

ENVIRONMENTAL SCIENCE: FOOD SYSTEMS AND SUSTAINABLE AGRICULTURE (BS)

Our environmental science degree program in food systems and sustainable agriculture answers the growing call to evaluate and redesign our food and farming systems. This program prepares students to develop innovative, sustainable food production and distribution approaches that protect the environment and improve access to healthy food. Students learn in the classroom and through hands-on projects in the community, developing the skills to make a difference for people and the natural world.

CURRICULUM

Students studying Food Systems & Sustainable Agriculture build upon a solid foundation of environmental science, gain experience in designing and managing agricultural ecosystems, develop quantitative skills in evaluating ecosystem processes and services, and practice making management and policy recommendations based on available data.

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
ENVS 207	Plants and Civilization	3
ENVS 223	Soil Ecology	3
ENVS 325	Sustainable Agriculture	3
Select one of the following:		3
ENVS 320	Conservation Biology	
ENVS 326	Agroecosystems	
ENVS 327	Food Systems Analysis	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
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 or ECON 328	Ecological Economics Environmental Economics	3
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		79
Electives		
Code	Title	Hours
Society, Ethics, and Justice		
Select one of the following:		3
COMM 260	Environmental Journalism	
ENVS 204	Gender, Health & Environment	
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	
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 351	Introduction to Sustainability Concepts & Impacts	
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	
COMM 379	Digital Sustainability	
GLST 305	Globalization and Environmental Sustainability	
MGMT 201	Managing People and Organizations	
PLSC 354	Global Environmental Politics	
Environmental Electives		
Select one of the following:		3
ENVS 204	Gender, Health & Environment	
ENVS 218	Biodiversity & Biogeography	
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 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 (if not used above)	
ENVS 322	Invasive Species	
ENVS 323	Environmental Microbiology	3
ENVS 326	Agroecosystems (if not used above)	
ENVS 327	Food Systems Analysis (if not used above)	
ENVS 330	Restoration Ecology	
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 384	Conservation Economics	
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		12

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. SPCS 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 components of food systems and their complex interactions across spatial and temporal scales.
- Articulate the physical, psychological, cultural, and spiritual significance of food to individual and community wellbeing.
- Using multiple methods of analysis, evaluate the environmental and equity impacts of different food system practices to reveal points of leverage for social-ecological change.
- Engage knowledge, skills, and values through experiences that advance sustainability, resilience, and justice within food systems.

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.