ENVIRONMENT, SUSTAINABILITY, AND POLICY, BA

Integrated Learning Major in Environment, Sustainability, and Policy

Program Director

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Core Faculty

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This Integrated Learning Major (ILM) in Environment, Sustainability, and Policy is designed to introduce students to and ground them in the interdisciplinary study of environmental science, sustainability, and policy necessary to understand the nature of our changing planet, contribute solutions to advance sustainability, and become more engaged global citizens.

As a growing human population seeks to meet its needs, competing demands on the environment threaten the planet's systems for supporting and sustaining life. Rising to the challenge of planetary stewardship requires the integration of multiple scientific disciplines exploring the planet's vital functions and an understanding of how the complexities of human societies across places and time periods shape views of and approaches to protecting or exploiting the planet's resources and pursuing sustainability. The ILM's foundation is built on two pillars integral to finding solutions to environmental problems and sustainability:

1. the science of the planet's interacting natural systems (environmental sciences) and
2. the examination of human perceptions, institutions, and policies toward the environment from the social sciences and humanities (environmental studies).

This major's integration across traditionally isolated lenses of natural and human sciences provides a unique perspective toward understanding, examining, and addressing the environment and sustainability.

This ILM may be combined with any other undergraduate major with approval by the program director. While certain majors typically serve as the base major for this ILM, students are encouraged to meet with the program director to determine their best choice of a base major. Dually enrolled students must have a base major within Arts and Sciences| Maxwell.

Student Learning Outcomes

1. Describe the Earth's living and non-living systems.
2. Analyze the social, cultural, political, and economic factors that mediate human interactions with the environment.
3. Acquire a wide range of skills for solving global problems of the environment and sustainability.
4. Integrate data, concepts, and methods from multiple disciplines and apply them to studies of and communication about human and environmental systems and sustainability.
5. Identify and interact with key experts, organizations, and communities that need to be a part of sustainable solutions to environmental problems.
6. Link knowledge with actions for sustainable alternatives that integrate scientific, humanist, and social perspectives.

Prerequisites for Admission into the Major

Enrollment in one of the following base majors:

- Anthropology
- Applied Data Analytics
- Architecture
- Biology
- Biotechnology
- Communication and Rhetorical Studies
- Chemistry
- Civil Engineering
- Earth Sciences
- Economics
- English and Textual Studies
- Entrepreneurship and Emerging Enterprises
- Environmental and Interior Design
- Environmental Engineering
- Television, Radio, and Film
- Finance
- Film BFA
- Geography
- History
- International Relations
- Journalism
- Management
- Marketing Management

- Policy Studies
- Political Science
- Philosophy
- Political Philosophy
- Physics
- Public Health
- Public Relations
- Religion
- Sociology
- Supply Chain Management
- Television, Radio, and Film

Or **students can petition additional base majors to be paired with this ILM.** Students are encouraged to work closely with their base major advisor and with the ESP advisor to ensure that they are meeting the requirements of both programs.

Code	Title	Credits
Environmental Sciences Course		
Required course: Environmental sciences, chosen from the list below.		3
BIO 123	General Biology II	
EAR 105	Earth Science	
EAR 203	Earth System Science	
GEO 155	The Natural Environment	
GEO 215	Global Environmental Change	
Environmental Studies and Humanities Course		
One required course: Environmental Studies and Humanities, chosen from 3 listed below.		3
ECN 101	Introductory Microeconomics	
ENG 140	Reading the Environment	
GEO 103	Environment and Society	
WRT 115	Writing, Rhetoric, and the Environment	
Data Analysis Course		
Students can satisfy the requirement by taking a statistics course at the 200 level or above or a geographic information systems (GIS) course at the 300 level or above. Examples of courses meeting this requirement include (but are not limited to) the following:		3
ACC 383	ESG Reporting	
BUA 345	Business Analytics for Management Decisions	
CIS 321	Introduction to Probability and Statistics	
EAR 402	Numerical Methods in Geosciences	
EAR 410	Applications of GIS in the Earth Sciences	
ECN 422	Introduction to Statistics and Econometrics	
ECN 521	Economic Statistics	
GEO 381	Cartographic Design	
GEO 383	Geographic Information Systems	
GEO 386	Quantitative Geographic Analysis	
IST 387	Introduction to Applied Data Science	
MAS 261	Introductory Statistics for Management	
MAT 221	Elementary Probability and Statistics I	
MAT 521	Introduction to Probability	
MAX 201	Quantitative Methods for the Social Sciences	
MFE 326	Probability and Statistical Methods for Engineers	
PSC 202	Introduction to Political Analysis	
SOC 319	Qualitative Methods in Sociology	
Advanced Coursework and Focused Studies		
Students are required to take one 3-credit, 300-level integrative science-policy course and four 3-credit electives. Two electives must be from the environmental sciences, and two must be from environmental studies or humanities. Students completing a capstone for their base major have the option of replacing one elective for this ILM with the capstone from the base major, if the capstone has sufficient environmental or sustainability content. In addition, students can use independent study (research or policy project) or experience credit (fellowship/internship experience with approval), study abroad or international field experience for an elective, with approval by the ESP Faculty Advisory Committee.		15
Students will consult with their undergraduate advisor and the ESP Director (in consultation with the ESP Faculty Advisory Committee) to develop a curricular track suited for their thematic interests or professional goals. Examples of suggested tracks include climate change, water, land use and ecosystems, environmental design, and environmental studies. Through these electives, students build on their foundation in environmental sciences, environmental studies, and the humanities and in data analysis established through the core courses listed above and gain an interdisciplinary perspective through the lens of a particular environmental theme or problem.		
Science-Policy Integration Course		
Required course: Science-policy integration (3 credits), chosen from the following:		3
GEO 360	Sustainability Science and Policy	
PSC 360	Sustainability Science and Policy	
GEO 434	Pursuing Sustainability Policy	
PSC 434	Pursuing Sustainability Policy	
GEO 356	Environmental Ideas and Policy	
PSC 302	Environmental Politics and Policy	
PSC 318	Technology, Politics, and Environment	
Senior Capstone Seminar		
Required course: Senior capstone seminar (3 credits)		
ESP 410	Environment, Sustainability and Policy Capstone Seminar	3
Electives		
Electives (Four courses, two of which are environmental sciences courses and two of which are environmental studies or humanities courses, totaling 12 credit hours) chosen from the drop down list below.		12
Total Credits		**42**

Full Elective List

Code	Title	Credits
ANT 439	Climate Change and Human Origins	3
ANT 445	Public Policy and Archaeology	3
ANT 459	Contemporary Native North American Issues	3
ANT 469	Medical Anthropology in Ecological Perspective	3
BIO 312	Marine Ecology of the Mediterranean Sea and North Africa	3
BIO 351	Ecology	3
BIO 405	Introduction to Field Biology Laboratory	4
BIO 415	Conservation Biology	3
BIO 428	Seminar in Environmental Science	3

BIO 453	Ecology Laboratory	3
BIO 459	Plants & People	3
CEN 461	Environmental Chemistry and Analysis	3
CEN 472	Applied Env Microbiology	3
CHE 335	Chemical and Biochemical Analysis with Laboratory	4
CHE 347	Physical-Analytical Chem Lab	2
CEE 274	Sustainability in Civil and Environmental Systems	3
CEE 341	Introduction to Environmental Engineering	3
CEE 457	Biogeochemistry	3
CEE 463	Introduction to Sustainable Engineering	3
CEE 471	Environmental Chemistry and Analysis	3
CEE 472	Applied Env Microbiology	3
CRS 377	Communication, Nature & Sustainability	3
DES 114	Design, Cultural Traditions and the Environment	3
DES 248	Design Issues	3
EAR 205	Water and Our Environment	3
EAR 305	The Energy Transition: Earth and Environmental Sciences	3
EAR 401	Hydrogeology	3
EAR 403	Geomorphology	3
EAR 405	Global Change:Geologic Record	3
EAR 407	Climate Change and Human Origins	3
EAR 413	Physical Hydrology	3
EAR 414	The Holocene: Climate and Environmental Change	3
EAR 415	Introduction to Climate Dynamics	3
EAR 417	Geochemistry	3
EAR 419	Environmental Aqueous Geochemistry	3
EAR 420	Contaminant Hydrogeology	3
ECN 437	Environmental and Resource Economics	3
ECS 354	Green Technology and Sustainability	3
EDI 252	Environmental Design II	3
EDI 353	Environmental Factors III	3
EEE 450	Sustainable Enterprise	3
ENG 370	Ecological Approaches to Literature and Media	3
ENG 371	Ecological Approaches to Literature and Media Before 1900	3
ESP 415	Climate and the Humanities	3
FMA 511	Art & Environment: Animals	3
FMA 512	Art & Environment: Food	3
FST 202	Agroecology	3
FST 302	Food, Environment and Climate	3
FST 303	Food Movements	3
FST 307	Feeding the World: Global Agri-Food Governance	3
FST 310	Will Work for Food: Labor Across the Food Chain	3
FST 312	Emergency Food Systems	3
FST 402	Feeding the City: Urban Food Systems	3
FST 403	The Human Right to Adequate Food and Nutrition	3
GEO 314	Hazardous Geographic Environments	3
GEO 316	River Environments	3
GEO 317	Geography of Mountain Environments	3
GEO 319	Cold Environments	3
GEO 321	Latin American Development: Politics & Environment	3
GEO 325	Latin American Historical Geography	3
GEO 326	The Geography of Climate and Weather	3
GEO 327	Geography of Coastal Environments	3
GEO 328	Political Ecology	3
GEO 336	Climate Justice	3
GEO 340	Geography of Oil	3
GEO 347	Art and Environment in American Culture Since 1800	3
GEO 353	Geographies of Environmental Justice	3
GEO 354	American Environmental History and Geography	3
GEO 358	Animals and Society	3
GEO 371	Climate Extremes	3
GEO 374	Environment and Development in the Global South	3
GEO 415	Food: A Critical Geography	3
GEO 422	Water: Environment, Society and Politics	3
GEO 423	Urban Environmental History and Political Ecology	3
GEO 426	Environmental Change in the Anthropocene	3
GEO 430	Energy, History and Society	3
GEO 432	Authoritarianism & the Environment	3
GEO 455	Biogeography	3
GEO 478	Spatial Storytelling	3
GEO 537	Environmental Policy in a Development Context	3
HOA 482	Art and Environment in American Culture Since 1800	3
HST 384	American Environmental History and Geography	3
IND 371	Sustainable Product Systems II	3
IND 476	Industrial Design: Environmental Practicum	3
IND 577	Industrial Design: Philosophy and Ethics	3
LAS 321	Latin American Development: Politics & Environment	3
LAS 537	Environmental Policy in a Development Context	3
NAT 445	Public Policy and Archaeology	3
NSD 555	Food, Culture and Environment	3
PHP 303	Environmental Health	3
PHI 394	Environmental Ethics	3
PSC 462	Globalization Development and Environment	3
PST 451	Environmental Policy	3
REL 244	Indigenous Religions	3
REL 395	Religions and the Natural Environment	3
SCM 440	Green Supply Chain Management	3
SCM 477	Global Supply Chain Management & Risk Mgmt	3

College of Arts and Sciences Requirements

For all Arts and Sciences|Maxwell students, successful completion of a bachelor's degree in this major requires a minimum of 120 credits, 96 of which must be Arts and Sciences|Maxwell credits, completion of the Liberal Arts Core (https://coursecatalog.syracuse.edu/undergraduate/arts-sciences/#text) requirements, and the requirements for this major (30 credits) that are listed above.

Dual Enrollments:

Students dually enrolled in **Newhouse*** and Arts and Sciences|Maxwell will complete a minimum of 122 credits, with at least 90 credits in Arts

and Sciences|Maxwell coursework and an Arts and Sciences|Maxwell major.

*Students dually enrolled in the College of Arts and Sciences|Maxwell as first year students must complete the Liberal Arts Core (https://coursecatalog.syracuse.edu/undergraduate/arts-sciences/#text). Students who transfer to the dual program after their first year as singly enrolled students in the Newhouse School will satisfy general requirements for the dual degree program by completing the Newhouse Core Requirements.

Undergraduate University Requirements
The following requirements and experiences apply to all Syracuse University Undergraduate matriculated degree programs.

- IDEA Course Requirement (https://coursecatalog.syracuse.edu/undergraduate/idea-course-requirement/)
- First Year Seminar (https://coursecatalog.syracuse.edu/undergraduate/courses/fys/)