

# Environmental Sciences, B.S.

## DEPARTMENT

### Department of Earth and Environmental Sciences

Robert Dundas, Chair  
Science II Building, Room 114  
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[www.fresnostate.edu/csm/ees/](http://www.fresnostate.edu/csm/ees/)

MN in Geology, Minor  
BS in Geology, B.S.  
MS in Geology, M.S.  
BS in Environmental Sciences, B.S.  
MS in Water Resource Management, M.S. - Continuing & Global Education  
CERT in Geographic Information Systems, Certificate of Adv Study - Continuing & Global Education  
CRED in Single Subject Credential - Geological Science

The Department of Earth and Environmental Sciences at California State University, Fresno offers courses leading to the Bachelor of Science and Master of Science in Geology -- as well as the Bachelor of Arts in Natural Sciences and the Minor in Geology -- which are especially well-suited for primary and secondary teachers.

Coursework and research emphasize field and laboratory investigations of geologic and environmental problems. Our field orientation takes advantage of the university's proximity to the Sierra Nevadas, the California Coast Ranges, coastal California, and the desert provinces. This unique location gives faculty and students access to an unparalleled outdoor laboratory, all within short trips from the university.

The department's close relationship with state agencies and the private sector enables many students to pursue internships or part-time employment in geologic and environmental work while they complete their degrees.

The Bachelor of Science in Geology prepares students for employment in petroleum geology, mineral exploration, land-use planning, environmental assessment, hydrology, and engineering geology, or for teaching earth science or physical science at the secondary level. The Master of Science program provides a graduate degree for students who want to work in industry or government on the professional level, for students who want to teach earth science in junior college, or for students who wish to pursue further graduate study.

Our applied geology option specializes in engineering geology, hydrogeology, or exploration geology fields, which have the strongest employment potential.

The Bachelor of Science in Environmental Sciences offers an interdisciplinary approach to the natural sciences with an emphasis on biology, chemistry, and geology. This degree is designed for students interested in areas such as pollution abatement, water resources, ecosystem protection, restoration, or management.

Students may also participate in coursework and research in marine geology and oceanography offered through Moss Landing Marine Laboratories in Monterey Bay. Consult the chairs of the Earth and Environmental Sciences and Biology departments. See Moss Landing Marine Laboratories, Biology Department.

## REQUIREMENTS

### Bachelor of Science Degree Requirements

#### Environmental Sciences Major

##### 1. Major Requirements

##### Lower-division core requirements (50-51 units)

Biology: BIOL 1A, 1B, 1BL (8 units)

Chemistry: CHEM 1A, 1AL, 1B, 1BL (10 units)

Environmental Sciences: EES 4 (see note 1), 12 (7 units)

Earth Science: EES 1, 30 (7 units)

Mathematics: MATH 75 and select one: MATH 76 or 101; or PSYCH 42 (see note 2); or EES 177 (7-8 units)

Physics: PHYS 2A and 2B; or 4A (see note 3), 4AL, 4B, and 4BL (8 units)  
 Social Science: PLSI 71 (3 units)

**Upper-division requirements (26 units)**

Biology: BIOL 101 (4 units)  
 Environmental Sciences: EES 108, 109, 199 (10 units)  
 Geology: EES 105, 186, and select one: EES 113, or 117, or 124 (9 units)  
 Social Science: ECON 117 (see note 4) (3 units)

**Controlled electives (9 units)**

Biology/Chemistry: CHEM 8 (3 units)  
 Earth Science: EES 102, or 110, or 113, or 114, or 117, or 124 (6 units)

**2. General Education requirements (49 units)**

**3. Other requirements (6 units)**

Upper-division writing and Multicultural and International (MI)

**4. Sufficient elective units to meet required total units (varies)**

**5. Total units (120)\***

\* G.E. and MI courses can be double-counted with major requirements. The writing requirement may be met by taking the upper-division writing exam. See advisor for details.

**Notes**

1. Requires G.E. Foundation B4 as prerequisite.
2. PSYCH 42 is prerequisite for BIOL 101.
3. Requires MATH 77 as prerequisite or may be taken concurrently.
4. Prerequisite for ECON 117 waived for environmental sciences majors.

**Advising Notes**

1. Students interested in physical aspects of environmental sciences should take MATH 76 or EES 177 in addition to PSYCH 42.

**FACULTY**

For faculty phone numbers and e-mail, see the campus directory.

For more on the faculty, see the faculty pages.

The faculty pages are updated by the department or program.

Name	Degree	Email	Phone
Anglen, Brandy L	Doctor of Philosophy	banglen@csufresno.edu	
Anglen, John J	Master of Science	janglen@csufresno.edu	
Brady, Mara E	Doctor of Philosophy	mebrady@csufresno.edu	559.278.2948
Dundas, Robert G	Doctor of Philosophy	rdundas@csufresno.edu	559.278.6984
Ford, Kiersti R	Master of Science	krford@csufresno.edu	
Ingraham, Neil L	Doctor of Science	ningraham@csufresno.edu	
Mcconnico, Timothy S	Doctor of Philosophy	tmconnico@mail.fresnostate.edu	

Name	Degree	Email	Phone
Mine, Aric H	Doctor of Philosophy	amine@csufresno.edu	
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Pluhar, Christopher J	Doctor of Philosophy	cpluhar@csufresno.edu	559.278.1128
Putirka, Keith D	Doctor of Philosophy	kputirka@csufresno.edu	559.278.4524
Richaud, Mathieu	Doctor of Philosophy	mathieu@csufresno.edu	559.278.4557
Tovar, Danny H	Master of Science	dtovar@csufresno.edu	
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Wakabayashi, John	Doctor of Philosophy	jwakabayashi@csufresno.edu	559.278.6459
Wang, Zhi (	Doctor of Philosophy	zwang@csufresno.edu	559.278.4427
Weinman, Beth A	Doctor of Philosophy	bweinman@csufresno.edu	559.278.1641
Workman Ford, Kerry C	Master of Science	kworkman@csufresno.edu	559.278.4439