

Program Change Request

Date Submitted: 08/19/22 8:55 pm

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

Last approved: 05/10/22 3:18 pm

Last edit: 08/19/22 8:55 pm

Changes proposed by: jbazaz

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

No Longer
Anticipated closure
Rationale for

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

Yes

Requestor:

In Workflow

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

Approval Path

1. 09/28/22 9:23 am
Larry Rockwood
(lrockwo):
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)

Name	Extension	Email
Younsung Kim	5165	ykih

Effective Catalog: 2022-2023
Program Level: Undergraduate
Program Type: Bachelor's
Degree Type: Bachelor of Science
Title: Environmental Science, BS

- Approval Criteria**
1. What was the process used with the proposal?
 2. What evidence was used to identify the need for the badge?
 3. Have you ensured there are no other badges in the area?
 4. Has CPE confirmed the proposed badge description?
 5. Has the instructor(s) for this badge experience?
 6. Is there a contact hour minimum?
 7. Is an assessment required?
 8. Does this badge provide a benefit for current or future students?
- 5. Is this badge co-sponsored with another organization, association, or unit? (If yes, provide details)**
- a. What is the organization, program, or department?

- Earning Criteria**
- Course:
 - Badge:
 - Participant:
 - Document:
 - Portfolio:
 - Presentation:
 - Assessment:
 - Credential:
 - Education
 - Other:
 - Project:
 - Professional
 - Schedule/Registration:
 - Volunteer:

- Skills Tag**
- Skills Tag
- Badge Attributes**
- Please select one from each category:
- Achievement Type:
 - Mastery Level:
 - Time Commitment:

Industry Standards:**Recommendations:****Issuance information and Pricing**

Pricing: See <https://cpe.gmu.edu/digitalbadgespricing/> for more information

Estimated Number of Badges Expected to be Issued:**Notes:**

- All badge requests will be routed to CPE for review and approval. Please allow 1-2 weeks for review.
- A Mason Digital Credentials Advisory Group may be developed to review badge requests.

Banner Title: BS Environmental Science

Is this a retitling of an existing program?

Existing Program

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	WILD

INTO Major(s):

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Environmental Science & Policy

Jointly Owned Program? No

Participating

Participating

Justification

What: We're adding courses as appropriate for the various concentrations. We are deleting the graduate courses that are listed in the Environmental Health concentration and the PRLS courses from the Conservation concentration.

Why: The additions: To allow students a breadth of courses and to ease advising and degree audits. The deletions: The PRLS courses have been inactivated. GRAD COURSE DELETION JUSTIFICATION TO BE INSERTED BY DEPT.

What: Requiring Human and Ecosystem Response to Climate Change students to choose at least 12 credits in EVPP electives.

Why: To ensure that students' studies stay primarily focused in ESP as the range of course options are quite vast.

Catalog Published Information

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.

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 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	Environmental Microbiology Essentials	3
EVPP 306	Environmental Microbiology Essentials Laboratory	1
EVPP 337	Environmental Policy Making in Developing Countries 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	4
	Select one from the following:	3

[EVPP 336](#) Human Dimensions of the Environment

[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 401](#) Integrated Environmental Assessment

[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.

Chemistry

[CHEM 211](#) General Chemistry I ([Mason Core](#)) 3

[CHEM 213](#) General Chemistry Laboratory I ([Mason Core](#)) 1

[CHEM 212](#) General Chemistry II ([Mason Core](#)) 3

[CHEM 214](#) General Chemistry Laboratory II ([Mason Core](#)) 1

Total Credits 8

Mathematics

Select two from the following: 7-8

[MATH 111](#) Linear Mathematical Modeling ([Mason Core](#))

[MATH 113](#) Analytic Geometry and Calculus I ([Mason Core](#))

[MATH 114](#) Analytic Geometry and Calculus II

Total Credits 7-8

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

Experiential Learning

Select at least one from the following: 1-6

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

[EVPP 494](#) Internship

[CONS 496](#) Research in Conservation ([Mason Core](#))

[CONS 498](#) Internship

Total Credits 1-6

Concentration in Conservation (CNSV)

Select at least 21 credits from the following: 21

[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 1

[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 1

[EVPP 445](#) **Principles of Environmental Toxicology**

[EVPP 475](#) Global Biodiversity Governance

[EVPP 490](#) Special Topics in Environmental Science and Policy 1

[EVPP 494](#) Internship

[BIOL 300](#) BioDiversity

[BIOL 435](#) Selected Topics in Biology 1

[GGS 303](#) Geography of Resource Conservation ([Mason Core](#))

GGS 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)
PRLS 300	Course PRLS 300 Not Found
PRLS 402	Course PRLS 402 Not Found

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

Total Credits

21

1 In a relevant topic.

Concentration in Ecological Science (ECSI)

Select at least 21 credits from the following:

21

EVPP 309	Oceanography
EVPP 318	Conservation Biology
EVPP 350	Freshwater Ecosystems
EVPP 355	Ecological Engineering and Ecosystem Restoration
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 1
EVPP 408	Mushrooms, Molds and Society
EVPP 427	Conservation Medicine
EVPP 428	Planetary Health
EVPP 429	Environmental Science Communication
EVPP 434	Food-Energy-Water Nexus
EVPP 440	Field Environmental Science 1
EVPP 445	Principles of Environmental Toxicology
EVPP 449	Marine Ecology
EVPP 490	Special Topics in Environmental Science and Policy 1
EVPP 494	Internship
BIOL 300	BioDiversity

BIOL 345	Plant Ecology
BIOL 435	Selected Topics in Biology 1
BIOL 459	Fungi and Ecosystems
GEOL 305	Environmental Geology
GEOL 306	Soil Science
GGS 307	Geographic Approaches for Sustainable Development
CEIE 401	Sustainable Land Development
CEIE 440	Water Supply and Distribution
CEIE 444	Water Resources Planning and Design
CEIE 453	Water and Wastewater Treatment Processes

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

Total Credits		21
1	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 15

EVPP 395	Undergraduate Research in Environmental Science and Policy
EVPP 396	Directed Topic in Environmental Science and Policy 1
EVPP 409	Medical Mycology
EVPP 428	Planetary Health
EVPP 440	Field Environmental Science 1
EVPP 490	Special Topics in Environmental Science and Policy 1
EVPP 494	Internship
EVPP 515	Molecular Environmental Biology
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
GGS 302	Global Environmental Hazards
GGS 304	Population Geography (Mason Core)
GGS 307	Geographic Approaches for Sustainable Development
GCH 205	Global Health (Mason Core)
GCH 360	Health and Environment
GCH 560	Environmental Health

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

Total Credits		21
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1 In a relevant topic.

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

Required Course

[EVPP 336](#) Human Dimensions of the Environment 3

Course Options

Select at least 18 credits from the following courses, at least 12 of which must come from EVPP courses: 18

- [EVPP 309](#) Oceanography
- [EVPP 355](#) Ecological Engineering and Ecosystem Restoration
- [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 429](#) **Environmental Science Communication**
- [EVPP 432](#) Energy Policy
- [EVPP 434](#) **Food-Energy-Water Nexus**
- [EVPP 436](#) The Human Dimensions of Global Climate Change
- [EVPP 440](#) Field Environmental Science
- [EVPP 475](#) Global Biodiversity Governance
- [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 412](#) Physical Oceanography
- [CLIM 438](#) Atmospheric Chemistry
- [CLIM 456](#) Introduction to Atmospheric Radiation
- [GEOL 309](#) Oceanography
- [GGS 121](#) Dynamic Atmosphere and Hydrosphere ([Mason Core](#))
- [GGS 302](#) Global Environmental Hazards
- [GGS 304](#) Population Geography ([Mason Core](#))
- [GGS 307](#) Geographic Approaches for Sustainable Development
- [GGS 309](#) Introduction to Weather and Climate
- [GGS 312](#) Physical Climatology
- [GGS 314](#) Severe and Extreme Weather
- [GGS 321](#) Biogeography

[GGS 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 In a relevant topic.

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: 8

[EVPP 318](#) Conservation Biology

[EVPP 355](#) **Ecological Engineering and Ecosystem Restoration**

[EVPP 363](#) Coastal Morphology and Processes

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

[EVPP 396](#) Directed Topic in Environmental Science and Policy 1

[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 Nexus**

[EVPP 440](#) Field Environmental Science 1

[EVPP 445](#) **Principles of Environmental Toxicology**

[EVPP 490](#) Special Topics in Environmental Science and Policy 1

[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

[GGS 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 In a relevant topic.

Concentration in Wildlife (WILD)

Wildlife Courses

EVPP 318	Conservation Biology	3
BIOL 460	Infectious Diseases Wildlife	3
Choose one course from the following:		3-4
EVPP 395	Undergraduate Research in Environmental Science and Policy 1	
EVPP 396	Directed Topic in Environmental Science and Policy 1	
EVPP 419	Marine Mammal Biology and Conservation	
EVPP 428	Planetary Health	
EVPP 445	Principles of Environmental Toxicology	
EVPP 490	Special Topics in Environmental Science and Policy	
EVPP 494	Internship 1	
BIOL 437	Orinthology	
BIOL 438	Mammalogy	
BIOL 439	Herpetology	

Zoology Courses

Choose one course from the following:		3-4
EVPP 395	Undergraduate Research in Environmental Science and Policy 2	
EVPP 396	Directed Topic in Environmental Science and Policy 2	
EVPP 427	Conservation Medicine	
EVPP 494	Internship 2	
BIOL 311	General Genetics	
BIOL 326	Animal Physiology	
BIOL 331	Invertebrate Zoology	
BIOL 332	Insect Biology	
BIOL 454	Marine Mammal Biology and Conservation	
BIOL 455	Marine Mammal Biology and Conservation Field Course	

Botany Courses

Choose from the following courses:		9
EVPP 395	Undergraduate Research in Environmental Science and Policy 3	
EVPP 396	Directed Topic in Environmental Science and Policy 3	
EVPP 494	Internship 3	
BIOL 140	Plants and People (Mason Core)	
BIOL 304	Plant Biology	
BIOL 344	Plant Diversity and Evolution	
BIOL 345	Plant Ecology	
INTS 402	Plants and People - Sustenance, Ceremony, and Sustainability	

Total Credits 21-23

- 1 In a topic relevant to wildlife.
- 2 In a topic relevant to zoology.
- 3 In a topic relevant to botany.

Retroactive Requirements Updates:

Plan of Study:

**Honors
Information:**

**Accelerated
Description/Dual
Degree
Description:**

**INTO-Mason
Requirements:**

**College
Requirements &
Policies:**

Department /
Academic Unit
Requirements &
Policies:

Program Outcomes

Additional Program Information

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

**Courses offered via
distance (if
applicable):**

Indicate whether
students are able

**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

Please explain:

**Related
Departments**

**Could this program prepare students for any type of professional licensure, in
Virginia or elsewhere?**

No

Please explain:

Are you adding or removing a licensure component?

No

Please explain:

Additional SCHEV & SACSCOC Information

Is the content of the new program closely related to that of an existing approved program at the same instructional level (i.e., baccalaureate, master's, doctoral)?

Which existing approved program(s)?

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

Which existing approved program(s)?

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

Which existing approved program(s)?

Is this a re-opening of a program that was closed to admission within the last five years?

Date of Program Closure

What are the methods of delivery for the program?

Does this program include a course/credit-based competency-based education delivery option?

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

Which existing approved program(s)?

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

What is the new method of delivery?

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

Description of institutional impact:

Will any additional faculty be required?

No

Description of institutional impact:

Will any additional financial resources be needed?

No

Description of institutional impact:

Additional library/learning resources needed?

No

Description of institutional impact:

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:

Sustainability-related academic programs either require at least one sustainability-related course or else offer any green leaf course as an option or elective *

List sustainability-related courses currently required in the degree

Does this program cover material which crosses into another department?

No

Impacted Departments

Additional Attachments [BS-Environmental-Science-Wildlife.pdf](#)

SCHEV Proposal Executive Summary

Reviewer Comments

Additional Comments

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

%wi_required.eshtml%

Attached Document