CA Science Framework Language for Proposed Course Titles

The below excerpts are from the 2016 CA Science Framework that was adopted by the California State Board of Education in 2016 to align with the Next Generation Science Standards. The proposed course names integrate Earth Science as part of the three-course model outlined by the Science Framework.

Introduction to Grades Nine Through Twelve

The National Research Council's *A Framework for K–12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* (*NRC Framework*) outlined a significant new vision for science education. The California Next Generation Science Standards (CA NGSS), aided by the *Science Framework for California Public Schools: Kindergarten Through Grade Twelve* (*CA Science Framework*), are the first step toward translating that vision into practice.

Before schools and districts can fully implement the CA NGSS, they must organize the high school grade-banded performance expectations into courses. This chapter describes ways in which the performance expectations for high school could be bundled together into instructional segments to form an appropriate sequence of courses. This chapter describes one of two high school course sequences: the High School Three-Course Model. The High School Four-Course Model is described in chapter 8. Additionally, appendix 4 of this framework outlines an integrated three-year high school model called Every Science, Every Year.

Pg. 771

High School Three-Course Model Introduction

The three-course model combines all high school performance expectations into three courses. To highlight the nature of Earth and space science (ESS) as an interdisciplinary pursuit with crucial importance in California, each of the three courses presents an integration of ESS and one of the other high school domains. In each course, the integration adds value to both domains in the pair, with each providing an engaging motivation for and a deeper insight into the other. ESS phenomena can serve as an engaging motivation for studying the other domains while understanding of each domain provides deeper insight into processes in ESS. The three courses have been explicitly titled to emphasize this synergy:

- Living Earth: Integrating Biology and Earth Science
- Chemistry in the Earth System: Integrating Chemistry and Earth Science
- Physics of the Universe: Integrating Physics and Earth and Space Science

Credential Information

The California Commission on Teacher Credentialing authorizes the majority of high school science teachers to teach courses that integrate the sciences across content areas. (See the California Commission on Teacher Credentialing, Specialized Single Subject Science Credentials and Alignment with the CA NGSS at https://www.cde.ca.gov/ci/sc/cf/ch7.asp#link1.) This includes course models that integrate Earth and space science with the domains of biology, chemistry, or physics. While many teachers will need additional professional learning, their understanding of the SEPs and CCCs should provide them with a firm foundation to teach courses in this sequence. For specific information, contact the California Commission on Teacher Credentialing at https://www.cde.ca.gov/ci/sc/cf/ch7.asp#link2 for questions about authorization to teach integrated courses.