

## Program Change Request

Date Submitted: 12/06/18 1:46 pm

Viewing: **SC-MS-EVSP : Environmental Science and Policy, MS**

Last approved: 03/19/18 10:20 am

Last edit: 01/22/19 8:30 pm

Changes proposed by: scheselk

Catalog Pages  
Using this Program

[Environmental Science and Policy, MS](#)

### In Workflow

1. **ESP Chair**
2. **SC Curriculum Committee**
3. SC Associate Dean
4. SC CAT Editor
5. Assoc Provost-Graduate
6. Registrar:Concentration Code
7. Registrar-Programs

### Approval Path

1. 12/06/18 2:24 pm  
A. Alonso Aguirre (aaguirr3):  
Approved for ESP Chair

### History

1. Nov 8, 2017 by clmig-jwehrheim
2. Feb 28, 2018 by Rebekah Zacharias (rzachari)
3. Mar 8, 2018 by Rebekah Zacharias (rzachari)
4. Mar 16, 2018 by Rebekah Zacharias (rzachari)
5. Mar 19, 2018 by Rebekah Zacharias (rzachari)

Are you completing this form on someone else's behalf?

Yes

Requestor:

Name	Extension	Email
Ingrid Visseren-Hamakers	x3-5805	ivissere@gmu.edu

Effective Catalog: 2019-2020

Program Level: Graduate

Program Type: Master's

Degree Type: Master of Science

Title: Environmental Science and Policy, MS

Banner Title: **SC-MS-EVSP**

Registrar/OAPI Use Only – SCHEV Status

Approved

Registrar's Office Use Only – Program Start Term

Registrar/OAPI Use Only – SCHEV Letter

Concentration(s):

	Associated Concentrations	Registrar's Office Use Only: Concentration Code
1	Aquatic Ecology	AQEC
2	Conservation Science and Policy	COSP
3	Earth Surface Processes and Environmental Geochemistry	ESEG
4	Environmental Biocomplexity	EVBC
5	Environmental Science and Policy	EVSP
6	Environmental Science Communication	ESCM
<del>7</del>	<del>Environmental Management</del>	<del>EVMG</del>
<b>7</b>	<b>Environment and Management</b>	<b>EVMG</b>

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Environmental Science & Policy

Jointly Owned Program? No

**Justification** The proposed changes are meant to streamline the management concentration with the other concentrations in the Environmental Science and Policy MS. The new management concentration (Environment & Management) will replace the old one (Environmental Management). The required number of credits will be lowered to 33 (to become the same as in the other concentrations). Also, a project or thesis will be required in the new management concentration - again - to streamline with the other concentrations.

**Total Credits Required:** Total credits: **33**  
~~33 or 37~~

**Registrar's Office Use Only - Program Code:**  
SC-MS-EVSP

**Registrar/IRR Use Only – Program CIP Code**

**Admission Requirements:**

## Admissions

University-wide admissions policies can be found in [Graduate Admissions Policies](#). Additionally, information on the admission of international students can be found in [Admission of International Students](#).

To apply for this program, please complete the [George Mason University Admissions Application](#).

### Eligibility

Applicants should hold a bachelor's degree from a regionally-accredited institution with a GPA of 3.00 in natural or Earth sciences, engineering, resource planning, environmental studies, or a field that leads to an environmental focus.

Applicants should have taken at least two semesters of chemistry and three semesters of biology, including a course in ecology. Applicants who lack this coursework should contact the graduate coordinator's office for advice. Successful completion of a two-semester sequence of introductory graduate-level environmental chemistry and biology courses can be used to satisfy the biology and chemistry prerequisites for admission. These introductory courses would be in addition to the requirements for the degree.

### Application Requirements

Applicants should submit the following:

- Completed George Mason University [George Mason University Admissions Application](#).
- Three letters of recommendation, including at least one from a former professor or, if not available, from someone with a PhD.
- The GRE is required. Successful applicants usually have achieved a minimum score of 235/336 (70%) for verbal and quantitative combined.
- Statement of interest indicating: desired concentration, potential areas of environmental focus/research interest, interactions with potential faculty advisors, and career goals.
- Contact a potential George Mason faculty advisor (appropriate for research interests). An endorsement letter from the potential advisor<sup>1</sup> must be sent to the [Department of Environmental Science and Policy's](#) graduate office; the availability of an advisor in the student's area of interest is a prerequisite for admission.

<sup>1</sup>This endorsement letter is not required for students in the Environment and Management Concentration; their advisor will be the graduate program director.

**Program-Specific Policies:**

## Policies

For policies governing all graduate programs, see [AP.6 Graduate Policies](#).

### Course Selections

Some program requirements may be fulfilled by completing courses from a variety of academic units at Mason. A student's course selections should reflect a coherent individual program focus, which is stated and briefly described in the program of study. Course selections should also support the research component of the student's degree program (if applicable) and should be developed in close consultation with the supervisory committee. The supervisory committee approves a coursework program (the program of study) individually for each student.

In special cases, the graduate program director may permit the substitution of an alternative course in place of a required one.

### Supervisory Committee

Students must form a supervisory committee<sup>1</sup> and submit a program of study to the graduate coordinator for approval within the first 9 credits of coursework or by the end of the second semester, whichever comes first.

The supervisory committee consists of the advisor and at least two other members, chosen in consultation with the advisor, and must conform to [AP.6.9 Requirements for Master's Degrees](#).

**1 Students in the Environment and Management Concentration are not required to form a supervisory committee.**

~~4 Students choosing the EVMG concentration are not required to form a supervisory committee.~~

**Degree Requirements:**

This is a Green Leaf program.

Students should refer to [Admissions & Policies](#) for specific policies related to this program.

Students in **all of** the ~~AQEC, COSP, ESEG, EVBC, ESCM and EVSP~~ concentrations will complete the concentration's requirements, the research requirement, the seminar requirement, and electives as outlined below (for a total of ~~37~~ 33 credits).

~~Students in the EVMG concentration will complete the concentration's requirements as outlined in the concentration's section below (for a total of 37 credits).~~ **Aquatic Ecology Concentration (AQEC)**

This concentration will provide students with a well-grounded master's in the study of aquatic environments such as lakes, streams, watersheds, and estuaries. Emphasis is placed on food webs, biogeochemical cycles, water quality, habitat characteristics, and life histories of aquatic organisms. Students will become proficient with research tools including literature review, field and laboratory methods, and analytical tools as well as applications to management issues.

**Aquatic Science**

Code	Course List Title	Credits
<a href="#">EVPP 550</a>	Waterscape Ecology and Management	3
<a href="#">EVPP 581</a>	Estuarine and Coastal Ecology	3
Select 6 credits from the following:		6
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 519</a>	Marine Mammal Biology and Conservation	
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 536</a>	The Diversity of Fishes	
<a href="#">EVPP 563</a>	Coastal Morphology and Processes	
<a href="#">EVPP 641</a>	Environmental Science and Public Policy	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 645</a>	Freshwater Ecology	
<a href="#">EVPP 646</a>	Wetland Ecology and Management	
<a href="#">EVPP 648</a>	Population Ecology	
<a href="#">EVPP 652</a>	The Hydrosphere	
<a href="#">EVPP 741</a>	Advanced Topics in Environmental Science and Public Policy	
<a href="#">EVPP 745</a>	Environmental Toxicology	
<a href="#">CLIM 512</a>	Physical Oceanography	
Total Credits		12

**Public Policy**

Select from courses in environmental law, human ecology, environmental ethics, environmental conflict resolution, environmental planning, or public affairs.

Code	Course List Title	Credits
Select at least 6 credits from the following:		6
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 608</a>	Introduction to Environmental Social Science 1	
<a href="#">EVPP 619</a>	The Challenge of Biodiversity	
<a href="#">EVPP 623</a>	Translating Environmental Policy into Action	
<a href="#">EVPP 635</a>	Environment and Society	
<a href="#">EVPP 642</a>	Environmental Policy	
<a href="#">EVPP 670</a>	Environmental Law	
<a href="#">EVPP 675</a>	Environmental Planning and Administration	
<a href="#">EVPP 741</a>	Advanced Topics in Environmental Science and Public Policy	
Total Credits		6

1 Required for those with limited coursework in the social sciences. Can be included within the 6 credits.

**Aquatic Methods**

Select from statistics, research design, multivariate data analysis, geographic information systems, lab and field classes.

Code	Course List Title	Credits
Select at least 6 credits from the following:		6
<a href="#">EVPP 555</a>	Lab in Waterscape Ecology	
<a href="#">EVPP 582</a>	Estuarine and Coastal Ecology Laboratory	
<a href="#">EVPP 615</a>	Molecular Environmental Biology II	
<a href="#">EVPP 647</a>	Wetland Ecology Lab and Field	
<a href="#">EVPP 650</a>	Ecosystem Analysis and Modeling	
<a href="#">EVPP 651</a>	Multivariate Data Analysis for Ecology and Environmental Science	

Code	Title	Credits
<a href="#">CLIM 512</a>	Physical Oceanography	
<a href="#">CSS 600</a>	Introduction to Computational Social Science	
<a href="#">CSS 645</a>	Spatial Agent-Based Models of Human-Environment Interactions	
<a href="#">GGS 653</a>	Geographic Information Analysis	
<a href="#">SOCL 636</a>	Statistical Reasoning	
Total Credits		6

#### Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and elective.

### Conservation Science and Policy Concentration (COSP)

This concentration is designed to foster an interdisciplinary, research-oriented degree focusing on the conservation of threatened species and habitats, integrating biological sciences and the human dimensions of conservation practice.

Students may take courses offered by the [Department of Environmental Science and Policy](#) and other departments, including CONS courses which are offered through the [Smithsonian Mason School of Conservation](#). This unique partnership with the Smithsonian-Mason School of Conservation (SMSC) in Front Royal, Virginia offers students hands-on education in cutting-edge conservation science and human dimensions through residential, intensive classes. SMSC is renowned for its conservation research and training of conservation practitioners around the world and instructors for these classes are drawn from SMSC's conservation scientists and other experts from around the world.

#### Conservation Science

Code	Title	Credits
Select at least 6 credits of conservation science courses. Suggested courses include:		
<a href="#">EVPP 518</a>	Conservation Biology	
<a href="#">EVPP 519</a>	Marine Mammal Biology and Conservation	
<a href="#">EVPP 520</a>	Marine Mammal Biology and Conservation Field Course	
<a href="#">EVPP 543</a>	Tropical Ecosystems	
<a href="#">EVPP 550</a>	Waterscape Ecology and Management	
<a href="#">EVPP 607</a>	Fundamentals of Ecology 1	
<a href="#">EVPP 621</a>	Overview of Biodiversity Conservation	
<a href="#">CONS 630</a>	Species Monitoring Conservation 2	
Total Credits		6

1 Required for those without previous coursework in ecology. Can be included within the 6 credits.

2 Variable topics, may be taken more than once if the topic is different.

#### Conservation Policy and Human Dimensions of Conservation

Select from the following courses in conservation policy or social science courses.

Code	Title	Credits
Select at least 6 credits from the following:		
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 575</a>	Global Biodiversity Governance	
<a href="#">EVPP 608</a>	Introduction to Environmental Social Science 1	
<a href="#">EVPP 622</a>	Management of Wild Living Resources	
<a href="#">EVPP 642</a>	Environmental Policy	
<a href="#">EVPP 643</a>	Microbial Ecology	
Total Credits		6

1 Required for those with limited coursework in the social sciences. Can be included within the 6 credits.

#### Conservation Methods

Code	Title	Credits
Select at least 6 credits in relevant experimental methods, statistics, or conservation techniques courses. Suggested courses include:		
<a href="#">EVPP 555</a>	Lab in Waterscape Ecology	
<a href="#">CONS 620</a>	Spatial Ecology, Geospatial Analysis Remote Sensing for Conservation	
<a href="#">CONS 625</a>	Statistics for Ecology and Conservation Biology	
Total Credits		6

#### Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and electives.

### Earth Surface Processes and Environmental Geochemistry Concentration (ESEG)

This concentration offers a specific research focus in the Earth science area and is designed for students desiring a master's with an Earth science geology theme.

#### Natural Sciences

Of the required 16 credits, select at least one course from each of the following areas: soils science, hydrogeology, and geochemistry (totaling 10 of the 16 required credits).

Code	Course List Title	Credits
Select 16 credits from the following:		
<a href="#">EVPP 503</a>	Field Mapping Techniques	16
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 543</a>	Tropical Ecosystems	
<a href="#">EVPP 550</a>	Waterscape Ecology and Management	
<a href="#">EVPP 563</a>	Coastal Morphology and Processes	
<a href="#">EVPP 577</a>	Biogeochemistry: A Global Perspective	
<a href="#">EVPP 607</a>	Fundamentals of Ecology 1	
<a href="#">EVPP 610</a>	Bioremediation: Theory and Applications	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 745</a>	Environmental Toxicology	
<a href="#">CHEM 633</a>	Chemical Thermodynamics and Kinetics	
<a href="#">CHEM 651</a>	Environmental Chemistry of Organic Substances	
<a href="#">CHEM 728</a>	Introduction to Solid Surfaces	
<a href="#">GEOL 500</a>	Selected Topics in Modern Geology	
<a href="#">GEOL 501</a>	Selected Topics in Modern Geology	
<a href="#">GEOL 601</a>	The Lithosphere	

Total Credits 16

1 Required for those without previous coursework in ecology. Can be included within the 6 credits.

### Public Policy

Select from the following courses in environmental law, human dimension of global change, environmental ethics, human ecology, or planning.

Code	Course List Title	Credits
Select at least 6 credits from the following:		
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	6
<a href="#">EVPP 524</a>	Introduction to Environmental and Resource Economics	
<a href="#">EVPP 608</a>	Introduction to Environmental Social Science 1	
<a href="#">EVPP 619</a>	The Challenge of Biodiversity	
<a href="#">EVPP 620</a>	Development of U.S. Environmental Policies	
<a href="#">EVPP 621</a>	Overview of Biodiversity Conservation	
<a href="#">EVPP 623</a>	Translating Environmental Policy into Action	
<a href="#">EVPP 635</a>	Environment and Society	
<a href="#">EVPP 642</a>	Environmental Policy	
<a href="#">EVPP 670</a>	Environmental Law	

1 Required for those with limited coursework in the social sciences. Can be included within the 6 credits.

### Methods

Select from the following courses in remote sensing, GIS, statistics, instrumentation, or modeling.

Code	Course List Title	Credits
Select at least 6 credits from the following:		
<a href="#">EVPP 503</a>	Field Mapping Techniques	6
<a href="#">EVPP 531</a>	Land-use Modeling Techniques and Applications	
<a href="#">EVPP 615</a>	Molecular Environmental Biology II	
<a href="#">EVPP 631</a>	Spatial Agent-based Models of Human-Environment Interactions	
<a href="#">EVPP 632</a>	Qualitative Research Methods for Environmental Scientists	
<a href="#">EVPP 650</a>	Ecosystem Analysis and Modeling	
<a href="#">EVPP 651</a>	Multivariate Data Analysis for Ecology and Environmental Science	
<a href="#">GGS 531</a>	Land-Use Modeling Techniques and Applications	
<a href="#">GGS 550</a>	Geospatial Science Fundamentals	
<a href="#">GGS 553</a>	Geographic Information Systems	
<a href="#">GGS 560</a>	Quantitative Methods	
<a href="#">GGS 563</a>	Advanced Geographic Information Systems	
<a href="#">GGS 579</a>	Remote Sensing	
<a href="#">GGS 653</a>	Geographic Information Analysis	

### Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and electives.

## Environmental Biocomplexity Concentration (EVBC)

---

This concentration is designed for students desiring a master's with an environmental biocomplexity theme encompassing the disciplines of population genetics, microbial ecology, and/or molecular systematics.

Students are encouraged to complete at least 1 credit of directed studies ([EVPP 693](#) Directed Studies in Environmental Science and Public Policy) as a laboratory rotation to enhance their mastery of experimental techniques.

#### Natural Sciences

Select from the following courses with topics that can be drawn from offerings in ecology, biogeochemistry, biochemistry, population genetics, molecular biology, molecular systematics, molecular evolution, microbial ecology, microbial diversity, quantitative genetics, and population biology.

Code	Course List Title	Credits
Select at least 6 credits from the following:		6
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 515</a>	Molecular Environmental Biology I	
<a href="#">EVPP 518</a>	Conservation Biology	
<a href="#">EVPP 519</a>	Marine Mammal Biology and Conservation	
<a href="#">EVPP 520</a>	Marine Mammal Biology and Conservation Field Course	
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 536</a>	The Diversity of Fishes	
<a href="#">EVPP 550</a>	Waterscape Ecology and Management	
<a href="#">EVPP 551</a>	Fungi and Ecosystems	
<a href="#">EVPP 563</a>	Coastal Morphology and Processes	
<a href="#">EVPP 581</a>	Estuarine and Coastal Ecology	
<a href="#">EVPP 607</a>	Fundamentals of Ecology 1	
<a href="#">EVPP 615</a>	Molecular Environmental Biology II	
<a href="#">EVPP 641</a>	Environmental Science and Public Policy	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 646</a>	Wetland Ecology and Management	
<a href="#">EVPP 745</a>	Environmental Toxicology	
Total Credits		6

1 Required for those without previous coursework in ecology. Can be included within the 6 credits.

#### Public Policy

Select from the following courses in environmental law, human ecology, environmental ethics, patent law, or legal and ethical issues in science.

Code	Course List Title	Credits
Select at least 6 credits from the following:		6
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 520</a>	Marine Mammal Biology and Conservation Field Course	
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 524</a>	Introduction to Environmental and Resource Economics	
<a href="#">EVPP 608</a>	Introduction to Environmental Social Science 1	
<a href="#">EVPP 619</a>	The Challenge of Biodiversity	
<a href="#">EVPP 620</a>	Development of U.S. Environmental Policies	
<a href="#">EVPP 621</a>	Overview of Biodiversity Conservation	
<a href="#">EVPP 623</a>	Translating Environmental Policy into Action	
<a href="#">EVPP 635</a>	Environment and Society	
<a href="#">EVPP 642</a>	Environmental Policy	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 670</a>	Environmental Law	
<a href="#">EVPP 741</a>	Advanced Topics in Environmental Science and Public Policy	

1 Required for those with limited coursework in the social sciences. Can be included within the 6 credits.

#### Methods and Statistics

Select from the following courses in statistics, bioinformatics, information systems, instrumental analysis, microbiological techniques, molecular methods, or phylogenetic methods.

Code	Course List Title	Credits
Select at least 9 credits from the following:		9
<a href="#">EVPP 615</a>	Molecular Environmental Biology II	
<a href="#">EVPP 632</a>	Qualitative Research Methods for Environmental Scientists	
<a href="#">EVPP 650</a>	Ecosystem Analysis and Modeling	
<a href="#">EVPP 651</a>	Multivariate Data Analysis for Ecology and Environmental Science	
<a href="#">EVPP 745</a>	Environmental Toxicology	
<a href="#">GGS 553</a>	Geographic Information Systems	
<a href="#">GGS 563</a>	Advanced Geographic Information Systems	

Code	Title	Credits
<a href="#">GGS 653</a>	Geographic Information Analysis	

### Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and electives.

## Environmental Science and Policy Concentration (EVSP)

The Environmental Science and Policy concentration is the largest within the master's and serves as a home for a broad array of research foci. It encourages an independent and creative approach to the development of curricula that reside in the general field of environmental science and policy.

The concentration's requirements may be fulfilled by completing courses from a variety of academic units at Mason as outlined below.

### Natural Sciences

Select from the following courses in biology, geology, geography, chemistry, or environmental engineering.

Code	Course List Title	Credits
Select at least 6 credits from the following:		6
<a href="#">EVPP 515</a>	Molecular Environmental Biology I	
<a href="#">EVPP 518</a>	Conservation Biology	
<a href="#">EVPP 519</a>	Marine Mammal Biology and Conservation	
<a href="#">EVPP 520</a>	Marine Mammal Biology and Conservation Field Course	
<a href="#">EVPP 543</a>	Tropical Ecosystems	
<a href="#">EVPP 550</a>	Waterscape Ecology and Management	
<a href="#">EVPP 551</a>	Fungi and Ecosystems	
<a href="#">EVPP 581</a>	Estuarine and Coastal Ecology	
<a href="#">EVPP 607</a>	Fundamentals of Ecology 1	
<a href="#">EVPP 622</a>	Management of Wild Living Resources	
<a href="#">EVPP 641</a>	Environmental Science and Public Policy	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 648</a>	Population Ecology	
<a href="#">EVPP 677</a>	Applied Ecology and Ecosystem Management	
<a href="#">EVPP 745</a>	Environmental Toxicology	
Total Credits		6

1 Required for those without previous coursework in ecology. Can be included within the 6 credits.

### Public Policy

Select from the following courses in environmental law, human ecology, environmental ethics, planning, or public affairs.

Code	Course List Title	Credits
Select at least 6 credits from the following:		
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 519</a>	Marine Mammal Biology and Conservation	
<a href="#">EVPP 520</a>	Marine Mammal Biology and Conservation Field Course	
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 608</a>	Introduction to Environmental Social Science 1	
<a href="#">EVPP 619</a>	The Challenge of Biodiversity	
<a href="#">EVPP 621</a>	Overview of Biodiversity Conservation	
<a href="#">EVPP 622</a>	Management of Wild Living Resources	
<a href="#">EVPP 623</a>	Translating Environmental Policy into Action	
<a href="#">EVPP 635</a>	Environment and Society	
<a href="#">EVPP 642</a>	Environmental Policy	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 670</a>	Environmental Law	

1 Required for those with limited coursework in the social sciences. Can be included within the 6 credits.

### Methods and Statistics

Select from the following courses in statistics, remote sensing, information systems, instrumental analysis, or modeling. A course in statistics is highly recommended.

Code	Course List Title	Credits
Select at least 6 credits from the following:		6
<a href="#">EVPP 503</a>	Field Mapping Techniques	
<a href="#">EVPP 505</a>	Selected Topics in Environmental Science	
<a href="#">EVPP 524</a>	Introduction to Environmental and Resource Economics	
<a href="#">EVPP 531</a>	Land-use Modeling Techniques and Applications	
<a href="#">EVPP 615</a>	Molecular Environmental Biology II	
<a href="#">EVPP 632</a>	Qualitative Research Methods for Environmental Scientists	
<a href="#">EVPP 650</a>	Ecosystem Analysis and Modeling	

Code	Title	Credits
<a href="#">EVPP 651</a>	Multivariate Data Analysis for Ecology and Environmental Science	
<a href="#">EVPP 745</a>	Environmental Toxicology	
<a href="#">GGS 560</a>	Quantitative Methods	
<a href="#">GGS 653</a>	Geographic Information Analysis	
<a href="#">GGS 756</a>	Physical Principles of Remote Sensing	
<a href="#">SOCL 631</a>	Survey Research	

#### Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and electives.

### Environmental Science Communication Concentration (ESCM)

A key to environmental action and behavior change is an ability to communicate environmental science and policy. This concentration is for students desiring a master's degree with an interdisciplinary approach to communicating environmental issues and solutions.

#### Environmental Science

Code	Title	Credits
Select 6 credits from EVPP graduate courses, suggestions include:		6
<a href="#">EVPP 521</a>	Marine Conservation	
<a href="#">EVPP 543</a>	Tropical Ecosystems	
<a href="#">EVPP 607</a>	Fundamentals of Ecology 1	
<a href="#">EVPP 621</a>	Overview of Biodiversity Conservation	
<a href="#">EVPP 641</a>	Environmental Science and Public Policy	
<a href="#">EVPP 677</a>	Applied Ecology and Ecosystem Management	
Total Credits		6

1 Required for those without previous coursework in ecology. Can be included within the 6 credits.

#### Science Communication

Code	Title	Credits
<a href="#">EVPP 529</a>	Environmental Science Communication	3
<a href="#">COMM 639</a>	Science Communication	3
Select 6 credits of science communication courses; suggestion include, but are not limited to:		6
<a href="#">COMM 637</a>	Risk Communication	
<a href="#">COMM 640</a>	Controversies in Science Communication	
<a href="#">COMM 641</a>	Advanced Communication Skills for STEM	
<a href="#">COMM 642</a>	Science and the Public	
<a href="#">COMM 644</a>	Analysis and Criticism of Science Journalism	
<a href="#">COMM 660</a>	Climate Change and Sustainability Communication Campaigns	
<a href="#">COMM 735</a>	Crisis Communication	
Total Credits		12

#### Research Methods

Code	Title	Credits
Select 6 credits of courses in relevant experimental methods, statistics, or communication techniques. Suggested courses include, but are not limited to:		6
<a href="#">EVPP 631</a>	Spatial Agent-based Models of Human-Environment Interactions	
<a href="#">EVPP 683</a>	Environmental Conflict Resolution: Situation Assessment, Process Design and Best Practices	
<a href="#">COMM 725</a>	Qualitative Methods	
<a href="#">COMM 775</a>	Media Content Analysis	
<a href="#">PUAD 613</a>	Economic Analysis in Public Administration	
<a href="#">SOCL 620</a>	Methods and Logic of Social Inquiry	
<a href="#">SOCL 631</a>	Survey Research	
<a href="#">SOCL 634</a>	Qualitative Research Methods	
<a href="#">SOCL 636</a>	Statistical Reasoning	
Total Credits		6

#### Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and electives.

### Environment and ~~Environmental~~ Management Concentration (EVMG)

This concentration combines the managerial and ~~and~~ administrative skills developed in a traditional master of public administration degree program with the scientific knowledge and ~~and~~ understanding normally found in a master of science degree. It is especially meant ~~to serve as a terminal professional master's degree for~~ individuals working in or aspiring to work as managers in the environmental field in government or private industry.

#### Natural Science



Code	Course List Title	Credits
<del>EVPP 638</del>	<del>Corporate Environmental Management and Policy</del>	<del>3</del>
<b>Select at least 6 credits from the following:</b>		<b>6</b>
<a href="#">EVPP 515</a>	Molecular Environmental Biology I	
<a href="#">EVPP 518</a>	Conservation Biology	
<a href="#">EVPP 519</a>	Marine Mammal Biology and Conservation	
<a href="#">EVPP 520</a>	Marine Mammal Biology and Conservation Field Course	
<a href="#">EVPP 543</a>	Tropical Ecosystems	
<a href="#">EVPP 550</a>	Waterscape Ecology and Management	
<a href="#">EVPP 555</a>	Lab in Waterscape Ecology	
<a href="#">EVPP 581</a>	Estuarine and Coastal Ecology	
<a href="#">EVPP 607</a>	Fundamentals of Ecology 1	
<a href="#">EVPP 622</a>	Management of Wild Living Resources	
<a href="#">EVPP 641</a>	Environmental Science and Public Policy	
<del>EVPP 642</del>	<del>Environmental Policy</del>	<del>3</del>
<del>PUAD 502</del>	<del>Administration in Public and Nonprofit Organizations</del>	<del>3</del>
<del>PUAD 540</del>	<del>Public Policy Process</del>	<del>3</del>
<b>Select one from the following methods courses:</b>		<b>3-4</b>
<a href="#">EVPP 650</a>	Ecosystem Analysis and Modeling	
<a href="#">GGS 550</a>	Geospatial Science Fundamentals	
<a href="#">GGS 553</a>	Geographic Information Systems	
<a href="#">GGS 579</a>	Remote Sensing	
<a href="#">SOCL 636</a>	Statistical Reasoning	
<a href="#">EVPP 643</a>	Microbial Ecology	
<a href="#">EVPP 646</a>	Wetland Ecology and Management	
<a href="#">EVPP 647</a>	Wetland Ecology Lab and Field	
<a href="#">EVPP 648</a>	Population Ecology	
<a href="#">EVPP 677</a>	Applied Ecology and Ecosystem Management	
<a href="#">EVPP 745</a>	Environmental Toxicology	

Total Credits 6

1 Required for those without previous coursework in ecology. Can be included within the 6 credits.

**Public Policy**

Code	Course List Title	Credits
<b>Select at least 3 credits from the following:</b>		<b>3</b>
<b>Select at least 12 credits from the following:</b>		<b>12</b>
<a href="#">EVPP 638</a>	Corporate Environmental Management and Policy	
<a href="#">EVPP 641</a>	Environmental Science and Public Policy	
<a href="#">EVPP 642</a>	Environmental Policy	
<a href="#">EVPP 670</a>	Environmental Law	
<a href="#">CEIE 556</a>	Environmental Law	
<a href="#">PRLS 501</a>	Introduction to Natural Resources Law	
<a href="#">PUAD 502</a>	Administration in Public and Nonprofit Organizations	
<a href="#">PUAD 540</a>	Public Policy Process	

Total Credits 12

**Methods and Statistics**

Code	Course List Title	Credits
<b>Select at least 4 credits from the following:</b>		<b>4</b>
<del>EVPP 550</del>	<del>Waterscape Ecology and Management</del>	
<del>&amp; EVPP 555</del>	<del>and Lab in Waterscape Ecology</del>	
<del>Or</del>		
<del>EVPP 646</del>	<del>Wetland Ecology and Management</del>	
<del>&amp; EVPP 647</del>	<del>and Wetland Ecology Lab and Field</del>	
<del>Or</del>		
<b>Other approved 4-credit field ecology course</b>		
<b>Select at least 6 credits from the following:</b>		<b>6</b>
<a href="#">EVPP 582</a>	Estuarine and Coastal Ecology Laboratory	
<a href="#">EVPP 650</a>	Ecosystem Analysis and Modeling	
<a href="#">GGS 550</a>	Geospatial Science Fundamentals	
<a href="#">GGS 553</a>	Geographic Information Systems	
<a href="#">GGS 579</a>	Remote Sensing	

Code	Title	Credits
<b>SOCI 636</b>	<b>Statistical Reasoning</b>	
Total Credits		6

Additional Requirements

See the Additional Requirements section below for details on the research requirement, the seminar requirement, and electives. ~~the Concentrations:~~

**Additional Requirements for all Concentrations:**

**Research Requirement**

~~Research Requirement~~

~~AQEC, COSP, ESEG, EVBC, ESCM, EVSP Students choosing the EVMG concentration are not required to fulfill these additional requirements; the EVMG requirements are listed in a separate section below.~~ The research requirement may be satisfied in one of two ways: a research project or a formal thesis.

The depth and sophistication of the research differs between the two options. The thesis normally involves original research with independent acquisition and interpretation of data, with the goal of peer-reviewed publication. Projects are generally less extensive and can include a broader range of activities.

Project Option

Students fulfilling the research requirement with the project option register for [EVPP 798](#) Master's Research Project in Environmental Science and Public Policy and are required to take a comprehensive examination covering knowledge mastered throughout the program of study. This examination includes both a written and an oral component and is administered by the student's supervisory committee.

Code	Course List Title	Credits
<a href="#">EVPP 798</a>	Master's Research Project in Environmental Science and Public Policy (at least 1 credit)	1-3
Total Credits		1-3

Thesis Option

Students fulfilling the research requirement with the thesis option register for [EVPP 799](#) Master's Thesis in Environmental Science and Public Policy, present their results in a public seminar, and defend their thesis before their supervisory committee. Students will be graded "Satisfactory/No Credit" on the research requirement.

Code	Course List Title	Credits
<a href="#">EVPP 799</a>	Master's Thesis in Environmental Science and Public Policy (at least 3 credits)	1-6
Total Credits		1-6

**Seminar Requirement**

An appropriate course topic must be taken to in order to fulfill this requirement.

Code	Course List Title	Credits
<a href="#">EVPP 692</a>	Master's Seminar in Environmental Science and Public Policy (at least 1 credit)	1
Total Credits		1

**Electives**

If necessary, students take additional electives to bring the degree total to 33 credits. These courses must be approved by the student's supervisory committee and outlined on the student's program of study.

~~Environmental Management Concentration (EVMG) This concentration combines the managerial and administrative skills developed in a traditional master of public administration degree program with the scientific knowledge and understanding normally found in a master of science degree. It serves as a terminal professional master's degree for individuals working in or aspiring to work as managers in the environmental field in government or private industry. Students in this concentration have the graduate program director as their advisor upon admission. Full-time students can complete this degree in three semesters; part-time students can take six semesters. The requirements are as follows: Core Courses Environmental Law Field Ecology Capstone~~

Code	Course List Title	Credits
<del>EVPP 677</del>	<del>Applied Ecology and Ecosystem Management</del>	<del>3</del>
<del>Total Credits</del>		<del>0</del>

~~Electives~~

Code	Course List Title	Credits
Select 9 credits (or more) to complete 37 credits from the following list of approved electives: <del>1</del>		
<del>EVPP 524</del>	<del>Introduction to Environmental and Resource Economics</del>	
<del>EVPP 525</del>	<del>Economics of Human/Environment Interactions</del>	
<del>EVPP 550</del>	<del>Waterscape Ecology and Management</del>	
<del>EVPP 575</del>	<del>Global Biodiversity Governance</del>	
<del>EVPP 607</del>	<del>Fundamentals of Ecology 2</del>	
<del>EVPP 608</del>	<del>Introduction to Environmental Social Science 3</del>	
<del>EVPP 620</del>	<del>Development of U.S. Environmental Policies</del>	
<del>EVPP 621</del>	<del>Overview of Biodiversity Conservation</del>	
<del>EVPP 622</del>	<del>Management of Wild-Living Resources</del>	
<del>EVPP 626</del>	<del>Environment and Development in Asia</del>	
<del>EVPP 627</del>	<del>Environmental Policy in Latin America</del>	
<del>EVPP 628</del>	<del>Environment and Development in Africa</del>	

Code	Title	Credits
EVPP 630	Methods and Logic of Social Inquiry	
EVPP 635	Environment and Society	
EVPP 638	Corporate Environmental Management and Policy	
EVPP 643	Microbial Ecology	
EVPP 646	Wetland Ecology and Management	
EVPP 650	Ecosystem Analysis and Modeling	
EVPP 675	Environmental Planning and Administration	
CLIM 690	Scientific Basis of Climate Change	
GG5 550	Geospatial Science Fundamentals (only if not taken as part of the core courses above)	
PUAD 509	Justice Organizations and Processes	
PUAD 615	Administrative Law	
PUAD 622	Program Planning and Implementation	
PUAD 645	Policy Analysis	
PUAD 657	Association Management	
PUAD 729	Issues in Public Management	
MBA 623	Marketing Management	
MBA 712	Project Management	
MBA 724	Marketing Communications	
MBA 725	Leadership	
<b>Total Credits</b>		<b>0</b>

- 1 Other courses may be used, subject to approval of the graduate program director.
- 2 Required for those without previous coursework in ecology.
- 3 Required for those with limited previous coursework in the social sciences.

Retroactive Requirements Updates:

Plan of Study:

### Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if applicable):

What is the primary delivery format for the program?	Face-to-Face Only
Does any portion of this program occur off-campus?	Yes
Off-campus details:	If Smithsonian courses are chosen.
Are you working with a vendor / other collaborators to offer your program?	Yes
Please explain:	Smithsonian.
Related Departments	
Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?	No
Are you adding or removing a licensure component?	No

### Additional SCHEV & SACSCOC Information

Are you changing the total number of credits required for this program?

Are you changing the delivery format in any way (e.g adding an online option)?

Are you adding/removing a licensure option which was approved by SCHEV?

Will any portion of this program be offered at an off-campus location?

Are you adding significant new content areas to the program?

Will this program change affect any specialized accreditation?

### Green Leaf Program Designation

Is this a Green Leaf program? Yes

Green Leaf Designation Sustainability-focused designation

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated substance equivalent to a sustainability-focused course.

Relationship to Existing Courses

Relationship to Existing Programs

List sustainability-focused courses currently required in the degree program:

Does this program cover material which crosses into another department?

No

Additional Attachments

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi\_required.eshtml%

Key: 189