

PHYSICAL SCIENCE (PSC)

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PSC Courses

PSC 1101 Physical Science for Elementary Educators I (4 units)

Term Typically Offered: F

2026-28 or later catalog: GE Area 5A

2026-28 or later catalog: GE Area 5C

2020-26 catalogs: GE Area B1

2020-26 catalogs: GE Area B3

Introduction to the basic principles of physical science, including observation, description, modeling, and the application of physical phenomena. Emphasis on interactions as described by energy, forces, and fields, as well as physical changes and chemical reactions, and the periodic table. 3 lectures, 1 laboratory. Fulfills GE Areas 5A and 5C (GE Areas B1 and B3 for students on the 2020-26 catalogs). Formerly PSC 101.

PSC 1102 Physical Science for Elementary Educators II (4 units)

Term Typically Offered: SP

Prerequisite: Liberal Studies major; and PSC 101 or PSC 1101.

Introduction to the basic principles of physical science with emphasis on Earth and space sciences. Waves, sound, and light. Structure and formation of Earth, earthquakes, weather, and oceanography. Naked eye astronomy, and the structure of the solar system. Field trip may be required. 3 lectures, 1 laboratory. Formerly PSC 103.

PSC 2201 Physical Oceanography (3 units)

Term Typically Offered: F, SP

2026-28 or later catalog: GE Area 5A

2020-26 catalogs: GE Area B1

Sustainability Related

Introduction to motions of the ocean. Physical environment and sea floor features. Seawater properties, atmosphere and ocean interactions, ocean currents and circulation. Waves and tides, the El Nino cycle, coastal ocean processes, climate change and ocean stressors, ocean resources and marine life. 3 lectures. Fulfills GE Area 5A (GE Area B1 for students on the 2020-26 catalogs). Formerly PSC 201.

PSC 3320 Energy, Society, and the Environment (3 units)

Term Typically Offered: SP

2026-28 or later: Upper-Div GE Area 2/5

2020-26 catalogs: Upper-Div GE Area B

Sustainability Focused

Prerequisite: Junior standing; completion of GE Area 1 with grades of C- or better (GE Area A for the 2020-26 catalogs); and completion of GE Area 2 with a grade of C- or better (GE Area B4 for the 2020-26 catalogs).

Science and technology of current and future energy sources along with associated environmental problems and societal response. Energy production, consumption, efficient usage, fossil fuels, nuclear, solar, other renewables. Risks, benefits, planning, economics. 2 lectures, 1 activity. Fulfills GE Areas Upper-Division 2 or Upper-Division 5 (GE Area Upper-Division B for students on the 2020-26 catalogs). Formerly PSC 320.

PSC 3391 Engaging in Sustainable Global Development (3 units)

Term Typically Offered: F

2026-28 or later: Upper-Div GE Area 4

2020-26 catalogs: Upper-Div GE Area D

Sustainability Focused

Prerequisite: Completion of GE Area 1 with grades of C- or better (GE Area A for the 2020-26 catalogs); completion of GE Area 2 with a grade of C- or better (GE Area B4 for the 2020-26 catalogs); and completion of one lower-division course in GE Area 4 (GE Areas D1 or D2 for the 2020-26 catalogs).

Examines some important perspectives on international development, studying successes and failures. Student teams address real-world problems by organizing, publicizing, learning, educating, and connecting support to needs. Collaboration with mentors from university, private sector, nonprofits provides diverse background and project mentorship. 3 lectures. Crosslisted as HNRS/PSC/UNIV 3391. Fulfills GE Upper-Division 4 (GE Area Upper-Division D for students on the 2020-26 catalogs). Formerly HNRS/PSC/UNIV 391.

PSC 3392 Collaboratively Developing Sustainable Technologies Globally (3 units)

Term Typically Offered: SP

2026-28 or later: Upper-Div GE Area 2/5

2020-26 catalogs: Upper-Div GE Area B

Sustainability Focused

Prerequisite: Junior standing; completion of GE Area 1 with grades of C- or better (GE Area A for the 2020-26 catalogs); completion of GE Area 5 (GE Areas B1 to B3 for the 2020-26 catalogs); and completion of GE Area 2 with a grade of C- or better (GE Area B4 for the 2020-26 catalogs).

Recommended: PSC/UNIV 391 or PSC/UNIV 3391; and completion of GE Area 4B (GE Area D2 for the 2020-26 catalogs).

Mechanical design and international collaboration with underserved communities. We explore how to design creatively. While addressing cultural challenges, student teams solve real-world problems with a community; designing and building a prototype that is inexpensive, ecologically sustainable, and socially appropriate. 2 lectures, 1 laboratory. Crosslisted as HNRS/PSC/UNIV 3392. Fulfills GE Areas Upper-Division 2 or Upper-Division 5 (GE Area Upper-Division B for students on the 2020-26 catalog). Formerly HNRS/PSC/UNIV 392.

PSC 4424 Teaching Science in Secondary Schools (4 units)

Term Typically Offered: F

Prerequisite: Admission into Cal Poly's Single-Subject Credential Program or Liberal Studies Science concentration.

Research-based methods of teaching life and physical sciences in secondary schools, with an emphasis on planning instruction and designing learning experiences for all students using inclusive instructional strategies. 4 lectures. Crosslisted as BIO/PSC 4424. Formerly BIO/PSC 424.

PSC 4425 Science Teaching Clinical Experience Seminar (2 units)

Term Typically Offered: SP

CR/NC

Prerequisite: Admission into Cal Poly's Single Subject Credential Program in Science. Corequisite: EDUC 469 or EDUC 4469.

Principles and practices in effective teaching of science at the middle and high school level, learning theories, curriculum structure, classroom issues, and the teaching profession. 2 seminars. Credit/No Credit grading only. Crosslisted as BIO/PSC 4425. Formerly BIO/PSC 425.