

ENVIRONMENTAL CONSERVATION: ENVIRONMENTAL OBSERVATION AND INFORMATICS, M.S.

This is a named option in the Environmental Conservation M.S. (<http://guide.wisc.edu/graduate/environmental-studies/environmental-conservation-ms/#text>)

The Environmental Observation and Informatics (EOI) named option integrates cross-cutting Earth observation, technologies, and big data analytics in one unique, 15-month, 32-credit program that combines hands-on, in-person training with distance learning. Our goal is to transform students' technical expertise into integrative synthesis and leadership in environmental observation and interpretation to advance organizational response to environmental change at local, regional, and global scales. At UW-Madison, we push the limits of remote sensing and geospatial analysis to encompass the skills that are increasingly in demand by industry, non-governmental organizations, government agencies, and academia.

The EOI named option is designed for early- to mid-career professionals worldwide who wish to advance to positions of project or program manager, senior analyst, or similar rank. Individuals from diverse professional or educational backgrounds are encouraged to apply. EOI has been built to help individuals develop the expertise that the market demands, focusing specifically on three pillars:

1. Remote sensing and integrated technology: Learn to select and apply the most appropriate and powerful platforms and technologies - including LiDAR, unmanned aerial vehicle (UAV) systems, cloud and social media, and crowd-sourced data - to address today's most pressing environmental challenges.
2. Modeling and analysis: Construct scenarios of environmental phenomena to better understand natural processes and human actions, to predict and project future outcomes, and to conduct robust statistical analyses with distributed data to identify trends and inform management and policy decisions.
3. Innovative leadership: Drive strategic thinking to design and manage the use of observation technologies to advance policy, program direction, and executive decisions.

ADMISSIONS

GRADUATE SCHOOL ADMISSIONS

Graduate admissions is a two-step process between academic degree programs and the Graduate School. Applicants must meet requirements of both the program(s) and the Graduate School. Once you have researched the graduate program(s) you are interested in, apply online (<https://grad.wisc.edu/admissions>).

Requirements	Detail
Fall Deadline	This program does not admit in the fall.
Spring Deadline	The program does not admit in the spring.
Summer Deadline	December 1
GRE (Graduate Record Examinations)	Required.
English Proficiency Test	Every applicant whose native language is not English or whose undergraduate instruction was not in English must provide an English proficiency test score and meet the Graduate School minimum requirements (https://grad.wisc.edu/apply/requirements/#english-proficiency).
Other Test(s) (e.g., GMAT, MCAT)	n/a
Letters of Recommendation Required	2

The priority deadline for submitting an application to the Environmental Observation & Informatics (EOI) named option and for tuition assistance is December 1. However, prospective students who apply after the December 1 priority deadline should notify the EOI program coordinator. International applicants should contact the EOI program coordinator as soon as possible to ensure all paperwork and documents are included in the application. Applications are submitted online (<https://apply.grad.wisc.edu>) through the UW-Madison Graduate School. Applicants will need to create a username and password to access the application system. For current or former UW students, this will be a new account that does not use your NetID. When applying for our MS program select the summer term for the calendar year you are applying for, and then choose Environmental Observation and Informatics in the drop-down tab. Prospective students who apply by December 1 will be informed of their admissions status by late January.

Individuals with diverse professional and academic backgrounds are encouraged to apply. Preferred applicants are individuals with two to five years of professional work and/or field experience in GIS, geospatial technologies, and remote sensing. Because introductory GIS is not taught in this program, applicants should show some experience in using GIS demonstrated through coursework, professional experience, a portfolio (in the supplemental application), or a GIS certificate/degree. If an applicant does not have this experience, they should state this in their letter of interest and explain how, if accepted, introductory skills will be developed before the start of the program.

Applicants must have received a bachelor's degree from an accredited four-year institution with an undergraduate GPA of 3.0 or higher. Applicants with GPAs below 3.0 may be considered for admission under special circumstances.

Complete applications will include all items below. GRE scores are required for the EOI named option. Admissions decisions will be based on the entirety of each applicant's credentials.

1. Professional credentials/resume
2. Reasons for graduate study/statement of interest in this program or field
3. Two letters of professional recommendation; one letter from a current or former employer and one letter from a former university advisor are preferred. Although the online UW-Madison application gives you the

option of adding three references, only two references are required for this program.

4. One copy of undergraduate transcripts submitted electronically in the application
5. Supplemental application (found in UW-Madison online application)

Applicants will submit a portfolio that showcases their quantitative and GIS experience. The portfolio should consist of documents that will help assess each applicant's proficiency and readiness for the program. Examples of these documents can include; maps developed in a GIS software or through remote sensing image analysis, copies of certificates, awards, and completed trainings, figures from analysis and reports, or selected slides from professional presentations.

6. GRE scores

For foreign students, TOEFL or IELTS scores are also needed. The minimum TOEFL score required is 92 for the internet-based test (iBT) and 580 for the paper-based test (PBT). The minimum IELTS score required is 7.0. Applicants with language scores below these requirements may be considered for program admission under special circumstances. The UW-Madison Graduate School also requires proof of sufficient tuition funds for foreign applicants accepted into the program.

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (<https://grad.wisc.edu/funding>) is available from the Graduate School. Be sure to check with your program for individual policies and processes related to funding.

PROGRAM RESOURCES

Because of the immersive nature of our programs, with condensed time on campus and remote experiences, Environmental Conservation students are not eligible for any campus appointments such as teaching assistantships, project assistantships, research assistantships, or fellowships. This applies to both the Environmental Conservation and the Environmental Observation & Informatics named options. We encourage all students to apply for our Environmental Conservation tuition assistance program, and to seek additional sources of grants, scholarships, or loans. Students in the Environmental Conservation program's named options are not permitted to seek double, joint, or dual degrees.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

NAMED OPTION REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
No	No	No	Yes	Yes

Mode of Instruction Definitions

Evening/Weekend: These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.

Online: These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.

Hybrid: These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.

Accelerated: These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.

CURRICULAR REQUIREMENTS

Requirements Detail	
Minimum Credit Requirement	32 credits
Minimum Residence Credit Requirement	19 credits
Minimum Graduate Coursework Requirement	Half of degree coursework (16 credits out of 32 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (https://registrar.wisc.edu/course-guide/).
Overall Graduate GPA Requirement	3.00 GPA required.
Other Grade Requirements	The Graduate School requires a cumulative GPA of 3.0 in all coursework (300 and above) taken as a graduate student unless program-specific conditions require higher grades for probationary status. The EOI named option requires a minimum grade of B in each course to satisfy all curriculum requirements. Grades of Incomplete (I) are considered to be unsatisfactory if they are not removed during the next enrolled semester.
Assessments and Examinations	All students must submit a leadership placement proposal and work plan, complete a professional leadership experience (independent practice) of at least eight weeks, followed by a substantial written report or deliverable for their host organization, and an exit seminar presentation.

Language Requirements No language requirements.

REQUIRED COURSES

Code	Title	Credits
ENVIR ST/ F&W ECOL/G L E/ GEOG/GEOSCI/ LAND ARC 371	Introduction to Environmental Remote Sensing	3
ENVIR ST 506	Modeling and Analysis of Environmental Systems	3
ENVIR ST/CIV ENGR/ LAND ARC 556	Remote Sensing Digital Image Processing	3
STAT 679	Special Topics in Statistics	1-3
F&W ECOL 875	Special Topics	1-4
ENVIR ST 950	Environmental Monitoring Seminar	2
ENVIR ST 974	Environmental Conservation Cohort Seminar	1
ENVIR ST 978	Environmental Conservation Tools Modules	1
ENVIR ST 999	Advanced Independent Study	1-3

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/acadpolicy>) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

NAMED OPTION-SPECIFIC POLICIES

GRADUATE PROGRAM HANDBOOK

A Graduate Program Handbook containing all of the program's policies and requirements is forthcoming.

PRIOR COURSEWORK

Graduate Work from Other Institutions

No credits from another institution are allowed to count toward the program.

UW–Madison Undergraduate

With program approval, up to six credits of selected coursework taken as a UW–Madison undergraduate student may count toward the EOI program curriculum. Those credits taken as an undergraduate student cannot count toward the graduate residence or graduate coursework requirements, but they can count toward the graduate degree requirement if the courses were at least 300 level and completed within three years of matriculating in the program.

UW–Madison University Special

With program approval and payment of the difference in tuition (between special student and graduate student), up to six credits of selected coursework taken as a UW–Madison special student may count toward the EOI program curriculum. Those credits taken as a special student can

count toward the graduate residence and graduate degree requirements if the courses were at least 300 level and completed within three years of matriculating in the program, and they can also count toward the graduate coursework requirement if the courses were 700 level or above.

PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above). This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School. The status of a student falls into one of the following three categories:

1. Good standing (progressing according to standards; any funding guarantee remains in place).
2. Probation (not progressing according to standards but permitted to enroll; loss of funding guarantee; specific plan with dates and deadlines in place in regard to removal of probationary status).
3. Unsatisfactory progress (not progressing according to standards; not permitted to enroll, dismissal, leave of absence or change of advisor or program).

ADVISOR / COMMITTEE

Every student in the program will be required to have an advisor. Program staff will work with the student to identify an advisor during the fall semester. Once an advisor has been identified, the student is expected to maintain communication with their advisor to ensure they are making satisfactory progress toward their degree.

CREDITS PER TERM ALLOWED

15 credits

TIME CONSTRAINTS

If a student has been absent for a semester or more, they must file a new Graduate School application for admission and submit it with a new application fee. UW–Madison master's degree students who have been absent for five or more consecutive years lose all credits they had earned before their absence. The Graduate School will not count that coursework toward their graduate residence, graduate degree, or graduate coursework requirements. Students who have been absent for three or more consecutive years cannot count credits they had earned before their absence toward EOI named option requirements.

OTHER

Because of the immersive nature of our program, with condensed time on campus and remote experiences, Environmental Conservation students are only eligible for campus appointments that total 30% time or less, or hourly work. We encourage all students to apply for our Environmental Conservation program scholarship, and to seek additional sources of grants, scholarships, or loans. Students in the Environmental Conservation program are not permitted to seek dual degrees.

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd>) to build skills, thrive academically, and launch your career.

PEOPLE

FACULTY EXECUTIVE PROGRAM COMMITTEES

ENVIRONMENTAL CONSERVATION PROGRAM COMMITTEE

Robert Beattie, David Drake, Thomas Eggert, Holly Gibbs, Evelyn Howell, Timothy Van Deelen, Alberto Vargas, Paul Zedler (Ex Officio)

ENVIRONMENTAL OBSERVATION & INFORMATICS PROGRAM COMMITTEE

Annemarie Schneider (Program Chairperson), Mutlu Ozdogan, Janet Silbernagel, Stephen Ventura, Jun Zhu, Paul Zedler (Ex Officio)