

Earth, Environmental, and Planetary Sciences

Majors

The Department of Earth, Environmental, and Planetary Sciences (EEPS) offers majors in Earth Science, Environmental Science, and Planetary Science. The curriculum is broad, and the requirements are flexible enough to accommodate diverse needs and interests. Many courses present hands-on, problem-oriented experiences, including ample opportunity for fieldwork, laboratory work, and the use of state-of-the-art computational facilities and research instrumentation. All majors are required to complete certain core courses as well as electives and a capstone experience (<https://eps.wustl.edu/capstone-experiences/>) that must be presented at the Spring EEPS Undergraduate Research Symposium.

Note: The following requirements apply to students matriculating in Fall 2022 and later. For earlier requirements, please visit our prior Bulletin pages (<https://bulletin.wustl.edu/about/prior/>) and consult with the department's director of undergraduate studies.

Requirements for All Majors

Required Core Courses

Students pursuing any Earth, environmental, and planetary sciences major must complete the following courses:

Code	Title	Units
Chem 105	Introductory General Chemistry I	3
EEPS 202	Introduction to Earth, Environmental, and Planetary Science	3
Math 131	Calculus I	3
Math 132	Calculus II	3
Math 2200 or Math 233 or Math 3200	Elementary Probability and Statistics Calculus III Elementary to Intermediate Statistics and Data Analysis	3
Physics 191	Physics I	3

Additional Electives

In addition to the disciplinary electives below, which are specific to each major, students must choose three L19 EEPS elective courses at the 300, 400, or 500 level.

Skills Course

Students must complete one of the following:

Code	Title	Units
EEPS 387	Geospatial Science	4
EEPS 400	Special Topics	3
EEPS 492	Field Camp	-6
EEPS 496	Undergraduate Field Geology	3
EnSt 380	Applications in GIS	3
EnSt 364	Field Methods for Environmental Science	3

Capstone Experience

Students completing any Earth, environmental, and planetary sciences major must also build a portfolio of their work from projects completed in courses such as EEPS 496 Undergraduate Field Geology, EnSt 405 Sustainability Exchange: Community and University Practicums, EnSt 539 Interdisciplinary Environmental Clinic or EnSt 452 International Climate Negotiation Seminar; internship experiences; or research. All capstones must be presented at the Spring EEPS Undergraduate Research Symposium.

The Major in Earth Science

Students must complete all of the requirements listed above for all majors as well as the following:

Disciplinary Requirements

Students must complete the following two courses:

Code	Title	Units
EEPS 340	Minerals, Rocks, Resources and the Environment	4
EEPS 353	Earth Forces	4

Disciplinary Electives

Students select five of the following courses:

Code	Title	Units
EEPS 317	Soil Science	3
EEPS 323	Biogeochemistry	3
EEPS 385	Earth History	3
EEPS 386	The Earth's Climate System	3
EEPS 401	Earth Systems Science	3
EEPS 407	Remote Sensing	3
EEPS 409	Surface Processes	3
EEPS 422	Sedimentary Geology	3
EEPS 428	Hydrology	3
EEPS 437	Igneous & Metamorphic Petrology	4
EEPS 441	Introduction to Geochemistry	3
EEPS 452	Introduction to Seismology	3
EEPS 453	Interior of the Earth	3

EEPS 454	Exploration and Environmental Geophysics	4
EEPS 459	Geodynamics	3
EEPS 460	Introduction to Structural Geology	4
EEPS 486	Paleoclimatology	3

The Major in Environmental Science

Students must complete all of the requirements listed above for all majors as well as the following:

Disciplinary Requirements

Students must complete the following two courses:

Code	Title	Units
EEPS 340	Minerals, Rocks, Resources and the Environment	4
or EEPS 353	Earth Forces	
EEPS 342	Environmental Systems	3

Disciplinary Electives

Students select five of the following courses:

Code	Title	Units
Biol 381	Introduction to Ecology	3
Econ 451	Environmental Policy	3
or Pol Sci 2010	Introduction to Environmental Policy	
EECE 101	Introduction to Energy, Environmental and Chemical Engineering	3
EEPS 308	Topics in Environmental Sustainability	3
EEPS 317	Soil Science	3
EEPS 323	Biogeochemistry	3
EEPS 386	The Earth's Climate System	3
EEPS 407	Remote Sensing	3
EEPS 409	Surface Processes	3
EEPS 428	Hydrology	3
EEPS 442	Aqueous Geochemistry	3
EEPS 454	Exploration and Environmental Geophysics	4
EEPS 486	Paleoclimatology	3

The Major in Planetary Science

Students must complete all of the requirements listed above for all majors as well as the following:

Disciplinary Requirements

Students must complete the following two courses:

Code	Title	Units
EEPS 340	Minerals, Rocks, Resources and the Environment	4
EEPS 353	Earth Forces	4

Disciplinary Electives

Students select five of the following courses:

Code	Title	Units
EEPS 401	Earth Systems Science	3
EEPS 407	Remote Sensing	3
EEPS 437	Igneous & Metamorphic Petrology	4
EEPS 441	Introduction to Geochemistry	3
EEPS 459	Geodynamics	3
EEPS 460	Introduction to Structural Geology	4
EEPS 467	Planetary Mission Design	3
EEPS 473	Planetary Geology	3
EEPS 474	Planetary Geochemistry	3
EEPS 567	Planetary Materials	3
EEPS 568	Scientific Exploration of the Moon	3
EEPS 570	Planetary Geophysics & Dynamics	3
EEPS 576	Advanced Planetary Geology: Ice Worlds	3