

# Environmental Science - Master of Environmental Science

For information, contact:  
Director of Graduate Studies  
Institute for the Environment and Sustainability (IES)  
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[www.MiamiOH.edu/ies](http://www.MiamiOH.edu/ies)

## Program and Support Facilities

Faculty, staff, and students are involved in professional service projects, internships, practica, and research, including agricultural ecology, GIS and resource analysis, conservation biology, sustainability, land use issues, pollution prevention, watershed management, water quality, stream and wetland restoration, and conflict resolution of environmental problems.

Facilities include dedicated rooms for graduate-student team projects for external clients (professional service projects), GPS and field equipment, a weather station at the Ecology Research Center, and instrumentation for the analysis of water quality in the Center for Aquatic and Watershed Sciences.

## Admission Requirements

At least a 2.75 grade point average (4.00 scale) or 3.00 in the last two undergraduate years, three letters of recommendation, letter of intent, and a current resume of education and experience are required.

## Professional Science Masters

The IES Masters of Environmental Science degree is designated as a national Professional Science Master's (PSM) program based on its professional skills, experiential learning, and interdisciplinary breadth. PSM programs prepare students for science careers in business, government, or nonprofit organizations, where workforce needs are increasing. Learn more at the PSM website.

## Program Requirements

Satisfactory completion of 36 semester hours including:

Code	Title	Credit Hours
<b>Core courses</b>		
EGM 511	Leading and Managing Projects	3
IES 511	Environmental Protocols	4
IES/ENG 529	Environmental Communication	3
IES 605	Introduction to the Professional Service Project	2
IES 610	Professional Service Project	4
IES 611	Environmental Problem Solving and Analysis	2
STA 672	Statistical Modeling and Study Design	4
<b>Professional Experience</b>		
IES 640 or IES 670	Internship (or IES 677) Environmental Practicum	1

IES 665	IES Internship or Practicum Development	1
<b>Concentration (12 hours in your choice of one of five Areas of Concentration)</b>		<b>12</b>
<b>1. Applied Ecology &amp; Conservation</b>		
<b>Principles of Ecology &amp; Conservation (3 or 6 hrs)</b>		
BIO 567	Conservation Biology	
BIO 671	Population and Community Ecology	
BIO 672	Ecosystem and Global Ecology	
<b>Landscape &amp; Spatial Analysis (at least 3 hrs)</b>		
GEO 541	Geographic Information Systems	
GEO 542	Advanced Geographic Information Systems	
GEO 544	GIScience Techniques in Landscape Ecology	
GEO 548	Techniques and Applications of Remote Sensing	
<b>Taxonomic &amp; Field Courses (0 or 3 hrs)</b>		
BIO 508	Ornithology	
BIO 510	Mammalogy	
BIO 553	Animal Physiological Ecology	
BIO 563	Limnology	
BIO 565	Animal Behavior	
IES 512	Tropical Ecosystems of Costa Rica	
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology	
<b>Social, Economic &amp; Policy Dimensions (at least 3 hrs)</b>		
ECO 506	Environmental Economics	
GEO 554	Urban Geography	
IES 519	Environment, Society & Justice	
IES 550	Environmental Law	
IES 594	Sustainability Perspectives in Resources and Business	
<b>2. Land &amp; Water Resources</b>		
<b>Land Resources (0-6 hrs)</b>		
BIO 538	Soil Ecology and Sustainable Use	
GLG 535	Soils and Paleosols	
<b>Water Resources (0 to 6 hrs)</b>		
BIO 563	Limnology	
CPB 505	Industrial Environmental Control	
GEO 525	Hydrogeography	
GEO 526	Watershed Management	
GLG 508	Introduction to Hydrogeology	
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate	
GLG 596	Isotopes in Environmental Processes	
<b>Landscape &amp; Spatial Analysis (at least 3 hrs)</b>		
GEO 541	Geographic Information Systems	
GEO 542	Advanced Geographic Information Systems	
GEO 544	GIScience Techniques in Landscape Ecology	

GEO 548	Techniques and Applications of Remote Sensing
<b>Climate &amp; Global Processes (0 to 3 hrs)</b>	
BIO 672	Ecosystem and Global Ecology
GLG 536	Paleoclimatology
GLG 537	Paleontology in Conservation
<b>Social, Economic &amp; Policy Dimensions (at least 3 hrs)</b>	
ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business
<b>3. The Transport, Fate &amp; Control of Pollution</b>	
<b>Environmental Engineering (at least 3 hrs)</b>	
CPB 505	Industrial Environmental Control
CPB 541	Pollution Prevention in Environmental Management
CPB 542	Air Pollution Control
<b>Contaminant Fate and Transport (at least 3 hrs)</b>	
GLG 502	Geomicrobiology
GLG 508	Introduction to Hydrogeology
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 596	Isotopes in Environmental Processes
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology
<b>Air, Land &amp; Water Transport Systems (at least 3 hrs)</b>	
BIO 563	Limnology
BIO 672	Ecosystem and Global Ecology
GEO 525	Hydrogeography
GEO 526	Watershed Management
GLG 508	Introduction to Hydrogeology
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
<b>Social, Economic &amp; Policy Dimensions (at least 3 hrs)</b>	
ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business
<b>4. Energy &amp; Environment</b>	
<b>Energy &amp; Engineering Systems (at least 3 hrs)</b>	
CPB 541	Pollution Prevention in Environmental Management
CPB 542	Air Pollution Control
<b>Building &amp; Urban Systems (at least 3 hrs)</b>	
ARC 506	Seminars (B: Energy and Sustainability and C: Sustainable Design)
ARC 513	Environmental Control Systems I

GEO 551	Urban and Regional Planning
GEO 554	Urban Geography
Interdisciplinary professional experience or research leading to an internship or practicum.	
<b>Environmental Contamination, Climate &amp; Global Processes (at least 3 hrs)</b>	
BIO 672	Ecosystem and Global Ecology
GLG 502	Geomicrobiology
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 536	Paleoclimatology
GLG 596	Isotopes in Environmental Processes
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology
<b>Social, Economic &amp; Policy Dimensions (at least 3 hrs)</b>	
ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business
<b>5. Sustainability in Management &amp; Planning</b>	
<b>Landscape Analysis and Urban Planning (3-6 hrs*)</b>	
GEO 541	Geographic Information Systems
GEO 542	Advanced Geographic Information Systems
GEO 548	Techniques and Applications of Remote Sensing
GEO 551	Urban and Regional Planning
GEO 554	Urban Geography
GEO 559	Advanced Urban and Regional Planning
<b>Management and Information Systems (3-6 hrs*).</b>	
<b>Note: Many MKT, MGT, FIN and other Business Courses may have undergraduate prerequisites. Undergraduate credit hours do not count towards the MEn degree.</b>	
MGT 551	Operations Planning and Scheduling
MGT 553	Quality Management Systems
STA 583	Analysis of Forecasting Systems
<b>Economic and Policy Dimensions (at least 3 hrs)</b>	
ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business
<b>Satisfactory completion and defense of an internship, practicum or thesis</b>	
<b>Total Credit Hours</b>	<b>36</b>

NOTE: All combined students are required to take at least 8 credit hours of graduate work in the M.En. program after obtaining their undergraduate degree.