ENVIRONMENTAL SCIENCE (BS)

Solving the world's most pressing environmental problems requires understanding the scientific aspects of sustainability. Our program in environmental science prepares students to develop innovative solutions to challenges such as climate change, air and water pollution, and biodiversity loss.

CURRICULUM

Environmental Science students complete coursework that includes both a heavy dose of basic science requirements and courses spanning a variety of disciplines pertinent to understanding the context in which environmental challenges reside.

Code	Title	Hours
Core Curriculum		
ENVS 137	Foundations of Environmental Science I	3
BIOL 101	General Biology I	3
BIOL 111	General Biology I Lab	1
CHEM 160	Chemical Structure and Properties	3
CHEM 161	Chemical Structure and Properties Laboratory	1
BIOL 102	General Biology II	3
BIOL 112	General Biology II Lab	1
CHEM 180	Chemical Reactivity I	3
CHEM 181	Chemical Reactivity I Lab	1
ENVS 200	Environmental Careers and Professional Skills	1
ENVS 203	Environmental Statistics	3
ENVS 274	Chemistry of the Environment	3
ENVS 275	Chemistry of the Environment Lab	1
ENVS 280	Principles of Ecology	3
ENVS 286S	Principles of Ecology Lab	1
PLSC 392	Environmental Politics	3
Justice and Ethics Choice		
Select one of the following:		3
ENVS 284	Environmental Justice	
PHIL 287	Environmental Ethics	
THEO 204	Religious Ethics and the Ecological Crisis	
Economics Choice		
ENVS 335	Ecological Economics	3
or ECON 328	Environmental Economics	
Engaged Learning Choice		
Select one of the following:		3
ENVS 226	Science & Conservation of Freshwater Ecosystems	
ENVS 267	Bird Conservation and Ecology	
ENVS 273	Energy and The Environment	
ENVS 283	Environmental Sustainability	
ENVS 340	Natural History of Belize	
ENVS 345	Conservation and Sustainability of Neotropical Ecosystems	
ENVS 350A	Solutions to Environmental Problems: Water	
ENVS 350B	Solutions to Environmental Problems: Biogas	
ENVS 350C	Solutions to Environmental Problems: Climate Action	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
ENVS 369	Field Ornithology	
ENVS 391	Environmental Research	
ENVS 395	Environmental Internship	
Capstone Choice		
Select one of the following:		3
ENVS 390	Integrative Seminar	
ENVS 391C	Independent Environmental Research (Capstone)	
ENVS 395C	Environmental Internship (Capstone)	
Electives		**21**
See designated elective categories below		
Total Hours		**67**

Electives

Code	Title	Hours
Society, Ethics, and Justice		
Select one of the following:		3
ENVS 204	Gender, Health & Environment	
ENVS 260 / COMM 260	Environmental Journalism	
ENVS 279 / HIST 279E	Climate and History	
ENVS 284	Environmental Justice	
ENVS 297 / HIST 297E	North American Environmental History	
ENVS 298	Special Topics (with SES approval)	
ENVS 338	Climate Change and Human Health	
ENVS 350A	Solutions to Environmental Problems: Water	
ENVS 350B	Solutions to Environmental Problems: Biogas	
ENVS 350C	Solutions to Environmental Problems: Climate Action	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
ENVS 383	Human Dimensions of Conservation	
ENVS 391	Environmental Research (with SES approval)	
ENVS 395	Environmental Internship (with SES approval)	
ENVS 398	Special Topics (with SES approval)	
ENVS 399	Directed Readings (with SES approval)	
COMM 101	Public Speaking & Critical Thinking	
COMM 277	Organizational Communication	
COMM 306	Environmental Advocacy	
COMM 322	Guerilla Media	
COMM 379	Digital Sustainability	
ENGL 288	Nature in Literature	
PHIL 287	Environmental Ethics	
PSYC 277	Environmental Psychology	
SOCL 226	Science, Technology, & Society	
SOCL 252	Global Inequalities	
SOCL 272	Environmental Sociology	
SOCL 276	The Sociology and Politics of Food	

SOCL 278	Global Health	
THEO 204	Religious Ethics and the Ecological Crisis	
THEO 344	Theology and Ecology	
Policy, Economics, and Resource Management		
Select one of the following:		3
ENVS 298	Special Topics (with SES approval)	
ENVS 300	Introduction to Public Health	
ENVS 310	Introduction to Environmental Law & Policy	
ENVS 311	Natural Resources and Land Use Law & Policy	
ENVS 312	Water Law & Policy	
ENVS 313	Energy Law & Policy	
ENVS 327	Food Systems Analysis	
ENVS 332	Industrial Ecology	
ENVS 333	Introduction to the Circular Economy	
ENVS 335	Ecological Economics	
ENVS 336	Design for Circular & Sustainable Business	
ENVS 338	Climate Change and Human Health	
ENVS 363	Sustainable Business Management	
ENVS 364	Sustainability Management in the Global Context	
ENVS 383	Human Dimensions of Conservation	
ENVS 384	Conservation Economics	
ENVS 389	Ecological Risk Assessment	
ENVS 391	Environmental Research (with SES approval)	
ENVS 395	Environmental Internship (with SES approval)	
ENVS 398	Special Topics (with SES approval)	
ENVS 399	Directed Readings (with SES approval)	
ECON 328	Environmental Economics	
GLST 305	Globalization and Environmental Sustainability	
MGMT 201	Managing People and Organizations	
PLSC 354	Global Environmental Politics	
Environmental Science Electives		
Select five, at least three of which must be at the 300 level:		15
ENVS 204	Gender, Health & Environment	
ENVS 207	Plants and Civilization	
ENVS 215 / BIOL 215	Ornithology	
ENVS 218	Biodiversity & Biogeography	
ENVS 223	Soil Ecology	
ENVS 224	Climate & Climate Change	
ENVS 226	Science & Conservation of Freshwater Ecosystems	
ENVS 267	Bird Conservation and Ecology	
ENVS 273	Energy and The Environment	
ENVS 278	Hydrology	
ENVS 283	Environmental Sustainability	
ENVS 298	Special Topics (with SES approval)	
ENVS 300	Introduction to Public Health	
ENVS 301	Environmental Health	
ENVS 303	Introduction to Epidemiology	
ENVS 319	Winter Ecology	
ENVS 320	Conservation Biology	
ENVS 322	Invasive Species	
ENVS 323	Environmental Microbiology	
ENVS 325	Sustainable Agriculture	
ENVS 326	Agroecosystems	
ENVS 327	Food Systems Analysis	
ENVS 330	Restoration Ecology	
ENVS 338	Climate Change and Human Health	
ENVS 340	Natural History of Belize	
ENVS 345	Conservation and Sustainability of Neotropical Ecosystems	
ENVS 350A	Solutions to Environmental Problems: Water	
ENVS 350B	Solutions to Environmental Problems: Biogas	
ENVS 350C	Solutions to Environmental Problems: Climate Action	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
ENVS 369	Field Ornithology	
ENVS 380	Introduction to Geographic Information Systems	
ENVS 381	Advanced GIS Applications	
ENVS 382	Remote Sensing	
ENVS 383	Human Dimensions of Conservation	
ENVS 385	Introduction to Global Health	
ENVS 387	Principles of Ecotoxicology	
ENVS 388	Applied Environmental Statistics	
ENVS 389	Ecological Risk Assessment	
ENVS 391	Environmental Research (with SES approval)	
ENVS 395	Environmental Internship (with SES approval)	
ENVS 398	Special Topics (with SES approval)	
ENVS 399	Directed Readings (with SES approval)	
ANTH 104	The Human Ecological Footprint	
ANTH 303	People and Conservation	
BIOL, CHEM, PHYS 300-level courses (with SES approval)		
Total Hours		**21**

School of Environmental Sustainability Graduation Requirements

All SES students are required to complete a foreign language requirement and a writing intensive requirement. The SES language requirement can be fulfilled by 1) earning college credit at the 102-level or above; or 2) demonstrating proficiency via the SES foreign language proficiency examination. The SES writing intensive requirement is fulfilled by successfully completing two Loyola WI courses (max of one per semester). Writing intensive courses have a "W" in the section number.

Additional Undergraduate Graduation Requirements

All Undergraduate students are required to complete the University Core, at least one Engaged Learning course, and UNIV 101. SCPS students are not required to take UNIV 101. Nursing students in the Accelerated BSN program are not required to take core or UNIV 101. You can find more information in the University Requirements (https://catalog.luc.edu/undergraduate/university-requirements/) area.

LEARNING OUTCOMES

- Explain the physical, biological, and chemical structure and function of ecosystems.

- Examine the causes and consequences of environmental change at local to global scales.
- Apply scientific knowledge to evaluate policy, management, and other solutions that aim to enhance environmental sustainability.
- Create an action plan for leading a professional and personal life that promotes environmental sustainability.

SES Shared Learning Outcomes

All SES majors share the following Program Learning Objectives, in addition to their unique major-specific Program Learning Objectives:

1. Articulate the foundational principles of natural and social sciences and humanities essential to solving environmental problems.
2. Critically evaluate the accuracy and credibility of information relating to environmental topics.
3. Employ knowledge and skills to design and implement solutions that contribute to a just and sustainable world.
4. Exemplify the values of environmental and social justice through actions to care for our common home and one another.