

NATURAL RESOURCES & ENVIRONMENTAL SCIENCES: ECOSYSTEM STEWARDSHIP & RESTORATION ECOLOGY, BS

for the degree of Bachelor of Science in Natural Resources & Environmental Sciences, Ecosystem Stewardship & Restoration Ecology Concentration

Ecosystem Stewardship and Restoration Ecology emphasizes the ecology, structure, and function of ecosystems, with a particular focus on plant communities and their interactions with the living and non-living parts of ecosystems. It is designed for students interested in the fundamental properties and practices underlying the restoration and management of soil, watershed, wetland, forest, and grassland ecosystems. The concentration includes coursework in the areas of restoration, landscape, and plant ecology, as well as courses focused on specific ecosystems (e.g. streams, wetlands, agroecosystems), invasive species, community ecology, and ecosystem science.

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Graduation Requirements

Minimum hours for graduation: 126 hours.

University Requirements

Minimum of 40 hours of upper-division coursework generally at the 300- and 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (<https://studentcode.illinois.edu/article3/part8/3-801/>) (§ 3-801) and in the Academic Catalog (<http://catalog.illinois.edu/general-information/degree-general-education-requirements/>).

General Education Requirements

Follows the campus General Education (Gen Ed) requirements (<https://courses.illinois.edu/gened/DEFAULT/DEFAULT/>). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Code	Title	Hours
	Composition I	4-6
	Advanced Composition	3
	Humanities & the Arts (6 hours)	6
	Natural Sciences & Technology (6 hours)	6
	fulfilled by CHEM 102, CHEM 104, IB 103; and IB 104 or IB 150; and ABE 152 or ACES 102 or ATMS 140 or CPSC 113 or GEOL 107 or GEOL 118 or GGIS 103 or MCB 100 or MCB 150 or NPRE 101 or PHYS 101 or PHYS 211	
	Social & Behavioral Sciences (6 hours)	6

	fulfilled by ACE 100 or ECON 102; and NRES 287	
	Cultural Studies: Non-Western Cultures (1 course)	3
	Cultural Studies: Western/Comparative Cultures (1 course)	3
	fulfilled by NRES 287	
	Cultural Studies: US Minority Cultures (1 course)	3
	Quantitative Reasoning (6-10 hours; at least one course must be Quantitative Reasoning I)	6-10
	fulfilled by MATH 220 or MATH 221 or MATH 234; and ACE 262 or CPSC 241 or ECON 202 or PSYC 235 or SOC 280 or STAT 100 or STAT 107	
	Language Requirement (0-15 hours; completion of the third semester or equivalent of a language other than English is required)	0-15

Code	Title	Hours
Major Requirements		
	Communications Requirement	3 or 6
	Select from the following:	
CMN 101	Public Speaking	
CMN 111 & CMN 112	Oral & Written Comm I and Oral & Written Comm II	
ALEC 115	Let's Talk about Food, Agriculture, and the Environment	
	Economics Requirement	3-4
	Select from the following:	
ACE 100	Introduction to Applied Microeconomics	
ECON 102	Microeconomic Principles	
	Math Requirement	4-5
	Select from the following:	
MATH 220	Calculus	
MATH 221	Calculus I	
MATH 234	Calculus for Business I	
	Statistics Requirement	3-4
	Select from the following:	
ACE 262	Applied Statistical Methods and Data Analytics I	
CPSC 241	Intro to Applied Statistics	
ECON 202	Economic Statistics I	
PSYC 235	Intro to Statistics	
SOC 280	Intro to Social Statistics	
STAT 100	Statistics	
STAT 107	Data Science Discovery	
	Science Requirements	19-22
CHEM 102 & CHEM 103	General Chemistry I and General Chemistry Lab I	
CHEM 104 & CHEM 105	General Chemistry II and General Chemistry Lab II	
IB 103	Introduction to Plant Biology	
IB 104	Animal Biology	
or IB 150 & IB 151	Organismal & Evolutionary Biol and Organismal & Evol Biol Lab	
	Select one additional course from the following:	
ABE 152	Water in the Global Environment	
ACES 102	Intro Sustainable Food Systems	

ATMS 140	Climate and Global Change	
CPSC 113	Environment, Agriculture, and Society	
GEOL 107	Physical Geology	
GEOL 118	Natural Disasters	
GGIS 103	Earth's Physical Systems	
MCB 100	Introductory Microbiology	
MCB 150	Molecular & Cellular Basis of Life	
NPRE 101	Introduction to Energy Sources	
PHYS 101	College Physics: Mech & Heat	
PHYS 211	University Physics: Mechanics	
College of ACES Requirements (Core)		2
NRES 123	NRES Orientation to Illinois	
Natural Resources and Environmental Sciences Requirements (Core)		31-33
NRES 102	Introduction to NRES	
NRES 201	Introductory Soils	
NRES 219	Applied Ecology	
NRES 287	Environment and Society	
NRES 325	Natural Resource Policy Mgmt	
NRES 348	Fish and Wildlife Ecology	
NRES 385	Field Experience	
NRES 421	Quantitative Methods in NRES	
NRES 454	GIS in Natural Resource Mgmt	
NRES 456	Integrative Ecosystem Management	
Select one additional field experience course from the following:		
NRES 293	Professional Internship	
NRES 294	Resident Internship	
NRES 295	Undergrad Research or Thesis	
NRES 385	Field Experience	
NRES 396	UG Honors Research or Thesis	
Code	Title	Hours
Concentration Core Requirements		
NRES 419	Env and Plant Ecosystems	3
NRES 420	Restoration Ecology	4
NRES 465	Landscape Ecology	3
Concentration Elective Requirements		
Two Ecology Courses		6-8
NRES 302	Dendrology	
NRES 362	Ecology of Invasive Species	
NRES 407	Wildlife Population Ecology	
NRES 415	Native Plant ID and Floristics	
CPSC 431	Plants and Global Change	
IB 329	Animal Behavior	
IB 439	Biogeography	
IB 444	Insect Ecology	
IB 452	Ecosystem Ecology	
IB 453	Community Ecology	
One Ecosystem or Management Course		3-4
NRES 401	Watershed Hydrology	
NRES 409	Fishery Ecol and Conservation	
NRES 418	Wetland Ecology & Management	

NRES 427	Modeling Natural Resources	
NRES 429	Aquatic Ecosystem Conservation	
NRES 434	Environment, Policy, and Conflict	
NRES 455	Advanced GIS for Environmental Management	
NRES 480	Human-Wildlife Interactions	
NRES 482	Aquatic Biogeochemistry	
NRES 485	Stream Ecology	
CPSC 437	Principles of Agroecology	
GGIS 476	Environmental Remote Sensing	
IB 361	Ecology and Human Health	
IB 451	Conservation Biology	
UP 406	Urban Ecology	
Total Concentration Hours		19-22
Total Hours		126

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence. For guidance on creating your own degree sequence, consult the Graduation Plan Handout (<https://go.illinois.edu/gradplan/>).

Students must fulfill their Language Other Than English requirement by successfully completing a third level of a language other than English. For more information, see the corresponding section on the Degree and General Education Requirements page.

First Year	
First Semester	Hours
NRES 102	3
NRES 123	2
Composition I or Communications Requirement	4
IB 104 or 150 and 151	4
Language Other Than English (3rd level)	4
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17	

Second Semester	
Second Semester	Hours
CHEM 102	3
CHEM 103	1
Communications Requirement or Composition I	3
Math Requirement	4

IB 103	4
Total Hours	15

Total Hours 15

Second Year

First Semester	Hours
NRES 219	3
CHEM 104	3
CHEM 105	1
ACE 100 or ECON 102	4
Choose additional course from Science Requirement list	3
General Education course	3
Total Hours	17

Total Hours 17

Second Year

Second Semester	Hours
NRES 287	3
NRES 201	4
Statistics Requirement	3
General Education course	3
Free Elective course	3
Total Hours	16

Total Hours 16

Third Year

First Semester	Hours
NRES 454	4
NRES 348	3
NRES 325	3
Field Experience course	2
Free Elective course	3
Total Hours	15

Total Hours 15

Third Year

Second Semester	Hours
NRES 420	4
Ecosystem or Management course	3
Ecology course	3
General Education course	3
Free Elective course	3
Total Hours	16

Total Hours 16

Fourth Year

First Semester	Hours
NRES 385	2
NRES 419	3
NRES 465	3
General Education course	4

Free Elective course	3
Total Hours	15

Total Hours 15

Fourth Year

Second Semester	Hours
NRES 456	3
NRES 421	3
Ecology course	3
General Education course	3
Free Elective course	3
Total Hours	15

Total Hours 15

Total Hours: 126

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Students graduating with the B.S. in NRES should be able to:

1. Understand the scientific method/ways of knowing and critically evaluate information.
2. Integrate principles of biological, chemical, physical, and social sciences and apply them to resource and environmental issues using a systems approach.
3. Understand ecological principles underpinning management of resources, populations, communities, and ecosystems.
4. Use data collection and analysis tools (such as field methods, GIS, modeling, and statistics) to develop plans for managing resource/environmental challenges and adapt plans in response to rapid change.
5. Understand the policies governing resources and the environment and identify social dimensions (stakeholders, interests, trade-offs, synergies, ethical principles) to consider in the development of management plans.
6. Communicate effectively with colleagues, stakeholders, and the public about environmental and resource management issues.
7. Recognize how diverse groups understand the environment, experience positive and negative environmental impacts, and perceive just and equitable solutions.

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Natural Resources & Environmental Sciences

Natural Resources & Environmental Sciences website (<https://nres.illinois.edu/>)
 W-503 Turner Hall
 1102 S. Goodwin Ave.
 Urbana, IL 61801
 (217) 333-2770
 nres@illinois.edu

Advising

Advising Website (<https://nres.illinois.edu/academics/undergraduate-degree/academic-resources/>)
(217) 333-5824
nres-ssc@illinois.edu

College of Agricultural, Consumer & Environmental Sciences

College of Agricultural, Consumer & Environmental Sciences website
(<https://aces.illinois.edu/>)

ACES Office of Academic Programs

128 Mumford Hall
1301 West Gregory Drive
Urbana, IL 61801
(217) 333-3380
aces-academics@illinois.edu

Admissions

ACES Undergraduate Admissions (<https://aces.illinois.edu/admissions/>)
University of Illinois Urbana-Champaign Undergrad Admissions (<https://www.admissions.illinois.edu/>)
(217) 333-3380
visitACES@illinois.edu