Program Change Request

Date Submitted: 02/27/24 9:00 am

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

Last approved: 09/01/23 3:44 pm

Last edit: 02/27/24 9:00 am

Changes proposed by: jbazaz

Catalog Pages Using this Program	Environmental Science, BS
No Longer	2024-2025
Anticipated closure date (i.e., calendar	
Rationale for	

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

No

Requestor:

Effective Catalog:	2024-2025
Program Level:	Undergraduate
Program Type:	Bachelor's
Degree Type:	Bachelor of Science
Title:	Environmental Science, BS

Approval Criteria

1. What was the process used within your academic

2. Who was involved in approving the badge?

3. What evidence was used to identify need/demand

4. Please attest to the following statements regarding y

a. Have you ensured there are no other existing badges

b. Has CPE confirmed the proposed badge does not

c. Has the instructor(s) for this badge experience been

d. Is there a contact hour minimum?

e. Is an assessment required?

f. Does this badge provide a benefit for current or

5. Is this badge co-sponsored with another organization, association, or unit? (If you would like an

a. What is the organization, program, or department

Earning Criteria

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. 02/27/24 9:22 am Younsung Kim (ykih): Approved for ESP UG Committee
2. 02/27/24 9:31 am Amy Fowler (afowler6): 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)

Course:
Badge:
Participant:
Payment:
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:
Cost:
Industry Standards:
Recommendations:

Issuance information and Pricing

Pricing: See https://cpe.gmu.edu/digitalbadgepricing/ 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 7 business days for processing. A draft badge template and design will be provided
- A Mason Digital Credentials Advisory Group may be developed to review badge development on an annual basis to determine which badges are underutilized and may need to be archived. Earners for any archived badges will always retain
- To view examples of all active badges at Mason, please see: https://www.credly.com/organizations/george-mason-university/badges

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)

Banner Title:	BS Environmental Science
Is this a retitling of an existing program?	
Existing Program Title	
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

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 Colleges

Participating Departments

Justification

What: Add wording to limit double-counting of courses.
Why: Degree audits are double counting courses that were not intended to be counted twice.

What: Removing EVPP 401, EVPP 355
Why: The courses will soon be inactivated.

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 (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	Environmental Microbiology Essentials	3
EVPP 306	Environmental Microbiology Essentials Laboratory	1
EVPP 337	Environmental Policy Making in Developing Countries (Mason Core)	13
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 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.

2

BIOL 214 Biostatistics for Biology Majors is recommended by the Department of Environmental Science and Policy.

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

Choose 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

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: 1 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 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

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)

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

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 2
EVPP 408	Mushrooms, Molds and Society
EVPP 427	Conservation Medicine
EVPP 428	Planetary Health
EVPP 429	Environmental Science Communication
EVPP 434	Food-Energy-Water-Climate Nexus
EVPP 440	Field Environmental Science 2
EVPP 445	Principles of Environmental Toxicology
EVPP 449	Marine Ecology
EVPP 490	Special Topics in Environmental Science and Policy
EVPP 494	Internship
BIOL 300	BioDiversity
BIOL 345	Plant Ecology
BIOL 435	Selected Topics in Biology 2
BIOL 459	Fungi and Ecosystems
GEOL 305	Environmental Geology (Mason Core)
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

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 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
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

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: 121

EVPP 309	Oceanography
EVPP 336	Tackling Wicked Problems in Society the Environment (Mason Core)
EVPP 338	Economics of Environmental Policy
~~EVPP 355~~	~~Ecological Engineering and Ecosystem Restoration~~
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
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

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 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 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	
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

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 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:

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:

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. existin 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
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.eschtml%

Attached Document

%attach_document.eschtml%