

# ENVIRONMENTAL SCIENCE AND PUBLIC POLICY, PHD

**Banner Code:** SC-PHD-EVPP

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Our graduates contribute to the solution of complex environmental problems, which require the development of knowledge and skills in the collection, analysis, and interpretation of scientific data, as well as in the integration of scientific understanding into the public policy process.

This interdisciplinary program draws on faculty and expertise from the Department of Environmental Science and Policy's core faculty, as well as faculty from across the university. This includes the Department of Biology, the Department of Atmospheric, Oceanic and Earth Sciences, the School of Systems Biology, the Department of Chemistry and Biochemistry, the Department of Economics, the Department of Geography and Geoinformation Science, and the Department of Sociology and Anthropology, as well as the Schar School of Policy and Government, the School of Integrative Studies, the Volgenau School of Engineering, and the College of Education and Human Development in addition to others.

This has been designated a Green Leaf program.

## Admissions & Policies

### Admissions

University-wide admissions policies can be found in the Graduate Admissions Policies section of this catalog. Additionally, information on the admission of international students can be found in the Admission of International Students section of this catalog.

To apply for this program, please complete the George Mason University Admissions Application (<https://www2.gmu.edu/admissions-aid/apply-now>).

### Eligibility and Application Requirements

Applicants should have a bachelor's degree with an overall GPA of at least 3.00. They should have taken at least two semesters of chemistry and three semesters of biology, including a course in ecology.

Applicants to the PhD program should have an advanced degree (e.g. MA, MS, veterinary, or law) in a relevant field or exceptional undergraduate academic and research accomplishments.

Applicants should submit the following:

- Scores on the verbal and quantitative sections of the GRE for applicants that do not hold an advanced degree (e.g. MA, MS, veterinary, or law) or higher from a regionally accredited institution in the USA.
- Three letters of recommendation, with at least two from individuals with doctorates.
- Current résumé.
- Substantial statement of interest that includes a description of the specific area of proposed dissertation research, the potential focus

(environmental science or environmental public policy), contacts that have been made with potential faculty advisors, and an explanation of career and research goals.

- Letter of endorsement from a prospective advisor to include how your research interests coincide with that of your advisor.

All students must obtain the consent of a faculty member willing to serve as an advisor prior to being fully admitted to the program. Admission decisions are based on the student's qualifications and the availability of a faculty advisor. An advisor may be changed by mutual consent of student and advisor, or by petition to the graduate program director and the associate dean for student affairs in the College of Science. Applicants with questions should contact the ESP Graduate Programs Office (703-993-3187).

### Science, Ecology, and Social Science Background

#### Science Background

Applicants who lack college-level coursework in biology and chemistry (two semesters of each) will be expected to complete a two semester sequence of introductory graduate-level environmental chemistry and biology courses as follows:

Code	Title	Credits
EVPP 506	Science of the Environment I	3
EVPP 507	Science of the Environment II	3
Total Credits		6

These introductory courses cannot be added to the graduate program of study, they will be additional credits to the degree's 72 credit total.

#### Ecology Background

Students without previous coursework in general ecology will be required to take the following introductory course, which may be included in the graduate program of study.

Code	Title	Credits
EVPP 607	Fundamentals of Ecology	3

#### Social Science Background

Students with little previous coursework in the social sciences will be required to take the following introductory course, which may be included in the graduate program of study.

Code	Title	Credits
EVPP 608	Introduction to Environmental Social Science	3

### Policies

For policies governing all graduate programs, see AP.6 Graduate Policies.

#### Reduction of Credits

For students entering the doctoral program with a master's degree in an academically related field from a regionally-accredited institution, the number of required credits may be reduced up to 30 credits, subject to approval of the program faculty and the college's associate dean for student affairs. See AP.6.5.2 Reduction of Credits for more information.

## Requirements

### Degree Requirements

Total credits: 72

This is a Green Leaf program.

Students should refer to the Admissions & Policies tab for specific policies related to this program.

### Doctoral Coursework

Students are required to complete a coursework proposal by the end of their second semester. The coursework proposal must be approved by the student's advisor and the graduate program director. In keeping with the general philosophy inherent in a PhD degree, students adopt an individual program that focuses on a specific area of research. The student's coursework must provide the knowledge base from which an original research project in their specific areas of interest can be successfully completed.

#### Natural Sciences

Code	Title	Credits
Select at least 12 credits in biology, chemistry, environmental science, geology, geography, or environmental engineering		12
Total Credits		12

#### Public Policy

Code	Title	Credits
Select at least 12 credits in public affairs, economics, sociology, and/or business. A course in environmental law is also required as part of this category		12
Total Credits		12

#### Research Methods and Technology

Code	Title	Credits
Select at least 6 credits in statistics, remote sensing, geographic information systems, analytical chemistry, molecular biology, modeling, or information technology <sup>1</sup>		6
Total Credits		6

<sup>1</sup> Students should carefully choose coursework to ensure they have the necessary skills to support dissertation research.

### Doctoral Seminar

Students must present a total of 4 graduate seminar credits, with EVPP 991 Advanced Seminar in Environmental Science taken at least once.

Code	Title	Credits
Four credits from		4
EVPP 692	Master's Seminar in Environmental Science and Public Policy	
EVPP 991	Advanced Seminar in Environmental Science	
Total Credits		4

### Coursework Focus

Code	Title	Credits
Students select a program of study emphasis with one of two focuses.		12
<b>Environmental Science</b>		
Select 12 credits in natural science coursework <sup>1</sup>		
<b>Environmental Public Policy</b>		
Select 12 credits of public policy coursework <sup>1</sup>		
Total Credits		12

<sup>1</sup> Previous thesis research courses may not be applied to fulfill the coursework focus described here. See advisor for further details.

### Electives

Code	Title	Credits
If necessary after doctoral coursework and dissertation research, students take additional electives to bring the total number of credits to 72.		2-14
Total Credits		2-14

### Dissertation Committee

Before the end of the fourth semester of coursework, in consultation with their advisor, the student forms a dissertation committee of at least four members. Three of the committee members must be from the Mason graduate faculty. The fourth member may be from Mason or may be from outside the university provided that they hold a terminal degree in an appropriate field. The dissertation committee must be approved by the college's associate dean for student affairs.

### Program of Study

After reviewing the student's coursework proposal, progress to date, and area of research, the committee makes final recommendations concerning coursework that will be codified in the program of study to be signed by all committee members and the graduate program director. Students are advised to work closely with their advisor and committee to develop the coursework program in order to facilitate the process of course selection. During the duration of graduate study, a student must meet with the full dissertation committee at least once a year.

### Qualifying Exams

On completion of all or nearly all coursework, students may request to take the qualifying or candidacy exam. The qualifying exam has both written and oral components. The written portion consists of questions submitted by each member of the dissertation committee. Successful completion of the written exam should be followed by the oral portion within one month. The qualifying exam may be repeated once at the discretion of the student's committee.

### Advancement to Candidacy

Upon approval of the program of study, completion of all or nearly all coursework, successful completion of the qualifying exam, and the approval of the dissertation proposal by the dissertation committee, the student is recommended for advancement to candidacy by the graduate program director. Students must advance to candidacy within five years of admission to the program.

### Dissertation Research

Students must complete a dissertation. This may be accomplished by taking EVPP 999 Doctoral Dissertation Research alone, or in combination

with EVPP 998 Doctoral Dissertation Proposal. However, at least six of these credits must be taken as EVPP 999 Doctoral Dissertation Research. Students working on dissertation research must register for a minimum of 3 credits of EVPP 999 Doctoral Dissertation Research per semester (excluding summers) until they have completed the minimum number of dissertation research credits. Then, they must register for 1 credit of EVPP 999 Doctoral Dissertation Research until the dissertation is complete and has been officially submitted to the library.

The dissertation is an original written work, demonstrating mastery of subject matter, methodologies, and conceptual foundations on a specific problem in the general field of environmental science and public policy. The dissertation generally involves collection and analysis of original data or the substantially new analysis and reinterpretation of existing data.

Code	Title	Credits
Select 12-24 credits from the following:		12-24
EVPP 998	Doctoral Dissertation Proposal	
EVPP 999	Doctoral Dissertation Research (at least 6 credits)	
Total Credits		12-24

### Dissertation Research and Defense

Before students may enroll in EVPP 999 Doctoral Dissertation Research, they must have advanced to candidacy and have a dissertation proposal approved by the dissertation committee, graduate program director, department chairperson, and the dean of the College of Science. Students must present the completed dissertation in a public seminar and defend the work before the dissertation committee and others who wish to attend. Awarding of the degree is contingent on approval of the dissertation by the dissertation committee, graduate program director, department chairperson, and the dean of the College of Science. The dissertation and defense must be completed a total of nine years from the date of first enrollment in the doctoral program.