No clearer need.

No better time.

No greater place.

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Images from the school's Environmental Spatial Analysis Laboratory show geographic information systems-based data covering the Great Lakes Basin:

Clockwise from top right: Patterns of land cover, vegetation and topographic relief, city lights, and composite of the three satellite images.

Far right: the Samuel T. Dana Building.

Natural Resources and Environment

University of Michigan

Dear Prospective Student,

Rosina Bierbaum, an authority on environmental issues, climate change and the role of science in policymaking, culminated her 13-year tenure in the Congressional Office of Technology Assessment with eight years as President Bill Clinton's senior environmental science advisor and manager of the Administration's $5 billion federal environmental research budget before accepting the deanship at Michigan.

Dean Bierbaum traveled with former Vice President Al Gore to Kyoto to negotiate the climate treaty. At her invitation, he presented his slide show, *An Inconvenient Truth*, to students, faculty and alumni in Ann Arbor in fall 2005, a year before the movie version was released nationwide. Over the last decade, she has worked with him to develop many of the climate graphics now featured in his movie.

For those of us who care deeply about the health and sustainability of our natural world, there never has been a better time to work in the environmental field, to formulate and advance solutions that will protect for future generations the precious resources we cherish today.

The time is right simply because the need has never been clearer. The collective human consciousness has finally reached a tipping point of national and international agreement: Our Earth has to be our priority. So who will provide the leadership? That is where you come in.

At the University of Michigan's School of Natural Resources and Environment, there is a comprehensive curriculum in place to equip you, a future change agent, with the knowledge and skills needed to drive this revolution. We are the only environmental school in the nation to combine natural science, social science and design into one shared educational experience, thereby creating a learning community that mimics the complexities – and possible synergies – of environmental problem solving in the real world.

We believe our graduates must be fluent in the languages of each environmental discipline in order to provide credible leadership in their professional lives. Our faculty of 50 professors has been trained in 18 different disciplines. Another 250 professors affiliated with other schools and colleges across campus also are involved in environmental-related research. Graduate students may specialize in one of nine fields of study and augment their natural resource and environment studies with a dual degree designed to suit their career goals.

This scholarly commitment to interdisciplinary education has been in place since 1881 when the University's first Science of Forestry course was offered through the School of Political Science. In 1903, Michigan concentrated its fledgling environmental studies program in a newly formed Department of Forestry. For more than a century, we have led the nation in both protecting the Earth's resources and advancing environmental sustainability.

Our graduates work the world over in all sectors – government, business, nonprofit agencies and academia. Now it is your turn. Welcome to the University of Michigan, the greatest place on Earth to study its precious environment.

Rosina M. Bierbaum
Dean

Academics

The school offers two master's degrees and two doctoral degrees – in Natural Resources and Environment and in Landscape Architecture – as well as two graduate certificate programs in Industrial Ecology and Spatial Analysis. Students also may take advantage of the University's 18 other top-ranked schools and colleges by pursuing a dual degree.

At the doctoral level, programs are highly customized to fulfill the intellectual interests of the individual and take full advantage of the interdisciplinary offerings at the school. With rigor and creativity, candidates are trained to conduct innovative, independent scholarship that contributes to original research. The research is designed by the student, together with a committee, and can address questions within any of the fields of study described below, or any number of other cross-cutting issues.

Master's students gain a common foundation in ecological science, environmental governance and integrated assessment via the core curriculum before specializing in one or more of the following fields of study:

Aquatic Sciences: Research and Management focuses on the oceans, lakes, rivers, streams and wetlands that comprise two-thirds of the Earth's surface. Humans' encroachment on these resources – usage, pollution and depletion – calls for scientists trained in the basic and applied sciences relevant to the world's growing water crisis. International research enables students to work toward sustainable management of aquatic resources around the globe.

Behavior, Education and Communication works from the premise that environmental problems are often people problems. Students study how individuals and groups recognize environmental issues and motivate themselves to take action. With this understanding, they develop conceptual psychological frameworks for addressing these behaviors in order to shape social norms and influence individual decision making in ways that promote a sustainable society.

Conservation Biology addresses one of the great challenges of our time: biodiversity loss. The potential demise of one-fourth or more of the Earth's species before the end of this century represents an irreversible loss of nature and may significantly undermine the sustainable use of nature's services. Students master ecosystem science, social science, policy, environmental design and quantitative analysis to design, manage and recover wildlands and protected areas.

Environmental Informatics employs geographic information systems, remote sensing, dynamic-simulation modeling and statistics to study and manage natural resources. Students are trained to use these computer-based approaches for scientific and professional endeavors ranging from landscape mapping and watershed ecology to geology and pollution detection. This research has wide applicability across such diverse fields as conservation, the social sciences, policy analysis, business, sustainable systems and terrestrial/aquatic ecosystem management.

Environmental Justice is concerned with the processes through which inequalities arise from social, political and environmental actions and policies. Students study affected constituents – communities, industry, government, environmental activists, policymakers and scholars – and learn the causes and consequences of inequitable distributions of environmental benefits and hazards. They use advocacy and scientific methods to assist policymakers and the public in formulating strategies to achieve a just and sustainable society.

Environmental Policy and Planning builds students' professional skills to design and implement effective policies and innovative plans for the changing world while considering the human and institutional behaviors that underlie environmental problems. Students develop the ability to create decision-making processes that are scientifically credible, involve a diverse set of interests and lead to the development of organizations that can move society in a more sustainable direction.

< Professor Steven L. Yaffee, coordinator of the Environmental Policy and Planning field of study, teaches Resource Policy and Administration in the William D. Drake Memorial Room.

Landscape Architecture teaches the ecological principles of sustainable design and how to employ them in all settings, from the inner city to the rural countryside. Students synthesize information about ecological processes, human behavior, institutions and urban patterns to create landscapes that work aesthetically, ecologically, socially and economically. The Master's of Landscape Architecture is an accredited, three-year program. For those with an undergraduate degree in landscape architecture, the MLA is completed in two years.

Sustainable Systems grapples with the challenges facing both developed and developing nations, such as depletion of fossil fuels, global warming, water scarcity and loss of biodiversity. Resolving these complex issues, which are compounded by an expanding global population, is necessary to meet basic human needs. Students work to enhance the sustainability of the systems that provide mobility, shelter, sustenance, communication and recreation.

Terrestrial Ecosystems rest upon scientific principles that can be used to manage them in an environmentally appropriate manner. Students study the composition, structure and function of ecosystems. They also learn how species interact with their environments and how those interactions influence the distribution and function of terrestrial ecosystems. With this knowledge, students address environmental issues at all levels in settings ranging from urban communities to wilderness areas.

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Dioxin! is a 15-foot art installation created by students in Professor Beth Diamond's History and Theory of Landscape Design class to activate a public space – the University's central campus – and bring awareness to environmental issues through landscape interventions.

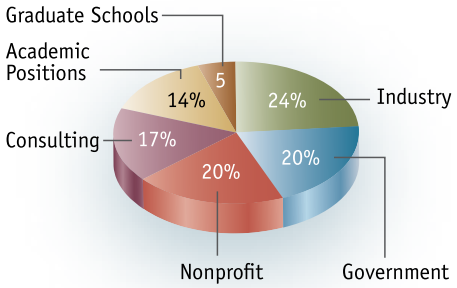
Dual Degrees

No other environmental school offers its students more options for dual degrees than Michigan. Students may construct dual-degree programs with any appropriate unit within the University's 18 other schools and colleges.

At present, students are earning dual degrees in the following areas:

Anthropology
Business
Chinese Studies
Ecology and Evolutionary Biology
Economics
Education
Engineering
Law
Public Health
Public Policy
Russian and East European Studies
Sociology
Statistics
Urban Planning

Employment Sectors of Graduates



Tobico Marsh, in the Saginaw Bay area, is one of the largest remaining coastal wetlands on the Great Lakes.

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Research

Natural Resources and Environment is the hub for environmental research and education at the University of Michigan, one of the greatest research universities in the world. Scholar/practitioners advance an interdisciplinary, domestic and international research enterprise committed to protecting resources and advancing sustainability. Research grants from a range of state and federal agencies and foundations provide more than half of student financial support.

Research projects have master's and doctoral students working on the ground in Michigan and across the U.S. as well as in the following countries:

Latvia Lithuania Mexico
The Netherlands New Zealand
Norway Poland Russia
South Africa Thailand
Ukraine Vietnam Zimbabwe

Doctoral students work with faculty on sponsored research, while master's students gain research experience through a capstone project or thesis. The projects, often accomplished in multidisciplinary teams, resemble 18-month-long consulting engagements and

< Students pursuing the Terrestrial Ecosystems field of study measure tree photosynthesis to estimate global change effects on Michigan trees.

involve multifaceted research as well as skill development in team management, project finance and grant writing.

Recent projects and theses titles:

Michigan Greenhouse Gas Inventory 1990 and 2002: Prepared for Michigan Department of Environmental Quality

Building Green for the Future: Case Studies of Sustainable Development in Michigan

Building Trust: Lessons from Collaborative Planning on State Trust Lands

Hispanics and Environmental Voting in the U.S. Congress

Plant and Microbial Mechanisms of Nitrogen Retention in Northern Hardwood Forests Receiving Atmospheric Nitrate Deposition

Career Services

A recent survey of graduates shows alumni employment is almost equally divided between government, industry, nonprofit, consulting and academic sectors, with a fraction of individuals choosing to pursue additional advanced education.

A strong alumni network together with an energetic Office of Career Services assists students in their self-directed job searches. Here is a sampling of employers:

Government Agencies
DOE's National Renewable Energy Lab
EPA
Executive Office of the President, Office of Management and Budget
NASA
National Park Service
Tribal, state and local government agencies
U.S. Fish and Wildlife Service
U.S. Senate

Industry/Consulting
Asian Development Bank
Aveda
Bonner Associates Landscape Design
Design Workshop
Ford Motor Co.
Green Mountain Energy
ICF International
Tetra Tech Inc.
Toyota Motor Corp.
Weyerhaeuser Co.

Nonprofit Organizations
Alliance for the Great Lakes
Alliance to End Childhood Lead Poisoning
American Association for the Advancement of Science
American Rivers
The Nature Conservancy
The Wilderness Society
World Wildlife Fund

Academic Positions
Boston University
Cornell University
Dartmouth College
Princeton University
Stanford University
University of Alberta
Williams College

Graduate Schools
Harvard
Universities of California, Massachusetts, Michigan and Minnesota

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*includes gender identity and gender expression

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NATURAL RESOURCES AND ENVIRONMENT
UNIVERSITY OF MICHIGAN

To learn more about
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The Huron River, which runs through the City of Ann Arbor, is considered the best canoeing river in southeastern Michigan.

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Michael Simsik, MS '92, (left) the Peace Corps' assistant country director for Madagascar, welcomes a new environmental volunteer to Voloina. The LEED plaque (center) hangs in the student commons in recognition of the environmentally sensitive restoration of the Dana Building. Sustainable systems research compares the energy and environmental performance of alternative electricity generating technologies, including wind power (right).

Student Life

Vibrant, that's Ann Arbor. Students who come here to study find a small city that is big on quality of life. There is the beauty and breadth of its natural resources; the endless variety of its music scene; the smorgasbord of restaurants, coffee shops, bars and diners; and more bookstores than you can imagine.

You will take your classes and labs within the Samuel T. Dana Building, a 100-year-old structure that has earned a Gold LEED (Leadership in Energy and Environmental Design) rating from the U.S. Green Building Council. At every turn, the building exemplifies green renovation. And it serves as a laboratory for testing the effectiveness of green materials, such as an array of photovoltaic panels for capturing and converting sunlight into heat and air conditioning.

Four annual events will mark your calendar and the change of seasons – Orientation at the Biostation, 260 miles north, on Douglas Lake in late summer; Campfire in the fall at Saginaw Forest; Winter Solstice at the Dana Building; and Spring Picnic at Nichols Arboretum.

These special events punctuate a day-in and day-out atmosphere of connections and collegiality. Two student commons, one on the first floor and one on the fourth, serve as central gathering places where serious studying and socializing take place. And each month, the Dean hosts morning Community Coffees, formalizing an already strong and regular mingling of faculty, students and staff.

All this adds up to an intangible that defines the school: Camaraderie. Come join a community steeped in the values of the nation's heartland and united by a fundamental respect for the natural world. The bonds forged at Natural Resources and Environment will last a lifetime and, with a University alumni network of 400,000 strong, accompany you across the globe.

Be Green!
Go Blue!