ENVIRONMENTAL & SUSTAINABILITY STUDIES (CAS)

Description
Website: esp.unl.edu (http://esp.unl.edu)

The environmental and sustainability studies major is designed for students who want to make a difference and contribute to solving environmental challenges on a local to global scale. Solutions to challenges such as climate change, pollution, and resource conservation require individuals who have a broad-based knowledge in the natural and social sciences, as well as strength in a specific discipline. The environmental studies major will provide the knowledge and skills needed for students to work across disciplines and to be competitive in the job market. The environmental and sustainability studies program uses a holistic approach and a framework of sustainability. This framework recognizes the necessity of meeting current resource needs without compromising the environment or the ability of future generations to meet their needs.

Options in the Major
Students may choose to focus their advanced coursework in ways that meet their specific interests and career goals. All students complete a core set of requirements and can determine in consultation with faculty and their academic advisor which specific option to follow. The option will be documented on the final transcript.

Policy, Advocacy, and Social Justice Option
Within the context of the environment, this option provides disciplinary knowledge and proficiency as well as social research skills related to negotiation, advocacy, and discourse; human behavior change; public policy; and social justice and diversity.

Biosphere and Earth Systems Studies Option
Within the context of the environment, this option provides disciplinary knowledge and proficiency in the collection, synthesis, and interpretation of information/data in one of four science-based subdiscipline areas—Earth Systems, Climate, Ecological Systems, and Geospatial technologies.

Additional minor program opportunities: Students interested in environmental and sustainability studies may choose to minor in it through the College of Arts and Sciences or through the environmental education minor or sustainability solutions minor in the College of Agricultural Sciences and Natural Resources, both of which are available to CAS students.

College Admission
The entrance requirements for the College of Arts and Sciences (CAS), including any of the majors or minors offered through the college, are the same as the University of Nebraska–Lincoln General Admission Requirements. In addition to these requirements, the College of Arts and Sciences strongly recommends a third and fourth year of one foreign language in high school. Four years of high school coursework in the same language will fulfill the College of Arts and Sciences’ language requirement. It will also allow students to continue language study at a more advanced level at the University of Nebraska–Lincoln and provide more opportunity to study abroad.

Academic and Career Advising
Academic and Career Advising Center
Not sure where to go or who to ask? The Advising Center team in 107 Oldfather Hall can help. The Academic and Career Advising Center is the undergraduate hub for CAS students in all majors. Centrally located and easily accessed, students encounter friendly, knowledgeable people who are eager to help or connect students to partner resources. Students also visit the Advising Center in 107 Oldfather Hall to:
- Choose or change their major, minor, or degree program.
- Check on policies, procedures, and deadlines.
- Get a college approval signature from the Dean’s representatives.

CAS Career Coaches are available by appointment (in-person or zoom) and located in the CAS Academic and Career Advising Center, 107 Oldfather Hall. They help students explore majors and minors, gain experience, and develop a plan for life after graduation.

Assigned Academic Advisors
Academic advisors are critical resources dedicated to students' academic, personal, and professional success. Every CAS student is assigned an academic advisor based on their primary major. Since most CAS students have more than just a single major, it is important to get to know the advisor for any minors or additional majors. Academic advisors work closely with the faculty to provide the best overall support and the discipline specific expertise. They are available for appointments (in-person or zoom) and through weekly virtual drop-ins. Assigned advisors are listed in MyRED (https://its.unl.edu/myunl/) and their offices may be located in or near the department of the major for which they advise.

Students who have declared a pre-health or pre-law area of interest will also work with advisors in the Exploratory and Pre-Professional Advising Center (Explore Center) in 127 Love South, who are specially trained to guide students preparing to enter a professional school.

For complete and current information on advisors for majors, minors, or pre-professional areas, visit https://cas.unl.edu/major-advisors (https://cas.unl.edu/major-advisors/), or connect with the Arts and Sciences Academic and Career Advising Center, 107 Oldfather Hall, 402-472-4190, casadvising@unl.edu.

Career Coaching
The College believes that Academics + Experience = Opportunities and encourages students to complement their academic preparation with real-world experience, including internships, research, education abroad, service, and leadership. Arts and sciences students have access to a powerful network of faculty, staff, and advisors dedicated to providing information and support for their goals of meaningful employment or advanced education. Arts and sciences graduates have unlimited career possibilities and carry with them important career competencies—communication, critical thinking, creativity, context, and collaboration. They have the skills and adaptability that employers universally value. Graduates are prepared to effectively contribute professionally and personally with a solid foundation to excel in an increasingly global, technological, and interdisciplinary world.

Students should contact the career coaches in the Arts and Sciences Academic and Career Advising Center in 107 Oldfather Hall, or their assigned advisor, for more information. The CAS career coaches help
students explore career options, identify ways to build experience and prepare to apply for internships, jobs, or graduate school, including help with resumes, applications, and interviewing.

**ACE Requirements**

Students must complete one course for each of the ACE Student Learning Outcomes below. Certified course choices are published in the degree audit, or visit the ACE website (http://ace.unl.edu) for the most current list of certified courses.

**ACE Student Learning Outcomes**

**ACE 1:** Write texts, in various forms, with an identified purpose, that respond to specific audience needs, integrate research or existing knowledge, and use applicable documentation and appropriate conventions of format and structure.

**ACE 2:** Demonstrate competence in communication skills.

**ACE 3:** Use mathematical, computational, statistical, logical, or other formal reasoning to solve problems, draw inferences, justify conclusions, and determine reasonableness.

**ACE 4:** Use scientific methods and knowledge to pose questions, frame hypotheses, interpret data, and evaluate whether conclusions about the natural and physical world are reasonable.

**ACE 5:** Use knowledge, historical perspectives, analysis, interpretation, critical evaluation, and the standards of evidence appropriate to the humanities to address problems and issues.

**ACE 6:** Use knowledge, theories, and research perspectives such as statistical methods or observational accounts appropriate to the social sciences to understand and evaluate social systems or human behaviors.

**ACE 7:** Use knowledge, theories, or methods appropriate to the arts to understand their context and significance.

**ACE 8:** Use knowledge, theories, and analysis to explain ethical principles and their importance in society.

**ACE 9:** Exhibit global awareness or knowledge of human diversity through analysis of an issue.

**ACE 10:** Generate a creative or scholarly product that requires broad knowledge, appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection.

**College Degree Requirements**

**College Distribution Requirements – BA and BS**

The College of Arts and Sciences distribution requirements are common to both the bachelor of arts and bachelor of science degrees and are designed to ensure a range of courses. By engaging in study in several different areas within the College, students develop the ability to learn in a variety of ways and apply their knowledge from a variety of perspectives. All requirements are in addition to University ACE requirements, and no course can be used to fulfill both an ACE outcome and a College Distribution Requirement.

- A student may not use a single course to satisfy more than one College Distribution Requirement, with the exception of CDR Diversity. Courses used to meet CDR Diversity may also meet CDR Writing, CDR Humanities, or CDR Social Science.

- Independent study or reading courses and internships cannot be used to satisfy distribution requirements.

- Courses from interdisciplinary programs will be applied in the same area as courses from the home/cross-listed department.

**College Distribution Requirements**

**CDR: Written Communication**

Select from courses approved for ACE outcome 1.

**CDR: Natural, Physical, and Mathematical Sciences with Lab**

Select from biochemistry, biological sciences, chemistry, computer science, geology, meteorology, mathematics, and physics. Must include one lab in the natural or physical sciences. Lab courses may be selected from biochemistry, biological sciences, chemistry, geology, meteorology, and physics.

Some courses from geography and anthropology may also be used to satisfy the lab requirement above.  

**CDR: Humanities**

Select from classics, English, film studies, history, modern languages and literatures, philosophy, and religious studies.

**CDR: Social Science**

Select from anthropology, communication studies, geography, national security studies, political science, psychology, or sociology.

**CDR: Human Diversity in U.S. Communities**

Select from a set of approved courses as listed in the degree audit.

**CDR: Language**

Fulfilled by the completion of the 6-credit-hour second-year sequence in a single foreign language in one of the following departments: Classics and religious studies or modern languages and literatures. Instruction is currently available in Arabic, Chinese, Czech, French, German, Greek, Japanese, Latin, Russian, and Spanish.

A student who has completed the fourth-year level of one foreign language in high school is exempt from the languages requirement, but encouraged to continue on in their language study.

Credit Hours Subtotal: 13-32

1. See Degree Audit or a College of Arts and Sciences advisor for approved geography and anthropology courses that apply as natural science.

2. Language courses numbered 220 and below do not fulfill the CDR Humanities.

3. See Degree Audit or College of Arts and Sciences advisor for list of natural/physical science courses in anthropology, geography, and psychology that do not apply as social science.

**Language Requirement**

The University of Nebraska–Lincoln and the College of Arts and Sciences place great value on academic exposure and proficiency in a second language. The University of Nebraska–Lincoln entrance requirement of two years of the same foreign language or the College's language distribution requirement (CDR: Language) will rarely be waived and only with relevant documentation. See the main College of Arts and Sciences page for more details.
Experiential Learning Requirement
All undergraduates in the College of Arts and Sciences must complete an Experiential Learning (EL) designated course. This may include 0-credit courses designed to document co-curricular activities recognized as Experiential Learning.

Scientific Base - BS Only
The bachelor of science degree requires students to complete 60 hours in mathematical, physical, and natural sciences. Approved courses for scientific-based credit come from the following College of Arts and Sciences disciplines: actuarial science, anthropology (selected courses), astronomy, biochemistry (excluding BIOC 101), biological sciences (excluding BIOS 100 or BIOS 203), chemistry (excluding CHEM 101), geography (selected courses), geology, life sciences, mathematics (excluding courses below MATH 104), meteorology, microbiology (excluding Mbio 101), and physics (excluding PHYS 201.)

See your Degree Audit or your assigned academic advisor for a complete list, including individual classes that fall outside of the disciplines listed above. Up to 12 hours of scientific and technical courses offered by other colleges may be accepted toward this requirement with approval of the College of Arts and Sciences. See your assigned academic advisor to start the approval process.

Minimum Hours Required for Graduation
A minimum of 120 semester hours of credit is required for graduation from the College of Arts and Sciences. A cumulative grade point average of at least 2.0 is required.

Grade Rules
Restrictions on C- and D Grades
The College will accept no more than 15 semester hours of C- and D grades from other domestic institutions except for UNO and UNK. All courses taken at UNO and UNK impact the UNL transcript. No transfer of C- and D grades can be applied toward requirements in a major or a minor. No University of Nebraska–Lincoln C- and D grades can be applied toward requirements in a major or a minor. International coursework (including education abroad) with a final grade equivalent to a C- or lower will not be validated by the College of Arts and Sciences departments to be degree applicable.

Pass/No Pass Privilege
The College of Arts and Sciences adheres to the University regulations for the Pass/No Pass (P/N) privilege with the following additional regulations:

- Pass/No Pass hours can count toward fulfillment of University ACE requirements and college distribution requirements up to the 24-hour maximum.
- Most arts and sciences departments and programs do not allow courses graded Pass/No Pass to apply to the major or minor. Students should refer to the department’s or program’s section of the catalog for clarification. By college rule, departments can allow up to 6 hours of Pass/No Pass in the major or minor.
- Departments may specify that certain courses of theirs can be taken only on a P/N basis.
- The college will permit no more than a total of 24 semester hours of P/N grades to be applied toward degree requirements. This total includes all Pass grades earned at the University of Nebraska–Lincoln and other U.S. schools. NOTE: This 24-hour limit is more restrictive than the University regulation.

Grading Appeals
A student who feels that he/she has been unfairly graded must ordinarily take the following sequential steps in a timely manner, usually by initiating the appeal in the semester following the awarding of the grade:

1. Talk with the instructor concerned. Most problems are resolved at this point.
2. Talk to the instructor’s department chairperson.
3. Take the case to the Grading Appeal Committee of the department concerned. The Committee should be contacted through the department chairperson.
4. Take the case to the College Grading Appeals Committee by contacting the Dean’s Office, 1223 Oldfather Hall.

Course Level Requirements
Courses Numbered at the 300 or 400 Level
Thirty (30) of the 120 semester hours of credit must be in courses numbered at the 300 or 400 level. Of those 30 hours, 15 hours (1/2) must be completed in residence at the University of Nebraska–Lincoln.

Residency Requirement
Students must complete at least 30 of the 120 total hours for their degree at the University of Nebraska–Lincoln. Students must complete at least 1/2 of their major coursework, including 6 hours at the 300 or 400 level in their major and 15 of the 30 hours required at the 300 or 400 level, in residence. Credit earned during education abroad may be used toward the residency requirement only if students register through the University of Nebraska–Lincoln.

Catalog to Use
Students must fulfill the requirements stated in the catalog for the academic year in which they are first admitted to and enrolled as a degree-seeking student at the University of Nebraska–Lincoln. In consultation with advisors, a student may choose to follow a subsequent catalog for any academic year in which they are admitted to and enrolled as a degree-seeking student at the University of Nebraska–Lincoln in the College of Arts and Sciences. Students must complete all degree requirements from a single catalog year. Beginning in 1990-1991, the catalog which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

Transfer Students: Students who have transferred from a community college may be eligible to fulfill the requirements as stated in the catalog for an academic year in which they were enrolled at the community college prior to attending the University of Nebraska-Lincoln. This decision should be made in consultation with academic advisors, provided the student a) was enrolled in a community college during the catalog year they are utilizing, b) maintained continuous enrollment at the previous institution for 1 academic year or more, and c) continued enrollment at the University of Nebraska-Lincoln within 1 calendar year from their last term at the previous institution. Students must complete all degree requirements from a single catalog year and within the timeframe allowable for that catalog year.

Learning Outcomes
Graduates with a major in environmental and sustainability studies will:

1. Explain and apply appropriately the systemic principle of sustainability for the development of solutions to environmental and natural resource issues.
2. Organize, plan, and satisfactorily complete a senior project through scholarly creativity and/or in-depth research that uses appropriate technical knowledge, field, laboratory, geospatial, and/or social science research methodologies.

3. Demonstrate the ability to critically assess environmental and sustainability issues from the local to global scale considering a range of perspectives.

4. Identify, explain, and evaluate problems/questions/issues using relevant data, resources, and reasoning to form carefully considered conclusions.

5. Communicate effectively to a range of audiences through the preparation of written documents along with oral and visual presentations that are consistent with professional standards.

6. Describe Earth’s four major spheres: land, water, living things, and air; their variability over space and time; and the extent to which humans influence them.

7. Effectively work in teams and groups from various backgrounds and perspectives to address environmental challenges.

8. Demonstrate improvement in professional and interpersonal skills such as collaboration, critical thinking, problem solving, empathy, and teamwork to effectively operate in society and the professional world.

Graduates with a major in environmental and sustainability studies, policy, advocacy and social justice option will:

1. Assess policies in the context of environmental and sustainability issues.

2. Evaluate the extent to which solutions to environmental problems are equitable and environmentally just.

Graduates with a major in environmental and sustainability studies, biosphere and earth systems studies option will:

1. Apply a systems approach to describe the relationships among Earth’s four major spheres: land, water, living things, and air.

2. Demonstrate knowledge of how the relationships among spheres are shaped by physical, geological, and biological processes, variability across space and time, and the extent to which humans influence them.

**Major Requirements**

Environmental and sustainability studies core requirements plus completion of one of the options: Policy, Advocacy, and Social Justice or Biosphere and Earth Systems Studies.

**Core Requirements**

**Required Courses**

- **ENVR 101** Environmental Studies Orientation 1
- **ENVR 201** Science, Systems, Environment and Sustainability 3
- **ENVR 249 / NRES 249** Individual and Cultural Perspectives on the Environment 3
- **ENVR 319** Environmental Engagement and the Community 2
- **ENVR 334 / PSYC 334** Psychology of Environmental Sustainability 3

- **ENVR 495** Internship in Environmental Studies 1
- **ENVR 489 & ENVR 499** Environmental Studies Senior Thesis I or ENVR 489H & ENVR 499H Honors: Environmental Studies Senior Thesis I 3
  
  or ENVR 489H & ENVR 499H Honors: Environmental Studies Senior Thesis II

Credit Hours Subtotal: 16

**Option Courses**

Complete the requirement for one of the two options: Policy, Advocacy, and Social Justice or Biosphere and Earth Systems Studies. See below for specific option requirements.

1. ENVR 489 & ENVR 499 are the capstone courses for environmental and sustainability studies majors. ENVR 489H and ENVR 499H are the capstone courses for Honors students.

**Policy, Advocacy, and Social Justice Option**

**Natural Science Foundations**

12-16

Select a course or sequence from four of the following areas:

**Life Science**

- BIOS 101 General Biology
- BIOS 101L General Biology Laboratory
- LIFE 120 Fundamentals of Biology I
- LIFE 120L Fundamentals of Biology I Laboratory

**Chemistry**

- CHEM 105A Chemistry in Context I
- CHEM 105L Chemistry in Context I Laboratory
- CHEM 109A General Chemistry I
- CHEM 109L General Chemistry I Laboratory
- CHEM 113A Fundamental Chemistry I
- CHEM 113L Fundamental Chemistry I Laboratory

**Ecology**

- BIOS 207 Ecology and Evolution
- NRES 220 Principles of Ecology

**Earth Systems**

- ENSC 110 Energy in Perspective
- GEOL 101 Dynamic Earth
- GEOL 106 Environmental Geology
- GEOG 155 Elements of Physical Geography
- GEOG 181 Global Environmental Issues
- NRES 108 Earth’s Natural Resource Systems Laboratory

**Climate**

- METR 100 Weather and Climate
- METR 180 Climate Change, Energy, and the Environment
- NRES 104 Climate in Crisis
- NRES 208 Climate Literacy in Natural Resources

**Water**

- GEOG 281 / NRES 281 / WATS 281 Introduction to Water Science
or ENVR 109 Water in Society
SCIL 109 / AECN 109 / NRES 109 / GEOG 109

### Soil

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>SOIL 153</td>
<td>Soil Resources</td>
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<td>PLAS 153</td>
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**Option Courses**  

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<th>Course Code</th>
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Select at least one course from each of the following areas, with at least 9 hours at the 300 or 400 level.

**Negotiation, Advocacy, and Discourse**

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<tr>
<th>Course Code</th>
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<tr>
<td>COMM 209</td>
<td>Public Speaking</td>
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<td>COMM 212</td>
<td>Debate</td>
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<td>Rhetoric, Media, and Civic Life</td>
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<td>COMM 312</td>
<td>Argumentation</td>
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<td>COMM 355</td>
<td>Community and Identity in the Digital Age</td>
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<td>COMM 375</td>
<td>Theories of Persuasion</td>
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**Human Behavior and Change**

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<tr>
<td>ANTH 473</td>
<td>Ecological Anthropology</td>
</tr>
<tr>
<td>COMM 271</td>
<td>Organizing Social Change</td>
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<tr>
<td>GEOG 450</td>
<td>Climate and Society</td>
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<td>METR 450</td>
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<td>NRES 452</td>
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<td>PLAS 450</td>
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<tr>
<td>NRES 315</td>
<td>Human Dimensions of Fish and Wildlife Management</td>
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<tr>
<td>POLS 250</td>
<td>Genetics, Brains, and Politics</td>
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<td>PSYC 288</td>
<td>The Psychology of Social Behavior</td>
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<td>SOCI 346</td>
<td>Environmental Sociology</td>
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**Power, Politics, and Policy**

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<tr>
<td>AECN 357</td>
<td>Natural Resource and Environmental Law</td>
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<td>NREE 357</td>
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<td>AECN 456</td>
<td>Environmental Law</td>
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<td>ALEC 410</td>
<td>Environmental Leadership</td>
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<td>NRES 413</td>
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<tr>
<td>CRPL 470</td>
<td>Environmental Planning and Policy</td>
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<td>ECON 200</td>
<td>Economic Essentials and Issues</td>
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<td>ENSC 230</td>
<td>Energy and the Environment: Economics and Policy</td>
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<td>NRES 323</td>
<td>Natural Resources Policy</td>
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<td>PHIL 225</td>
<td>Environmental Ethics</td>
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<td>POLS 100</td>
<td>Power and Politics in America</td>
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<td>POLS 108</td>
<td>Political Ideas</td>
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<td>POLS 221</td>
<td>Politics in State and Local Governments</td>
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<td>POLS 332</td>
<td>Climate Change: Policy and Politics</td>
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<td>POLS 334</td>
<td>Polls, Politics and Public Opinion</td>
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<td>COMM 334</td>
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<td>POLS 430</td>
<td>Political Communication</td>
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<td>COMM 430</td>
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**Data Analysis and Research Methods**

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**Biosphere and Earth Systems Studies Option**

**Human Dimensions Foundations**  

Select one course from each of the following areas:

**Negotiation, Advocacy, and Discourse**

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**Power, Politics, and Policy**

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<tr>
<td>AECN 265</td>
<td>Resource and Environmental Economics I</td>
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<td>NREE 265</td>
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<tr>
<td>AECN 357</td>
<td>Natural Resource and Environmental Law</td>
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<td>Power and Politics in America</td>
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<td>POLS 108</td>
<td>Political Ideas</td>
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<td>PHIL 225</td>
<td>Environmental Ethics</td>
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<tr>
<td>STAT 218</td>
<td>Introduction to Statistics</td>
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<td>or STAT 380</td>
<td>Statistics and Applications</td>
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**Required Option Courses**  
32-35

**Life Science**
- LIFE 120 & LIFE 120L Fundamentals of Biology I and Fundamentals of Biology I Laboratory
- LIFE 121 & LIFE 121L Fundamentals of Biology II and Fundamentals of Biology II Laboratory

**Chemistry**
- CHEM 109A & CHEM 109L General Chemistry I and General Chemistry I Laboratory
- or CHEM 111:Fundamental Chemistry I Laboratory
- & CHEM 113

**Ecology**
- BIOS 207 Ecology and Evolution or NRES 220 Principles of Ecology

**Earth Systems**
Select one of the following:
- ENSC 110 Energy in Perspective
- GEOL 101 Dynamic Earth
- GEOL 106 Environmental Geology
- GEOG 155 Elements of Physical Geography
- GEOG 181 Global Environmental Issues
- NRES 108 Earth's Natural Resource Systems Laboratory

**Climate**
Select one of the following:
- METR 100 Weather and Climate
- METR 180 Climate Change, Energy, and the Environment
- NRES 104 Climate in Crisis
- NRES 208 Climate Literacy in Natural Resources

**Water**
- GEOG 281 / NRES 281 / WATS 281 Introduction to Water Science
- or ENVR 109 Water in Society
- SCIL 109 / AECN 109 / NRES 109 / GEOG 109

**Soil**
- SOIL 153 / PLAS 153 Soil Resources

**Geospatial Science**
- NRES 218 Introduction to Geospatial Technologies

**Advanced Option Sub-Area**  
9
Select at least 9 hours from one of the following sub-areas, with at least 6 hours at the 300 or 400 level.

**Earth Systems**
- BIOS 454 / NRES 454 Ecological Interactions
- BIOS 458 / NRES 468 / WATS 468 / BSEN 468 Wetlands
- GEOL 200 Mineralogy
- GEOL 201 Igneous and Metamorphic Petrology
- GEOL 308 / GEOG 308 / NRES 308 Biogeography
- GEOL 372 Water & Earth Connections
- GEOL 410 Geochemistry
- GEOL 423 / GEOG 450 / NRES 452 / PLAS 450 Quaternary Paleoclimatology and Paleoecology
- GEOL 424 / BIOS 424 Biogeochemical Cycles
- GEOL 488 / NRES 488 Groundwater Geology

**Climate**
- METR 270 Global warming: Science, Impacts, Solutions
- METR 370 / NRES 370 Applied Climatology
- METR 450 / GEOG 450 / NRES 452 / PLAS 450 Climate and Society
- METR 470 The Climate System: Analysis and Prediction
- METR 478 / NRES 478 Regional Climatology

**Ecology**
- BIOS 300 / ENTO 300 / NRES 300 Toxins in the Environment
- BIOS 337 Applications of Bioinformatics
- BIOS 406 / ENTO 406 Insect Ecology
- BIOS 416 Biodiversity Conservation
- BIOS 444 / GEOG 444 Earth and Environmental Microbiology
- BIOS 454 / NRES 454 Ecological Interactions
- BIOS 457 / GEOG 457 Ecosystem Ecology
### Environmental & Sustainability Studies (CAS)

| BIOS 458 / NRES 468 / WATS 468 / BSEN 468 | Wetlands       |
| BIOS 459 / NRES 459 / WATS 459         | Limnology      |
| BIOS 481 / NRES 481 / WATS 481         | Stream and River Ecology |
| GEOG 200 / LARC 200 / PLAS 200         | Landscape and Environmental Appreciation |

#### Geospatial Science

- CRPL 430 Planning with GIS
- CRPL 432 Advanced Spatial Analysis with GIS
- CRPL 433 GIS in Environmental Design and Planning
- GEOG 418 / NRES 418 Introduction to Remote Sensing
- GEOG 419 / GEOL 419 / NRES 420 / PLAS 419 Applications of Remote Sensing in Agriculture and Natural Resources
- GEOG 421 / NRES 421 Field Techniques in Remote Sensing
- GEOG 422 Advanced Techniques in Geographic Information Systems
- GEOG 427 / NRES 427 Introduction to the Global Positioning System (GPS)
- NRES 218 Introduction to Geospatial Technologies

Total Credit Hours: **50-54**

### Additional Major Requirements

#### Grade Rules

**C- and D Grades**

A grade of C or higher is required in all major courses.

#### Pass/No Pass

No courses taken Pass/No Pass will count toward the major or minor.

### Requirements for Minor Offered by Department

#### Environmental Studies Minor

At least eighteen (18) hours, with six (6) hours at the 300 level or above.

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVR 101</td>
<td>Environmental Studies Orientation</td>
<td>1</td>
</tr>
<tr>
<td>ENVR 201</td>
<td>Science, Systems, Environment and Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>ENVR 249 / NRES 249</td>
<td>Individual and Cultural Perspectives on the Environment</td>
<td>3</td>
</tr>
<tr>
<td>ENVR 319</td>
<td>Environmental Engagement and the Community</td>
<td>2</td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: **9**

#### Earth and Environmental Systems

Select one course from the following: 3-4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 207</td>
<td>Ecology and Evolution</td>
</tr>
<tr>
<td>ENVR 110</td>
<td>Energy in Perspective</td>
</tr>
<tr>
<td>GEOG 155</td>
<td>Elements of Physical Geography</td>
</tr>
<tr>
<td>GEOG 181</td>
<td>Global Environmental Issues</td>
</tr>
<tr>
<td>GEOG 281</td>
<td>Introduction to Water Science</td>
</tr>
<tr>
<td>GEOL 101</td>
<td>Dynamic Earth</td>
</tr>
<tr>
<td>GEOL 106</td>
<td>Environmental Geology</td>
</tr>
<tr>
<td>METR 100</td>
<td>Weather and Climate</td>
</tr>
<tr>
<td>METR 180</td>
<td>Climate Change, Energy, and the Environment</td>
</tr>
<tr>
<td>NRES 104</td>
<td>Climate in Crisis</td>
</tr>
<tr>
<td>NRES 108</td>
<td>Earth's Natural Resource Systems Laboratory</td>
</tr>
<tr>
<td>NRES 208</td>
<td>Climate Literacy in Natural Resources</td>
</tr>
<tr>
<td>NRES 220</td>
<td>Principles of Ecology</td>
</tr>
<tr>
<td>SOIL 153 / PLAS 153</td>
<td>Soil Resources</td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: **3**

#### Human Dimensions

Select one course from the following: 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 473</td>
<td>Ecological Anthropology</td>
</tr>
<tr>
<td>COMM 209</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>COMM 212</td>
<td>Debate</td>
</tr>
<tr>
<td>COMM 220</td>
<td>Public Advocacy and Civic Engagement</td>
</tr>
<tr>
<td>COMM 250</td>
<td>Rhetoric, Media, and Civic Life</td>
</tr>
<tr>
<td>COMM 271</td>
<td>Organizing Social Change</td>
</tr>
<tr>
<td>COMM 312</td>
<td>Argumentation</td>
</tr>
<tr>
<td>COMM 355</td>
<td>Community and Identity in the Digital Age</td>
</tr>
<tr>
<td>COMM 375</td>
<td>Theories of Persuasion</td>
</tr>
<tr>
<td>GEOG 450 / METR 450 / NRES 452 / PLAS 450</td>
<td>Climate and Society</td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: **3**

#### Economics and Policy

Select one course from the following: 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AECN 357 / NREE 357</td>
<td>Natural Resource and Environmental Law</td>
</tr>
<tr>
<td>AECN 456 / NRE 456</td>
<td>Environmental Law</td>
</tr>
</tbody>
</table>

Credit Hours Subtotal: **3**

### Total Credit Hours

50-54
ALEC 410 / NRES 413 | Environmental Leadership
CRPL 470 | Environmental Planning and Policy
ECON 200 | Economic Essentials and Issues
ENSC 230 | Energy and the Environment: Economics and Policy
NRES 323 | Natural Resources Policy
PHIL 225 | Environmental Ethics
POLS 100 | Power and Politics in America
POLS 108 | Political Ideas
POLS 221 | Politics in State and Local Governments
POLS 332 | Climate Change: Policy and Politics
POLS 334 | Polls, Politics and Public Opinion
COMM 334 | Political Communication
COMM 430 | Community Engagement

Credit Hours Subtotal: 3

Total Credit Hours 18

Grade Rules
C- and D Grades
A grade of C or higher is required in all minor courses.

Pass/No Pass
No courses taken Pass/No Pass will count toward the major or minor.

ENVR 101 Environmental Studies Orientation
Description: A comprehensive overview of the discipline of Environmental Studies. Investigate current and critical environmental issues.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Grading Option: Graded with Option

ENVR 109 Water in Society
Crosslisted with: SCIL 109, AECN 109, NRES 109, GEOG 109
Description: Introduction to the scientific, social, and economic dimensions of historical and contemporary water systems. Students will develop an understanding of hydrologic systems and analyze and engage in decision-making about complex challenges associated with water resource use.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Offered: FALL
Prerequisite for: SCIL 300
ACE: ACE 8 Civic/Ethics/Stewardship ACE 4 Science

ENVR 189H University Honors Seminar
Prerequisites: Good standing in the University Honors Program or by invitation.
Notes: A University Honors Seminar 189H course is required of all students in the University Honors Program. Letter Grade Only.
Description: Topics vary.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded
ACE: ACE 8 Civic/Ethics/Stewardship

ENVR 201 Science, Systems, Environment and Sustainability
Description: Application of basic Earth system and ecosystem science concepts for understanding: natural systems; the relationships and interactions between the living and the non-living environment; current and future environmental challenges; the importance of considering scientific evidence and uncertainty; and the implementation of the sustainability concepts.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
ACE: ACE 8 Civic/Ethics/Stewardship

ENVR 249 Individual and Cultural Perspectives on the Environment
Crosslisted with: NRES 249
Description: The influence of culture on individual perspectives related to the concepts of sustainability and the relationship that humans have with the environment. The role of ethics, religion, and historical setting on the individual and cultural perspectives related to environmental challenges at the local to global scales.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
ACE: ACE 9 Global/Diversity

ENVR 319 Environmental Engagement and the Community
Description: The processes of environmental agencies and organizations use to develop and implement projects and programs. The development of their project proposal, work plans, budgets, and final report. Requires developing and implementing projects and programs in collaboration with clients who are from agencies and organizations working with environmental issues.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Grading Option: Graded with Option
Experiential Learning: Case/Project-Based Learning

ENVR 334 Psychology of Environmental Sustainability
Crosslisted with: PSYC 334
Description: Applications of psychological principles to understand human transactions with their environments and find behavior-based solutions to environmental problems.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
 ACE: ACE 8 Civic/Ethics/Stewardship

ENVR 434 Environmental Education and Interpretation
Crosslisted with: NRES 434, NRES 834
Notes: Requires 20 hours of service.
Description: Examination of formal and informal environmental education and interpretation. Knowledge, application and practice relevant to science teachers and park, extension, museums, and zoo educators.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Grading Option: Graded with Option
Course and Laboratory Fee: $40
Experiential Learning: Community Engagement
ENVR 489 Environmental Studies Senior Thesis I  
**Prerequisites:** ENVR major or minor; junior or senior standing  
**Notes:** First course of a two-semester sequence of courses consisting of ENVR 489 and 499. Letter Grade only.  
**Description:** Preparation for writing the required senior thesis.  
**Credit Hours:** 1  
**Max credits per semester:** 1  
**Max credits per degree:** 1  
**Grading Option:** Graded  
**Prerequisite for:** ENVR 499  
**ACE:** ACE 10 Integrated Product  

ENVR 489H Honors: Environmental Studies Senior Thesis I  
**Prerequisites:** University Honors Program; ENVR major or minor; junior or senior standing;  
**Notes:** First course of a two-semester sequence of courses consisting of ENVR 489H and 499H. Letter Grade only.  
**Description:** Preparation for writing the required senior thesis.  
**Credit Hours:** 1  
**Max credits per semester:** 1  
**Max credits per degree:** 1  
**Grading Option:** Graded  
**ACE:** ACE 10 Integrated Product  

ENVR 495 Internship in Environmental Studies  
**Prerequisites:** Permission.  
**Description:** Experience in off-campus setting that is directly relevant to environmental studies.  
**Credit Hours:** 1-6  
**Min credits per semester:** 1  
**Max credits per semester:** 6  
**Max credits per degree:** 6  
**Grading Option:** Graded with Option  

ENVR 496 Independent Study  
**Prerequisites:** Permission.  
**Description:** Independent reading or research under direction of a faculty member.  
**Credit Hours:** 1-3  
**Min credits per semester:** 1  
**Max credits per semester:** 3  
**Max credits per degree:** 6  
**Grading Option:** Graded with Option  

ENVR 499 Environmental Studies Senior Thesis II  
**Prerequisites:** ENVR 489  
**Notes:** Second course of a two-semester sequence of courses consisting of ENVR 489 and 499.  
**Description:** Required thesis written under the supervision of the emphasis advisor or a faculty member designated by the advisor.  
**Credit Hours:** 2  
**Max credits per semester:** 2  
**Max credits per degree:** 2  
**Grading Option:** Graded with Option  
**ACE:** ACE 10 Integrated Product  

PLEASE NOTE  
This document represents a sample 4-year plan for degree completion with this major. Actual course selection and sequence may vary and should be discussed individually with your college or department academic advisor. Advisors also can help you plan other experiences to enrich your undergraduate education such as internships, education abroad, undergraduate research, learning communities, and service learning and community-based learning.

Environmental & Sustainability Studies - Biosphere and Earth Systems Studies (B.S.)  
Environmental & Sustainability Studies - Policy, Advocacy, and Social Justice (B.S.)  

**Career Information**  
The following represents a sample of the internships, jobs and graduate school programs that current students and recent graduates have reported.

**Transferable Skills**  
• Confidently navigate complex, ambiguous projects and environments  
• Conduct and present research to large and small groups  
• Integrate information and perspectives from multiple disciplines to solve problems  
• Collaborate with a team to develop solutions  
• Communicate clearly using different forms of writing to and for a variety of different audiences  
• Comprehend and critically evaluate complex information  
• Understand and use proper laboratory and technical skills and instruments  
• Offer empathetic, sensitive, and patient interactions with others  
• Understand and utilize a variety of research methodologies

**Jobs of Recent Graduates**  
• Environmental Education Intern, Pottawatomie Conservation – Honey Creek, IA  
• Assistant Scientist, Olsson – Lincoln, NE  
• Scientist, State of Nebraska Department of Agriculture – Lincoln, NE  
• Manager, Glacial Till Winery – Lincoln, NE  
• Integrated Water Management Planner Assistant, Nebraska Dept of Natural Resources – Lincoln, NE
• Biological Technician, United States Dept of Agriculture-AMRU – Lincoln, NE
• Crime Analyst, Lincoln Police Department – Lincoln, NE
• Integrated Management Technical Assistant, Nebraska Dept of Natural Resources – Lincoln, NE

Internships
• Integrated Water Management Planner Assistant, Nebraska Dept of Natural Resources - Lincoln NE
• Biological Technician, USDA-AMRU - Lincoln NE
• Natural Resource Intern, JEO Consulting - Lincoln NE
• Pathways Intern, USDA Natural Resources Conservation Service - Lincoln NE
• Integrated Management Technical Assistant, NE Dept of Natural Resources - Lincoln NE
• Environmental Health Waste Section Intern, Lincoln-Lancaster County Health Dept - Lincoln NE
• Intern, Olsson Associates - La Vista NE
• Crime Analysis, Lincoln Police Department - Lincoln NE
• Project Manager Assistant Intern, LI-COR Biosciences - Lincoln NE
• Waste Section Intern, Lancaster County Health Department - Lincoln NE
• Integrated Water Management Planner Assistant, Nebraska Department of Natural Resources - Lincoln NE
• Biological Technician, USDA-AMRU - Lincoln NE
• Natural Resource Intern, JEO Consulting - Lincoln NE
• Pathways Intern, USDA - Natural Resource Conservation Services - Lincoln NE
• Permaculture Intern, Big Island Farms - Honokaa HI

Graduate & Professional Schools
• Master’s Degree, Natural Resources, University of Nebraska-Lincoln – Lincoln, NE
• Master’s Degree, Agronomy-Plant Pathology, University of Nebraska-Lincoln – Lincoln, NE
• Master’s Degree, Environmental Science and Policy, Indiana University – Bloomington, IN
• Master’s Degree, Energy, Technology, & Policy, Humboldt State University – Arcata, CA
• Master’s Degree, Environmental Policy, University of Michigan – Ann Arbor, MI
• Master’s Degree, Geography, University of Nebraska-Lincoln – Lincoln, NE
• Master’s Degree, Public Health, University of Nebraska Medical Center – Omaha, NE
• Master’s Degree, Water Biogeochemistry, University of Nebraska-Lincoln – Lincoln, NE
• Juris Doctorate, University of Nebraska College of Law – Lincoln, NE