

ENVIRONMENTAL SCIENCE: ENVIRONMENTAL HEALTH/ ENVIRONMENTAL SCIENCE AND SUSTAINABILITY (BS/ MS)

Environmental degradation significantly impacts human health, damaging people's health through pesticide exposure, poor air quality, water contamination, and extreme heat events linked to climate change. Our environmental health program prepares students to address these interconnected issues and improve the well-being of people and the planet.

With our Accelerated Bachelor's/Master's Program, Loyola SES students can boost their professional credentials and save time and money by completing an undergraduate degree along with a master of science in environmental science and sustainability degree in as little as five years. The economic and academic benefits are substantial.

CURRICULUM

Students studying Environmental Health develop a solid foundation in environmental science, environmental economics and policy, and the societal issues associated with environmental degradation.

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 300	Introduction to Public Health	3
ENVS 301	Environmental Health	3
ENVS 303	Introduction to Epidemiology	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 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 15		
See designated elective categories below		
Total Hours		70
BS Electives		
Code	Title	Hours
Environmental Health and Society		
Select one of the following:		3
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 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 335	Ecological Economics	
ENVS 338	Climate Change and Human Health	
ENVS 340	Natural History of Belize	
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 363	Sustainable Business Management	

ENVS 383	Human Dimensions of Conservation
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)
COMM 101	Public Speaking & Critical Thinking
COMM 260	Environmental Journalism
COMM 277	Organizational Communication
COMM 306	Environmental Advocacy
COMM 379	Digital Sustainability
ECON 328	Environmental Economics
ENGL 288	Nature in Literature
MGMT 201	Managing People and Organizations
PHIL 287	Environmental Ethics
PLSC 354	Global Environmental Politics
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

Environmental Science Electives

Select four of the following: 12

ENVS 204	Gender, Health & Environment
ENVS 207	Plants and Civilization
ENVS 218	Biodiversity & Biogeography
ENVS 223	Soil Ecology
ENVS 224	Climate & Climate Change
ENVS 226	Science & Conservation of Freshwater Ecosystems
ENVS 283	Environmental Sustainability
ENVS 298	Special Topics (with SES approval)
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 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 380	Introduction to Geographic Information Systems
ENVS 381	Advanced GIS Applications
ENVS 382	Remote Sensing
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 15**Year 5**

The Environmental Science and Sustainability MS has the following requirements:

Code	Title	Hours
Required Courses		6
ENVS 401	Sustainable Systems - Natural Science Perspectives	
ENVS 402	Sustainable Systems - Social Science Perspectives	
Completion of One of Four Concentrations:		9-12

Environmental Law & Policy

ENVS 410	Introduction to Environmental Law & Policy
ENVS 411	Natural Resources and Land Use Law & Policy
ENVS 412	Water Law & Policy
ENVS 413	Energy Law & Policy

Geographic Information Systems

ENVS 480	Introduction to Geographic Information Systems
ENVS 481	Advanced GIS Applications
ENVS 482	Remote Sensing

Sustainable Assessment and Planning

ENVS 451	Introduction to Sustainability Concepts & Impacts
ENVS 452	Sustainability Assessment & Reporting I
ENVS 453	Sustainability Assessment & Reporting II
ENVS 454	Sustainability Plan Development & Reporting

Sustainable Business

ENVS 433	Introduction to the Circular Economy
ENVS 435	Ecological Economics
ENVS 436	Design for Circular & Sustainable Business
ENVS 463	Sustainable Business Management

Electives (for a total of 30 credit hours with required courses) 12-15**Natural Science and Quantitative Courses** 6

Students will take at least two courses from the following list of electives.

ENVS 420	Conservation Biology
ENVS 422	Invasive Species
ENVS 425	Sustainable Agriculture
ENVS 426	Agroecosystems
ENVS 427	Food Systems Analysis
ENVS 430	Restoration Ecology
ENVS 435	Ecological Economics
ENVS 438	Climate Change and Human Health
ENVS 451	Introduction to Sustainability Concepts & Impacts

ENVS 452	Sustainability Assessment & Reporting I
ENVS 453	Sustainability Assessment & Reporting II
ENVS 480	Introduction to Geographic Information Systems
ENVS 481	Advanced GIS Applications
ENVS 482	Remote Sensing
ENVS 484	Conservation Economics
ENVS 487	Principles of Ecotoxicology
ENVS 488	Applied Environmental Statistics
ENVS 489	Ecological Risk Assessment
ENVS 491	Independent Environmental Research (upon approval)
ENVS 498	Special Topics (upon approval)
ENVS 498L	Special Topics with Lab (upon approval)
ENVS 499	Directed Readings (upon approval)
BIOL 495	Special Topics (Topic: Metagenomics)
BIOL 416	Limnology Lec/Lab
BIOL 418	Aquatic Insects Lecture & Laboratory
BIOL 470	Biostats & Exp Design Lec/Lab
MPBH 401	Environmental Health
MPBH 402	Public Health Practice and Management
MPBH 403	Introduction to Epidemiology
MPBH 404	Biostatistics for Health and Biological Science
MPBH 407	Public Health Policy: Concepts and Practice
MPBH 409	Biostatistics I
MPBH 412	Intro to Statistical Computing for Public Health
MPBH 414	Introduction to Global Health
MPBH 421	Biostatistics II
MPBH 423	Intermediate Epidemiology
MPP 401	Analytical Tools in Public Policy
MPP 402	Cost Benefit Analysis
MPP 403	Public Budget and Finance
MPP 405	Statistical Methods & Analysis for Public Policy I
MPP 406	Statistical Methods & Analysis Public Policy II
MPP 408	Political Feasibility Analysis
SOCL 414	Statistical Methods Analysis I
SOCL 415	Statistical Methods of Analysis II
STAT 403	SAS Program & Applied Statistics
STAT 407	Statistical Design
STAT 436	Topics in Biostatistics

Sustainable Society and Business Courses

Student may choose from courses focused on society's interaction with the environment: environmental law and policy, sustainable business management, and fostering sustainable societies.

ENVS 410	Introduction to Environmental Law & Policy
ENVS 411	Natural Resources and Land Use Law & Policy
ENVS 412	Water Law & Policy
ENVS 413	Energy Law & Policy
ENVS 432	Industrial Ecology
ENVS 433	Introduction to the Circular Economy
ENVS 436	Design for Circular & Sustainable Business
ENVS 454	Sustainability Plan Development & Reporting
ENVS 463	Sustainable Business Management
ENVS 464	Sustainability Management in the Global Context

ENVS 483	Human Dimensions of Conservation
ENVS 491	Independent Environmental Research (upon approval)
ENVS 498	Special Topics (upon approval)
ENVS 499	Directed Readings (upon approval)
MPBH 407	Public Health Policy: Concepts and Practice
MPP 400	Policy Design and Analysis
MPP 404	Public Policy Process
PSYC 460	Social Psychological Theory
PSYC 461	Attitude and Attitude Change
PSYC 486	Methods of Program Evaluation
SOCL 412	Qualitative Methods in Social Research
SOCL 446	Knowledge, Power & Expertise
SOCL 463	Sociology & Natural Environment

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

- Examine the sources of environmental degradation and their impacts on health.
- Apply the tools of public health to characterize the impacts on community health using a planetary health perspective.
- Integrate environmental regulatory policies to evaluate the health impacts at local and global scales.
- Incorporate critical public health and environmental health justice perspectives into environmental and human dimensions.