.

The **Geology A/B** course fulfills the general education requirement for **physical science** and is available to 10th through 12th-grade students who meet the prerequisite requirements.

Geology is a year-long physical lab science course during which students will study the dynamic process that shape and change the surface of the Earth. Students will learn rock and mineral identification, study and interpret topographic and geological maps and study land forms and structures. Students will also apply real world applications of geology and how it can affect their everyday lives, the community in which they live and areas around the world. Throughout the year, students will study the different geological sciences to learn how they interact with one another while incorporating other disciplines such as Chemistry, Physics, Language Arts and Mathematics. This class emphasizes the hands-on approach along with inquiry-based labs that align to both the Next Generation Science Standards and the common core standards. Geology is a concentrator course for the CTE Environmental Resources Pathway. Passing both terms of this course student will meet the physical science **unit graduation requirement** and the **UC laboratory science requirement**. This course is also a **concentrator course** for the CTE Environmental Resources Pathway.

COURSE TITLE: Marine Science A/B (P)

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long		
GRADE LEVEL:	<input type="checkbox"/> 9	<input type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12
PREREQUISITE:	Successful completion of Biology A/B (C average).			
HOMEWORK:	Yes			
SUMMER ASSIGNMENT:	No	semester of <i>physical science</i>		
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input type="checkbox"/> AP	semester of <i>life science</i>

This course is aligned with the subject related **NGSS Physical and Life Science Standards.

The **Marine Science (P)** course fulfills the general education requirement for a semester of **physical science** and a semester of **life science** and is available to 11th through 12th-grade students who meet the prerequisite requirements.

Marine Science is a year-long college preparatory lab science course designed to teach students the concepts and principles of marine science and scientific literacy. This is an interdisciplinary course that introduces students to marine biology, ocean chemistry, oceanography, and research technology while providing an in-depth study of human impacts on our oceans. This class blends the requirements of the Next Generation Science Standards, the Ocean Literacy Principles, and California's Environmental Principles. Passing the fall term of this course student will earn a semester of physical science credit and passing the spring term of this course student will earn a semester of life science credit towards science unit **graduation requirement**. *This course also meets the UC laboratory science requirement.*

AP SCIENCE COURSES

COURSE TITLE: AP Biology A/B (AP)

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long	<i>Graded on a 5-point GPA scale.</i>
GRADE LEVEL:	<input type="checkbox"/> 9	<input type="checkbox"/> 10	<input checked="" type="checkbox"/> 11 <input checked="" type="checkbox"/> 12
PREREQUISITE:	<i>Successful completion of Biology A/B (B average) or Honors Biology A/B (C average). Successful completion of Chemistry A/B (C average). Recommended enrollment in CTE Environmental Resources Pathway.</i>		
HOMEWORK:	Yes		
SUMMER ASSIGNMENT:	Yes Located at http://righettiscience.com/Courses/index.html		
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input checked="" type="checkbox"/> AP <i>life science</i>

This course is aligned with the **College Board Advanced Placement Biology Curriculum Framework and course-specific **CTE Model Curriculum Standards for the Environmental Resources Pathway**.

The **AP Biology A/B** course fulfills the general education requirement for *life science* and is available to 11th and 12th-grade students who meet the prerequisite. Grades earned in this course are calculated on a 5-point scale and are therefore weighted.

AP Biology is a year-long course designed for high school students as an opportunity to earn AP credit on their high school transcript, as well as placement credit for an introductory college-level science course. Students who earn a qualifying score on the AP Biology Exam are typically eligible to receive college credit and placement in an advanced science course in college. This course is aligned to the College Board AP Biology Curriculum Framework and is based on four Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about living organisms and biological systems. Twenty-five percent of instructional time is devoted to hands-on laboratory work with an emphasis on inquiry-based investigations. Investigations require students to ask questions, make observations and predictions, design experiments, analyze data, and construct arguments in a collaborative setting, where they direct and monitor their progress. This course is designed to prepare students for the Biology College Board Advanced Placement Exam. This course is also a **concentrator course** for the CTE Environmental Resources Pathway.

COURSE TITLE: AP Chemistry A/B (AP)

LENGTH:	<input type="checkbox"/> One Semester	<input checked="" type="checkbox"/> Year Long	<i>Graded on a 5-point GPA scale.</i>
GRADE LEVEL:	<input type="checkbox"/> 9	<input type="checkbox"/> 10	<input checked="" type="checkbox"/> 11 <input checked="" type="checkbox"/> 12
PREREQUISITE:	<i>Successful completion of Chemistry A/B (B average).</i>		
HOMEWORK:	Yes		
SUMMER ASSIGNMENT:	Yes Located at http://righettiscience.com/Courses/index.html		
REQUIREMENTS FULFILLED:	<input type="checkbox"/> AHC	<input checked="" type="checkbox"/> A-G	<input checked="" type="checkbox"/> X <i>physical science</i>

This course is aligned with the **College Board Advanced Placement Chemistry Curriculum Framework.

The **AP Chemistry A/B** course fulfills the general education requirement for *physical science* and is available to 11th and 12th-grade students who meet the prerequisite requirements. Grades earned in this course are calculated on a 5-point scale and are therefore weighted.

AP Chemistry is a year-long course designed for high school students as an opportunity to earn AP credit on their high school transcript, as well as placement credit for an introductory college-level science course. Students who earn a qualifying score on the AP Chemistry Exam are typically eligible to receive college credit and placement in an advanced science course in college. AP Chemistry is an intensive two-semester course in inorganic chemistry which builds upon concepts learned in college preparatory chemistry. Topics include structure and states of matter, chemical reactions and equilibrium, and other topics as prescribed by the College Board for AP Chemistry. Students in AP Chemistry will participate in numerous laboratories and are expected to take the College Board Advanced Placement Examination in the spring.

COURSE TITLE: AP Environmental Science A/B (AP)

LENGTH: <input type="checkbox"/> One Semester X Year	<i>Graded on a 5-point GPA scale.</i>
GRADE LEVEL: <input type="checkbox"/> 9 <input type="checkbox"/> 10 X 11 X 12	
PREREQUISITE: <i>Successful completion of Biology A/B (B average) or Honors Biology A/B (C average). Successful completion of Chemistry A/B (C average) or concurrently enrolled in Chemistry A/B. Recommended enrollment in CTE Environmental Resources Pathway.</i>	
HOMEWORK: Yes	
SUMMER ASSIGNMENT: Yes Located at http://righettiscience.com/Courses/index.html	
REQUIREMENTS FULFILLED: <input type="checkbox"/> AHC X A-G X AP	<i>physical science</i>

This course is aligned with the **College Board Advanced Placement Environmental Science Curriculum Framework and **CTE Model Curriculum Standards for the Environmental Resources Pathway**.

The **AP Environmental Science A/B** course fulfills the general education requirement for **physical science** and is available to 11th and 12th-grade students who meet the prerequisite requirements. Grades earned in this course are calculated on a 5-point scale and are therefore weighted.

AP Environmental Science is a year-long course designed for high school students as an opportunity to earn AP credit on their high school transcript, as well as placement credit for an introductory college-level science course. Students who earn a qualifying score on the AP Environmental Science Exam are typically eligible to receive college credit and placement into advanced science course in college. AP Environmental Science is a multidisciplinary science course designed to be the equivalent to a freshman college environmental science course that provides students the opportunity to learn about and develop an appreciation for the Earth's environment. It will be taught from a rigorous science perspective that stresses scientific principles and analysis and includes a laboratory component. The goal of this course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world. Students will examine natural and man-made environmental problems, considering alternatives for solving or preventing them. Issues will be studied from scientific, sociological and political perspectives. This course fulfills a college requirement for a basic lab science and prepares students to take the College Board Advanced Placement Exam. This course is also the **capstone course** for the CTE Environmental Resources Pathway.

COURSE TITLE: AP Physics 1 A/B (AP)

LENGTH: <input type="checkbox"/> One Semester X Year Long	<i>Graded on a 5-point GPA scale.</i>
GRADE LEVEL: <input type="checkbox"/> 9 <input type="checkbox"/> 10 X 11 X 12	
PREREQUISITE: <i>Successful completion of Chemistry A/B or Physics A/B (B- average). Successful completion of Math Analysis A/B (B- average). Highly recommended concurrent enrollment in Calculus A/B.</i>	
HOMEWORK: Yes	
SUMMER ASSIGNMENT: Yes Located at http://righettiscience.com/Courses/index.html	
REQUIREMENTS FULFILLED: <input type="checkbox"/> AHC X A-G X AP	<i>physical science</i>

This course is aligned with the **College Board Advanced Placement Physic 1 Curriculum Framework.

The **AP Physics 1 A/B** course fulfills the general education requirement for **physical science** and is available to 11th and 12th-grade students who meet the prerequisite requirements. Grades earned in this course are calculated on a 5-point scale and are therefore weighted.

AP Physics is a year-long course designed for high school students as an opportunity to earn AP credit on their high school transcript, as well as placement credit for an introductory college-level science course. Students who earn a qualifying score on the AP Physic 1 Exam are typically eligible to receive college credit and placement into advanced science course in college. AP Physic 1 is a year-long course designed to be taken by students after the successful completion of either high school physics or chemistry. AP Physics 1 is divided into four major units to be covered at an introductory collegiate level: classical mechanics, electricity and magnetism, waves and optics, and modern physics. Students will participate in numerous laboratory experiments and are expected to take the College Board Advanced Placement Examination.