ESE 103  Earth's Physical Systems  credit: 4 hours.
Same as GEOG 103. See GEOG 103.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences

ESE 104  Geology of the National Parks  credit: 3 hours.
Same as GEOL 104. See GEOL 104.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences

ESE 106  Geographies of Globalization  credit: 3 hours.
Same as GEOG 106. See GEOG 106.
This course satisfies the General Education Criteria for a:
UIUC: Non-Western Cultures
UIUC Social Sciences
UIUC: Western Compartv Cult

ESE 111  Emergence of Life  credit: 3 hours.
Same as GEOL 111. See GEOL 111.
This course satisfies the General Education Criteria for a:
UIUC: Life Sciences

ESE 117  The Oceans  credit: 3 hours.
Same as GEOL 117. See GEOL 117.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences

ESE 118  Natural Disasters  credit: 3 hours.
Same as GEOL 118 and GLBL 118. See GEOL 118.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences

ESE 120  Severe and Hazardous Weather  credit: 3 hours.
Same as ATMS 120. See ATMS 120.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences
UIUC: Quant Reasoning II

ESE 126  Extinction: Dinosaurs to Dodos  credit: 3 hours.
Same as GEOL 106 and IB 106. See IB 106.
This course satisfies the General Education Criteria for a:
UIUC: Life Sciences

ESE 140  Climate and Global Change  credit: 3 hours.
Same as ATMS 140. See ATMS 140.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences

ESE 143  History of Life  credit: 3 hours.
Same as GEOL 143. See GEOL 143.
This course satisfies the General Education Criteria for a:
UIUC: Life Sciences

ESE 170  Nature Religion  credit: 3 hours.
Same as RLST 170. See RLST 170.

ESE 199  Undergraduate Open Seminar  credit: 1 TO 5 hours.
Special topics in Earth, Society, and the Environment; content is variable. May be repeated if topics vary.

ESE 200  Earth Systems  credit: 3 hours.
Interdisciplinary lecture class intended to introduce Earth Systems studies, which focuses on integrating social and natural science approaches to studying the Earth and its environments.

ESE 202  American Environmental History  credit: 3 hours.

ESE 208  History of the Earth System  credit: 4 hours.
Same as GEOL 208. See GEOL 208.
This course satisfies the General Education Criteria for a:
UIUC: Physical Sciences

ESE 210  Contemp Social & Env Problems  credit: 3 hours.
Same as GEOG 210. See GEOG 210.
This course satisfies the General Education Criteria for a:
UIUC Social Sciences

ESE 215  Resource Conflicts  credit: 3 hours.
Same as GEOG 215 and GLBL 215. See GEOG 215.
This course satisfies the General Education Criteria for a:
UIUC Social Sciences

ESE 222  **Big Rivers of the World**  credit: 3 hours.
Same as GEOG 222. See GEOG 222.

ESE 287  **Environment and Society**  credit: 3 hours.
Same as GEOG 287. NRES 287, PS 273 and SOC 287. See NRES 287.
This course satisfies the General Education Criteria for a:
UIUC Social Sciences
UIUC: Western Compartv Cult

ESE 289  **Environment & Sust Field Study**  credit: 1 hours.
Group expedition to study environment and sustainability issues at a nearby field site. Includes in-class meetings, student-led presentation, and a field trip that may be short as part of a day or as long as several days. Field trip and field trip fee required. Additional fees may apply. See Class Schedule. Approved for letter and S/U grading. May be repeated in separate terms if topics vary. Prerequisite: For ESE majors, minors, and Sustainability Living Learning Community students. Non majors can apply to the waitlist.

ESE 311  **Environmental Issues Today**  credit: 3 hours.
Seminar exposing students in the Environmental Fellows Program to different disciplinary perspectives on specific environmental issues, as revealed in the scholarly literature. Specific problems will vary from term to term. This seminar helps students make the transition from disciplinary to interdisciplinary thinking. Team-taught. Same as ATMS 311. Prerequisite: Admission to Environmental Fellows Program or consent of advisor.

ESE 320  **Water Planet, Water Crisis**  credit: 3 hours.
Study of the science of water on planet earth, the developing water crisis, and some possible solutions to it. Topics include water's unique physical and chemical properties; how it profoundly shapes the earth/ocean/atmosphere system; dynamics of oceans, atmosphere, lakes, rivers, groundwater, and ice masses; current fresh water supplies and their distribution on earth relative to population; current and future water crises and the compounding effects of droughts, floods, and global change; and prospects for some technological and economic approaches to easing the crisis. Same as GEOG 370 and GEOL 370.

ESE 333  **Earth Materials and the Env**  credit: 4 hours.
Same as GEOL 333. See GEOL 333.

ESE 350  **Sustainability and the City**  credit: 3 hours.
Same as GEOG 350. See GEOG 350.

ESE 360  **Environmental Writing**  credit: 3 hours.
Equips students to write about the environment for various audiences, with a focus on specific current efforts to promote sustainability on the Urbana-Champaign campus. We will practice effective techniques for each stage of the writing process-from defining topics, to gathering information, to crafting active, engaging prose. Readings will include models of effective environmental writing and "how to" pieces by experts. Research will include visits to campus sites and student-conducted interviews with subjects. Prerequisite: Completion of campus Composition I general education requirement.
This course satisfies the General Education Criteria for a:
UIUC: Advanced Composition
ESE 379  Intro to GIS Systems  credit: 4 hours.
Same as GEOG 379. See GEOG 379.

ESE 380  GIS II: Spatial Prob Solving  credit: 4 hours.
Same as GEOG 380. See GEOG 380.
This course satisfies the General Education Criteria for a:
UIUC: Quant Reasoning II

ESE 381  Environmental Perspectives  credit: 3 hours.
Same as GEOG 381. See GEOG 381.

ESE 386  Arctic Environment & Society  credit: 6 hours.
Same as GLBL 386 and SCAN 386. See GLBL 386.

ESE 389  Environ & Sust Field Expedition  credit: 3 hours.
Group expedition to study environment and sustainability issues at a field site. Includes in-class meetings, student-led presentation, and field trip; expeditions run during spring break, winter break, in mid-May or in intercession; dates depend on location. Field Trip and field trip fee required. Additional fees may apply. See Class Schedule. May be repeated in separate terms if topics vary. Prerequisite: For ESE majors and Sustainability Living Learning Community students. Non majors can apply to the waitlist.

ESE 401  ESE Capstone  credit: 3 hours.
Capstone experience for majors in Earth, Society, and Environment Sustainability. Approved for letter and S/U grading.

ESE 411  Geomorphology  credit: 4 hours.
Same as GEOL 401. See GEOL 401.

ESE 421  Earth Systems Modeling  credit: 4 hours.
Same as ATMS 421, GEOG 421, GEOL 481 and NRES 422. See ATMS 421.

ESE 439  Biogeography  credit: 3 hours.
Same as ANTH 436, GEOG 436, IB 439, and NRES 441. See IB 439.

ESE 445  Earth Resources Sustainability  credit: 3 hours.
Introduces the physical (energy, mineral, and soil) resources of the Earth, the environmental consequences of producing and using resources, the controls on resource supplies, and the alternatives to traditional supplies. Focuses on the geological origin and context of resources, the means of exploration and production, the history of production, and sustainability issues related to consumption and depletion. Provides an understanding of why resources can be scarce and expensive, why many are not renewable, and why their use impacts the Earth System. May include field trips. Credit is not given for both ESE 445 and GEOL 380. Prerequisite: Junior standing or higher.

ESE 452  Ecosystem Ecology  credit: 3 hours.
Same as IB 452 and NRES 462. See IB 452.
ESE 465  **Transp and Sustainability**  credit: 3 OR 4 hours.
Same as GEOG 465. See GEOG 465.
This course satisfies the General Education Criteria for a:
UIUC: Advanced Composition

ESE 466  **Environmental Policy**  credit: 3 OR 4 hours.
Same as GEOG 466. See GEOG 466.

ESE 467  **Dynm Simul of Nat Res Problems**  credit: 3 OR 4 hours.
Same as ECON 415 and GEOG 467. See GEOG 467.

ESE 470  **Introduction to Hydrogeology**  credit: 4 hours.
Same as GEOL 470. See GEOL 470.

ESE 481  **Intl Environ Cooperation**  credit: 3 hours.
Same as GEOG 481. See GEOG 481.

ESE 482  **Challenges of Sustainability**  credit: 3 hours.
An interdisciplinary approach to investigating the meaning and practice of sustainability in the contemporary Earth system. As a consequence, students explore the sustainability of crucial resources - water, soil, energy, mineral and the biota - in the context of the social and environmental systems in which these resources are used, including the moral, physical, ecological, political and economic. Same as GEOG 482 and GEOL 483. Prerequisite: Junior or senior standing, or consent of instructor.

ESE 497  **Special Topics in ESE**  credit: 1 TO 4 hours.
Advanced topics course, consisting of seminar or lectures in subjects not covered by regular course offerings; for advanced undergraduates and graduate students. Possible field study in a prominent geological locality; includes in-class meetings, student-led presentations, and field trip; trips run during spring break, winter break, in mid-end May; dates depend on location. Additional fees may apply. See Class Schedule. Approved for letter and S/U grading. May be repeated in the same or separate terms to a maximum of 12 undergraduate hours or 8 graduate hours. Prerequisite: Consent of instructor.