

Program Change Request

Date Submitted: 12/11/24 8:45 am

Viewing: **SC-BS-EVSC : Environmental Science, BS**

Last approved: 12/03/24 4:04 pm

Last edit: 12/11/24 9:21 am

Changes proposed by: jbazaz

**Catalog Pages
Using this Program**
[Environmental Science, BS](#)

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

Yes

Requestor:

In Workflow

1. **ESP UG Committee**
2. **ESP Chair**
3. **SC Curriculum Committee**
4. SC Assistant Dean
5. Assoc Provost- Undergraduate
6. Registrar-Programs

Approval Path

1. 12/11/24 9:57 am
Yoonsung Kim
(ykih): Approved for
ESP UG Committee
2. 12/12/24 1:30 pm
Gad Perry
(gperry23):
Approved for ESP
Chair

History

1. Nov 1, 2017 by
clmig-jwehrheim
2. Mar 1, 2018 by
Jennifer Bazaz
Gettys (jbazaz)
3. Mar 13, 2018 by
Jennifer Bazaz
Gettys (jbazaz)
4. Mar 26, 2018 by
rzachari
5. Nov 7, 2018 by
Jennifer Bazaz
Gettys (jbazaz)

- 6. Feb 8, 2019 by scheselk
- 7. Nov 13, 2020 by Tory Sarro (vsarro)
- 8. Dec 21, 2020 by Jennifer Bazaz Gettys (jbazaz)
- 9. Dec 6, 2021 by Jennifer Bazaz Gettys (jbazaz)
- 10. May 10, 2022 by Jennifer Bazaz Gettys (jbazaz)
- 11. Apr 6, 2023 by Jennifer Bazaz Gettys (jbazaz)
- 12. Sep 1, 2023 by Younsung Kim (ykih)
- 13. Mar 22, 2024 by Jennifer Bazaz Gettys (jbazaz)
- 14. Dec 3, 2024 by Younsung Kim (ykih)

Name	Extension	Email
Younsung Kim	ykih	5302

Effective Catalog: 2025-2026

Program Level: Undergraduate

Program Type: Bachelor's

Degree Type: Bachelor of Science

Title: Environmental Science, BS

Banner Title: BS Environmental Science

Registrar/OAPI Use Only – SCHEV Status Approved

Registrar's Office Use Only – Program Start Term Fall 2018

Registrar/OAPI Use Only – SCHEV Letter

Registrar/OAPI Use Only – SACSCOC Status

Concentration(s):

	Associated Concentrations	Registrar's Office Use Only: Concentration Code
1	Conservation	CNSV
2	Ecological Science	ESCI
3	Environmental Health	EVHL
4	Human and Ecosystem Response to Climate Change	HERC
5	Marine, Estuarine and Freshwater Ecology	MEFC
6	Wildlife Conservation and Management	WICM

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Environmental Science & Policy

Jointly Owned Program? No

Justification

What: Writing a new course (EVPP 115) into the curriculum.

Why: To aid recruitment and degree audits.

What: Combining how lectures and labs are visualized in the curriculum when both are required.

Why: Student and advising clarity.

Total Credits Required: Total credits: minimum 120

Registrar's Office Use Only - Program Code:

SC-BS-EVSC

Registrar/IRR Use Only – Program CIP Code 03.0104 - Environmental Science.

Admission Requirements:

Admissions

University-wide admissions policies can be found in the [Undergraduate Admissions Policies](#) section of this catalog. To apply for this program, please complete the [George Mason University Admissions Application](#).

Program-Specific Policies:

Policies

Students must fulfill all [Requirements for Bachelor's Degrees](#), including the [Mason Core](#).

Students can fulfill the writing intensive requirement for this major by taking [EVPP 337](#) Environmental Policy Making in Developing Countries ([Mason Core](#)).

For policies governing all undergraduate programs, see [AP.5 Undergraduate Policies](#).

Degree Requirements:

This is a Green Leaf program.

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

Please note that all CONS courses are offered through the [Smithsonian-Mason Semester](#).

Core Requirements

All students must complete the following core courses:

Environmental Science

EVPP 210	Environmental Biology: Molecules and Cells	4
EVPP 301	Environmental Science: Biological Diversity and Ecosystems	4
EVPP 302	Environmental Science: Biomes and Human Dimensions	4
EVPP 305 & EVPP 306	Environmental Microbiology Essentials and Environmental Microbiology Essentials Laboratory	4
EVPP 306	Environmental Microbiology Essentials Laboratory	1
EVPP 337	Environmental Policy Making in Developing Countries (Mason Core). ¹	3

EVPP 361	Introduction to Environmental Policy	3
EVPP 377	Applied Ecology	3
EVPP 430	Fundamentals of Environmental Geographic Information Systems	3
BIOL 214	Biostatistics for Biology Majors ²	4
or STAT 250	Introductory Statistics I (Mason Core).	
Select one from the following:		3
EVPP 336	Tackling Wicked Problems in Society the Environment (Mason Core).	
EVPP 338	Economics of Environmental Policy	
EVPP 362	Intermediate Environmental Policy	
EVPP 475	Global Biodiversity Governance	
Select one from the following:		3-4
EVPP 378	RS: Ecological Sustainability (Mason Core).	
EVPP 480	Sustainability in Action (Mason Core).	
CONS 490	RS: Integrated Conservation Strategies (Mason Core).	
Total Credits		38-39

1

Fulfills the writing intensive requirement.

2

[BIOL 214](#) Biostatistics for Biology Majors is recommended by the Department of Environmental Science and Policy.

Chemistry

CHEM 211 & CHEM 213	General Chemistry I (Mason Core) and General Chemistry Laboratory I (Mason Core).	4
CHEM 213	General Chemistry Laboratory I (Mason Core)	1
CHEM 212 & CHEM 214	General Chemistry II (Mason Core) and General Chemistry Laboratory II (Mason Core).	4
CHEM 214	General Chemistry Laboratory II (Mason Core)	1
Total Credits		8

Mathematics

Select one of the following two options:		4-6
Option One: Select one course from the following:		
MATH 111	Linear Mathematical Modeling (Mason Core).	
MATH 113	Analytic Geometry and Calculus I (Mason Core).	

MATH 114 Analytic Geometry and Calculus II

Option Two: Complete the following courses:

MATH 123 Calculus with Algebra/Trigonometry, Part A

MATH 124 Calculus with Algebra/Trigonometry, Part B (**Mason Core**).

Total Credits 4-6

Geology

GEOL 102 Historical Geology (**Mason Core**) 4
& **GEOL 104** and Historical Geology Laboratory (**Mason Core**).

Total Credits 4

Information Technology

CDS 130 Computing for Scientists (**Mason Core**) 3

Total Credits 3

Concentration in Conservation (CNSV)

Select at least 21 credits from the following: ¹ 21

EVPP 115 **Special Topics in Environmental Science**

EVPP 318 Conservation Biology

EVPP 350 Freshwater Ecosystems

EVPP 378 RS: Ecological Sustainability (**Mason Core**)

EVPP 381 Nature and Culture in Global Wetlands (**Mason Core**)

EVPP 395 Undergraduate Research in Environmental Science and Policy

EVPP 396 Directed Topic in Environmental Science and Policy ²

EVPP 419 Marine Mammal Biology and Conservation

EVPP 420 Marine Mammal Biology and Conservation Field Course

EVPP 421 Marine Conservation

EVPP 427 Conservation Medicine

EVPP 428 Planetary Health

EVPP 440 Field Environmental Science ²

EVPP 445 Principles of Environmental Toxicology

EVPP 475 Global Biodiversity Governance

EVPP 490	Special Topics in Environmental Science and Policy
EVPP 494	Internship
BIOL 300	BioDiversity
BIOL 435	Selected Topics in Biology ²
GGG 303	Geography of Resource Conservation (Mason Core)
GGG 307	Geographic Approaches for Sustainable Development
CONS 320	Conservation in Practice
CONS 400	Conservation Seminar
CONS 401	Conservation Theory
CONS 402	Applied Conservation
CONS 404	Biodiversity Monitoring
CONS 405	Landscape and Macrosystems Ecology
CONS 406	Small Population Management
CONS 410	Human Dimensions in Conservation (Mason Core)
CONS 490	RS: Integrated Conservation Strategies (Mason Core) (Synthesis course)
CONS 491	RS: Conservation Management Planning (Mason Core)
CONS 496	Research in Conservation (Mason Core)
CONS 497	Special Topics in Conservation
CONS 499	Independent Study/Research
INTS 311	The Mysteries of Migration: Consequences for Conservation (Mason Core)

Alternative courses may be taken as approved by the program coordinator.

Total Credits

21

¹

Credits must be unique to this concentration and are not permitted to share with the Core Requirements in this degree.

Students should consult with an advisor to ensure that they do not exceed allowable credits of [EVPP 395](#) and [EVPP 494](#).

²

In a relevant topic.

Concentration in Ecological Science (ECSI)

Select at least 21 unique credits from the following: ¹

21

<u>EVPP 115</u>	<u>Special Topics in Environmental Science</u>
<u>EVPP 309</u>	Oceanography
<u>EVPP 318</u>	Conservation Biology
<u>EVPP 350</u>	Freshwater Ecosystems
<u>EVPP 378</u>	RS: Ecological Sustainability (<u>Mason Core</u>)
<u>EVPP 381</u>	Nature and Culture in Global Wetlands (<u>Mason Core</u>)
<u>EVPP 395</u>	Undergraduate Research in Environmental Science and Policy
<u>EVPP 396</u>	Directed Topic in Environmental Science and Policy ²
<u>EVPP 408</u>	Mushrooms, Molds and Society
<u>EVPP 427</u>	Conservation Medicine
<u>EVPP 428</u>	Planetary Health
<u>EVPP 429</u>	Environmental Science Communication
<u>EVPP 434</u>	Food-Energy-Water-Climate Nexus
<u>EVPP 440</u>	Field Environmental Science ²
<u>EVPP 445</u>	Principles of Environmental Toxicology
<u>EVPP 449</u>	Marine Ecology
<u>EVPP 490</u>	Special Topics in Environmental Science and Policy
<u>EVPP 494</u>	Internship
<u>BIOL 300</u>	BioDiversity
<u>BIOL 345</u>	Plant Ecology
<u>BIOL 435</u>	Selected Topics in Biology ²
<u>BIOL 459</u>	Fungi and Ecosystems
<u>GEOL 305</u>	Environmental Geology (<u>Mason Core</u>)
<u>GEOL 306</u>	Soil Science
<u>GGG 307</u>	Geographic Approaches for Sustainable Development
<u>CEIE 401</u>	Sustainable Land Development
<u>CEIE 440</u>	Water Supply and Distribution
<u>CEIE 444</u>	Water Resources Planning and Design
<u>CEIE 453</u>	Water and Wastewater Treatment Processes

Alternative courses may be taken as approved by the program coordinator.

Total Credits 21

¹

Credits must be unique to this concentration and are not permitted to share with the Core Requirements in this degree.

Students should consult with an advisor to ensure that they do not exceed allowable credits

of [EVPP 395](#) and [EVPP 494](#).

²

In a relevant topic.

Concentration in Environmental Health (EVHL)

Required Courses

EVPP 427	Conservation Medicine	3
EVPP 445	Principles of Environmental Toxicology	3

Course Options

Select at least 15 credits from the following ¹ 15

[EVPP 115](#) [Special Topics in Environmental Science](#)

[EVPP 395](#) Undergraduate Research in Environmental Science and Policy

[EVPP 396](#) Directed Topic in Environmental Science and Policy ²

[EVPP 428](#) Planetary Health

[EVPP 440](#) Field Environmental Science ²

[EVPP 490](#) Special Topics in Environmental Science and Policy

[EVPP 494](#) Internship

[BIOL 305](#) Biology of Microorganisms
& [BIOL 306](#) and Biology of Microorganisms Laboratory

[BIOL 402](#) Applied and Industrial Microbiology

[BIOL 404](#) Medical Microbiology

[BIOL 465](#) Histology

[CLIM 319](#) Air Pollution

[GGG 302](#) Global Environmental Hazards

[GGG 304](#) Population Geography [\(Mason Core\)](#)

[GGG 307](#) Geographic Approaches for Sustainable Development

[GCH 205](#) Global Health [\(Mason Core\)](#)

[GCH 360](#) Health and Environment

Alternative courses may be taken as approved by the program coordinator.

Total Credits

21

¹

Credits must be unique to this concentration and are not permitted to share with the Core Requirements in this degree.

Students should consult with an advisor to ensure that they do not exceed allowable credits of [EVPP 395](#) and [EVPP 494](#).

²

In a relevant topic.

Concentration in Human and Ecosystem Response to Climate Change (HERC)

Course Options

Select 21 unique credits from the following courses; at least 15 of these credits must be in EVPP-prefixed courses: ¹

21

[EVPP 115](#) [Special Topics in Environmental Science](#)

[EVPP 309](#) Oceanography

[EVPP 336](#) Tackling Wicked Problems in Society the Environment [\(Mason Core\)](#)

[EVPP 338](#) Economics of Environmental Policy

[EVPP 362](#) Intermediate Environmental Policy

[EVPP 378](#) RS: Ecological Sustainability [\(Mason Core\)](#)

[EVPP 381](#) Nature and Culture in Global Wetlands [\(Mason Core\)](#)

[EVPP 395](#) Undergraduate Research in Environmental Science and Policy

[EVPP 396](#) Directed Topic in Environmental Science and Policy

[EVPP 427](#) Conservation Medicine

[EVPP 428](#) Planetary Health

[EVPP 429](#) Environmental Science Communication

[EVPP 432](#) Energy Policy

[EVPP 434](#) Food-Energy-Water-Climate Nexus

[EVPP 436](#) Politics of Climate Change Governance

EVPP 440	Field Environmental Science
EVPP 475	Global Biodiversity Governance
EVPP 445	Principles of Environmental Toxicology
EVPP 465	Coral Reef Ecology, Health, and Conservation
EVPP 466	Coral Reef Ecology, Health, and Conservation Lab/Field Experience
EVPP 490	Special Topics in Environmental Science and Policy
EVPP 494	Internship
CLIM 101	Global Warming: Weather, Climate, and Society (Mason Core)
CLIM 111	Introduction to the Fundamentals of Atmospheric Science (Mason Core)
CLIM 112	Introduction to the Fundamentals of Atmospheric Science Lab (Mason Core)
CLIM 312	Physical Climatology
CLIM 314	Severe and Extreme Weather
CLIM 319	Air Pollution
CLIM 390	Topics in Climate Research
CLIM 412	Physical Oceanography
CLIM 438	Atmospheric Chemistry
CLIM 456	Introduction to Atmospheric Radiation
GEOL 309	Oceanography
GGG 121	Dynamic Atmosphere and Hydrosphere (Mason Core)
GGG 302	Global Environmental Hazards
GGG 304	Population Geography (Mason Core)
GGG 307	Geographic Approaches for Sustainable Development
GGG 309	Introduction to Weather and Climate
GGG 312	Physical Climatology
GGG 314	Severe and Extreme Weather
GGG 321	Biogeography
GGG 354	Data Analysis and Global Change Detection Techniques
PHIL 243	Global Environmental Ethics (Mason Core)
PHIL 343	Topics in Environmental Philosophy (Mason Core)

Alternative courses may be taken as approved by the program coordinator.

Total Credits 21

¹

Credits must be unique to this concentration and are not permitted to share with the Core Requirements in this degree.

Students should consult with an advisor to ensure that they do not exceed allowable credits of [EVPP 395](#) and [EVPP 494](#).

Concentration in Marine, Estuarine and Freshwater Ecology (MEFC)

Required Courses

EVPP 309	Oceanography	3
EVPP 350	Freshwater Ecosystems	4
EVPP 421	Marine Conservation	3
EVPP 449	Marine Ecology	3

Course Options

Select at least 8 credits from the following: ¹ 8

[EVPP 115](#) [Special Topics in Environmental Science](#)

[EVPP 318](#) Conservation Biology

[EVPP 363](#) Coastal Morphology and Processes

[EVPP 395](#) Undergraduate Research in Environmental Science and Policy

[EVPP 396](#) Directed Topic in Environmental Science and Policy ²

[EVPP 419](#) Marine Mammal Biology and Conservation

[EVPP 420](#) Marine Mammal Biology and Conservation Field Course

[EVPP 427](#) Conservation Medicine

[EVPP 434](#) Food-Energy-Water-Climate Nexus

[EVPP 440](#) Field Environmental Science ²

[EVPP 445](#) Principles of Environmental Toxicology

[EVPP 490](#) Special Topics in Environmental Science and Policy

[EVPP 494](#) Internship

[EVPP 563](#) Coastal Morphology and Processes

[BIOL 331](#) Invertebrate Zoology

BIOL 480	The Diversity of Fishes
GEOL 364	Marine Geology
GEOL 458	Chemical Oceanography
GGG 307	Geographic Approaches for Sustainable Development
CLIM 412	Physical Oceanography

Alternative courses may be taken as approved by the program coordinator.

Total Credits 21

¹

Credits must be unique to this concentration and are not permitted to share with the Core Requirements in this degree.

Students should consult with an advisor to ensure that they do not exceed allowable credits of [EVPP 395](#) and [EVPP 494](#).

²

In a relevant topic.

Concentration in Wildlife Conservation and Management (WICM)

Wildlife Courses

Select 6 credits from the following: ¹ 6

EVPP 318	Conservation Biology
EVPP 445	Principles of Environmental Toxicology
EVPP 490	Special Topics in Environmental Science and Policy

Select 15 credits from the following: ¹ 15

EVPP 115	Special Topics in Environmental Science
EVPP 395	Undergraduate Research in Environmental Science and Policy ²
EVPP 396	Directed Topic in Environmental Science and Policy ²
EVPP 419	Marine Mammal Biology and Conservation
EVPP 427	Conservation Medicine
EVPP 428	Planetary Health
EVPP 445	Principles of Environmental Toxicology
EVPP 490	Special Topics in Environmental Science and Policy
EVPP 494	Internship ²
BIOL 304	Plant Biology

BIOL 344	Plant Diversity and Evolution
BIOL 345	Plant Ecology
BIOL 311	General Genetics
BIOL 326	Animal Physiology
BIOL 331	Invertebrate Zoology
BIOL 332	Insect Biology
BIOL 437	Ornithology
BIOL 438	Mammalogy
BIOL 439	Herpetology
BIOL 454	Marine Mammal Biology and Conservation
BIOL 460	Infectious Diseases Wildlife
RMGT 300	People With Nature
RMGT 302	Park Management and Operations
RMGT 402	Human Behavior in Natural Environments

Total Credits

21

1

Credits must be unique to this concentration and are not permitted to share with the Core Requirements in this degree.

Students should consult with an advisor to ensure that they do not exceed allowable credits of [EVPP 395](#) and [EVPP 494](#).

2

In a topic relevant to wildlife.

Retroactive Requirements Updates:

[December 2024 Request: EVPP 115 addition retro to the fall 2024 catalog.](#)

[Previous Request:](#) Effective Catalog years: 2021-2022, 2022-2023, 2023-2024

Previous requirement as stated in the catalog: Previously, there weren't any guardrails to safeguard against double-counting courses. The concentration credits should not be allowed to share with the core requirements of the degree.

Plan of Study:

Honors Information:

Accelerate
Descript

INTO-M:
College
Requirer
Departm
Academi

Program Outcomes

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 students choose to take courses as a part of the Mason-Smithsonian semester.

Are you working with a vendor / other collaborators to offer your program?

No

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

Is this change a simple retitling of an existing program, with no other changes, to any existing program content, curriculum requirements, etc?

No

Does this change represent a repackaging of content in an existing approved degree/certificate program at the same instructional level (i.e., baccalaureate, master's, or doctoral)?

No

Percentage of total credits containing new course content. ("New course content" is defined by SACSCOC as content that is not currently included in an existing approved degree/certificate program at the same instructional level. Do not exclude gen ed credits in calculations for undergraduate programs.)

0%-24%

Does this change include the addition of a distance education or face-to-face method of delivery for this program?

No

Does this change include the addition of a course/credit-based competency-based education delivery option?

No

Will any additional equipment/facilities be needed?

No

Will any additional faculty be required?

No

Will any additional financial resources be needed?

No

Additional library/learning resources needed?

No

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

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

[BS-Environmental-Science-Wildlife.pdf](#)
[BS-Environmental Science-Human and Ecosystem Response to Climate Change.pdf](#)

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

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

%wi_required.eshtml%