SCIENCE AND MATHEMATICS (SCM)

SCM Courses

SCM 101. Introduction to Health Profession Careers. 1 unit
CR/NC
Term Typically Offered: SP
Introduction to health profession careers. Professionals from within
the health care industry provide an overview of their careers. Emphasis
on creating a pre-health career plan, academic course selection,
attaining appropriate experiences, and elements of a strong professional
application. Intended for students undecided about their health
professions career choice. Credit/No Credit grading only. 1 activity.

SCM 150. Supplemental Workshops in Science. 1 unit
CR/NC
Term Typically Offered: F, W, SP, SU
Concurrent: Enrollment in the designated section of the associated
course.
Facilitated study and discussion of the theory, concepts, and applications
of content material from selected biology, chemistry, physics, and
statistics courses. Credit/No Credit grading only. Total credit limited to 8
units. Maximum of 2 units for degree credit. 1 laboratory.

SCM 220. Seminar for Science and Math Tutors. 1 unit
CR/NC
Term Typically Offered: F, W
Prerequisite: MATH 142, PHYS 132, PHYS 133, PHYS 122, PHYS 123, PSC
102, or PSC 103; and consent of instructor.
Concepts of teaching and learning as it relates to roles as K-12 grade
science and math tutors and/or classroom assistants. Restricted to
students who are Teaching Assistants in Math and Science (TeAMS)
tutors or Volunteers in Out of School Time (VOST). Participation in public
schools requires mandated fingerprint clearance. 1 activity.

SCM 230. Seminar for Learning Assistants. 2 units
CR/NC
Term Typically Offered: F, W
Prerequisite: BIO 160, BIO 161, CHEM 124, CHEM 127, MATH 141, PHYS
131, or PHYS 141.
Introduction to learning theory and teaching practices for mathematics
and science learning assistants regarding conceptual development,
questioning techniques, cooperative learning, nature of math and science,
and argumentation in mathematics and science. Restricted to students
admitted to the Learning Assistant program. 2 seminars.

SCM 270. Selected Topics. 1-4 units
Term Typically Offered: TBD
Prerequisite: Open to undergraduate students and consent of instructor.
Directed group study of selected topics. The Schedule of Classes will list
title selected. Total credit limited to 8 units. 1 to 4 lectures.

SCM 300. Early Field Experience. 4 units
CR/NC
Term Typically Offered: F, W, SP
Prerequisite: Sophomore standing; for Math majors or Science and
Engineering majors only.
Historical, philosophical, and social foundations of public science and
mathematics education. Public school curriculum and professional
education dispositions. Structured observation and participation in
K-12 public schools with attention to instructional practices for diverse
learners. Credit/No Credit grading only. 2 lectures, 2 activities.

SCM 301. Professional School Preparation for Health Profession Careers. 1 unit
CR/NC
Term Typically Offered: W
Prerequisite: Junior standing; completion of GE Area A; minimum of
3.0 CPSLO GPA; consent of instructor. Recommended: SCM 101 and
completion of GWR.
Application strategies and preparation for health professions programs.
Analysis of the application requirements and critique of personal
application components. Credit/No Credit grading only. 1 activity.

SCM 302. The Learn By Doing Lab Teaching Practicum. 2 units
CR/NC
Term Typically Offered: W, SP
Prerequisite: Completion of GE Area B.
Early teaching experience in an informal science, technology, engineering,
and mathematics (STEM) teaching and learning environment. Principles
of inquiry-driven STEM education, lesson design, implementation and
assessment. Intended for undergraduates exploring STEM teaching as
a career. Total credit limited to 4 units. Credit/No Credit grading only. 1
seminar, 1 laboratory. Crosslisted as ENGR 322/SCM 302/HNRS 302.

SCM 320. Technology in London. 4 units
GE Area F
Term Typically Offered: F, W, SP
Prerequisite: Junior standing and completion of GE Area B. Concurrent:
Enrollment in London Study Program.
Impact of one or two technologies in modern London. Development of
the technology from the scientific/industrial revolution, as seen through
London museums and industries. Technological solutions to modern
problems, and their dependence on available technology. Field trips
required. The Schedule of Classes will list topic selected. 2 lectures, 2
activities. Fulfills GE Area F.

SCM 335. Nuclear Science and Society. 4 units
GE Area F
Term Typically Offered: F, W, SP
Prerequisite: Junior standing and completion of GE Area B.
Impact of nuclear phenomena on energy production, warfare, health and
medicine, and the environment. Scientific and public policy aspects of
reactor design, nuclear accidents, disposal of radioactive waste, nuclear
medicine, food irradiation, nuclear weapons, and fusion as potential
energy source. 4 lectures. Fulfills GE Area F.
SCM 350. The Global Environment. 4 units
GE Area F
Term Typically Offered: F
Prerequisite: Junior standing and completion of GE Areas A and B.

Interdisciplinary investigation of how human activities impact the Earth's environment on a global scale. Examination of population, resource use, climate change, and biodiversity from scientific/technical and social/economic/historical/political perspectives. Use of remote sensing maps. Sustainable solutions. 4 lectures. Crosslisted as AG/EDES/ENGR/GEOG/ISLA/SCM/UNIV 350. Fulfills GE Area F.

SCM 360. Selected Environmental Issues of California's Central Coast. 4 units
GE Area F
Term Typically Offered: SP
Prerequisite: Junior standing and completion of GE Area B and one of the following: CHEM 110, CHEM 111, CHEM 124, CHEM 127.

Examination of several inter-related environmental issues currently affecting California's Central Coast region. Focuses on the role of technology in creating/mitigating environmental problems. Field trips required. 3 lectures, 1 activity. Fulfills GE Area F.

SCM 363. Public Health Fieldwork. 2 units
CR/NC
Term Typically Offered: F, W, SP
Prerequisite: Junior standing; must have been enrolled at Cal Poly for at least two quarters; consent of instructor.

Structured observational experiences for pre-health students at the County Health Agency. Designed to promote awareness and understanding of public health careers, as well as provide practical experience. Limited space availability. Application process for enrollment available from CSM Advising Office. Total credit limited to 6 units. Credit/No Credit grading only.

SCM 451. Ethics in the Sciences. 3 units
Term Typically Offered: W
Prerequisite: Junior standing.

The practice, performance and application of science from the standpoint of ethics. Includes issues involving plagiarism, data handling, fraud, safety and selected applications in specific science careers. Models for the analysis and resolution of ethical dilemmas are presented. 3 seminars. Crosslisted as PHIL/SCM 451.

SCM 470. Selected Advanced Topics. 1-4 units
Term Typically Offered: TBD
Prerequisite: Consent of instructor.

Directed group study of selected topics for advanced students. Open to undergraduate and graduate students. The Schedule of Classes will list title selected. Total credit limited to 8 units. 1 to 4 lectures.

SCM 471. Selected Advanced Laboratory. 1-4 units
Term Typically Offered: TBD
Prerequisite: Consent of instructor.

Directed group laboratory study of selected topics for advanced students. Open to undergraduate and graduate students. The Schedule of Classes will list title selected. Total credit limited to 8 units. 1 to 4 laboratories.