

SCIENCE CONCENTRATION

The discipline of science is based on laws governing the world around us. Knowledge in this area is generated by development of concepts in matter, motion, and energy in living systems and Earth and space while emphasizing evidence to support claims for its knowledge. This concentration expands on ideas of the branches of science with engagement in the practices to build proficiency and further develop appreciation of the strengths and limitations of science in the real world.

This concentration is aligned to a supplemental authorization in Science that can be added to your future credential. See a concentration advisor for more information.

Students must take at least one 4-unit course at the 300-400 level in the concentration; three courses in the same discipline are recommended.

Chemistry Requirement

Select from the following:	4
CHEM 110	World of Chemistry
CHEM 124	General Chemistry for Physical Science and Engineering I
CHEM 127	General Chemistry for Agriculture and Life Science I

Physics Requirement

Select from the following:	4
PHYS 111	Contemporary Physics for Nonscientists
PHYS 121	College Physics I
PHYS 141	General Physics I
PSC 320	Energy, Society and the Environment

Approved Concentration Electives¹

Select from the following:	12
ASTR 102	Introduction to Stars and Galaxies
ASTR 324	Longitude, Navigation, and Timekeeping
BIO 114	Plant Diversity and Ecology
BIO 231	Human Anatomy and Physiology I
BIO 232	Human Anatomy and Physiology II
BIO 302	Human Genetics
BIO 305	Biology of Cancer
BIO/CHEM 308	Genetic Engineering Technology
BOT 121	General Botany
BOT 311	Plants, People and Civilization
BOT 326	Plant Ecology
CHEM 125	General Chemistry for Physical Science and Engineering II
CHEM 126	General Chemistry for Physical Science and Engineering III
CHEM 128	General Chemistry for Agriculture and Life Science II
CHEM 129	General Chemistry for Agriculture and Life Science III
CHEM 312	Organic Chemistry: Fundamentals and Applications

CHEM 314	Biochemistry: Fundamentals and Applications
CHEM 349	Chemical and Biological Warfare
CHEM 377	Chemistry of Drugs and Poisons
ERSC 223	Rocks and Minerals
GEOL 102	Introduction to Geology
GEOL 203	The Geologic Record: Fossils and the History of Life
GEOL 206	Geologic Excursions
GEOL 305	Seismology and Earth Structure
LS 305	Project Based Learning in STEM Education ²
MCRO 221	Microbiology
MCRO 342	Public Health Microbiology
MCRO 421	Food Microbiology
MSCI 111	Survey of Marine Biology
MSCI 330	Technologies for Ocean Discovery
MSCI 440	Communicating Ocean Sciences to Informal Audiences
NR 306	Natural Resource Ecology and Habitat Management
PHYS 122	College Physics II
PHYS 123	College Physics III
PHYS 142	General Physics II
PHYS 143	General Physics III
PHYS 330	Teaching Physics
PSC 201	Physical Oceanography
SCM 302/ ENGR 322/ HNRS 302	The Learn By Doing Lab Teaching Practicum ²
SCM 360	Selected Environmental Issues of California's Central Coast
SCM 368	Theory and Practice of STEM Tutoring ³

Total units **20**

- 1 Courses in BIO/BOT/MCR/MSCI may count towards a minor in Biology. Please consult a minor advisor for more information.
- 2 A maximum of 4 units total from LS 305 and SCM 302/ENGR 322/HNRS 302 may be used in the concentration.
- 3 This course may not count towards an Introductory Subject Matter Authorization in Science.