

Program Change Request

Date Submitted: 10/05/21 12:46 pm

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

Last approved: 12/21/20 11:57 am

Last edit: 10/05/21 12:45 pm

Changes proposed by: jbazaz

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

In Workflow

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

Approval Path

- 1. 10/05/21 5:00 pm
A. Alonso Aguirre (aaguirr3):
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 Susan Cheselka (scheselk)

Rationale for

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

No

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

Title:
Environmental Science, BS

Banner Title: BS Environmental Science

Is this a retitling of

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):

7. Nov 13, 2020 by
Tory Sarro (vsarro)
8. Dec 21, 2020 by
Jennifer Bazaz
Gettys (jbazaz)

| | 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 |

**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

We are inserting a new course (EVPP 428) into the bachelor's curriculum to expand upon the students' course options.

**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 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 378](#) RS: Ecological Sustainability ([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

| | |
|---------------------------------|---|
| <u>EVPP 427</u> | Conservation Medicine |
| <u>EVPP 440</u> | Field Environmental Science 1 |
| <u>EVPP 475</u> | Global Biodiversity Governance |
| <u>EVPP 490</u> | Special Topics in Environmental Science and Policy 1 |
| <u>EVPP 494</u> | Internship |
| <u>BIOL 300</u> | BioDiversity |
| <u>BIOL 435</u> | Selected Topics in Biology 1 |
| <u>GGG 303</u> | Geography of Resource Conservation (<u>Mason Core</u>) |
| <u>GGG 307</u> | Geographic Approaches for Sustainable Development |
| <u>CONS 320</u> | Conservation in Practice |
| <u>CONS 400</u> | Conservation Seminar |
| <u>CONS 401</u> | Conservation Theory |
| <u>CONS 402</u> | Applied Conservation |
| <u>CONS 404</u> | Biodiversity Monitoring |
| <u>CONS 405</u> | Landscape and Macrosystems Ecology |
| <u>CONS 406</u> | Small Population Management |
| <u>CONS 410</u> | Human Dimensions in Conservation (<u>Mason Core</u>) |
| <u>CONS 490</u> | RS: Integrated Conservation Strategies (<u>Mason Core</u>) (Synthesis course) |
| <u>CONS 491</u> | RS: Conservation Management Planning (<u>Mason Core</u>) |
| <u>CONS 497</u> | Special Topics in Conservation |
| <u>CONS 499</u> | Independent Study/Research |
| <u>INTS 311</u> | The Mysteries of Migration: Consequences for Conservation (<u>Mason Core</u>) |
| <u>PRLS 300</u> | People with Nature |
| <u>PRLS 402</u> | Human Behavior in Natural Environments |

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

Total Credits

21

1 In a relevant topic.

Concentration in Ecological Science (ECSE)

Select at least 21 credits from the following:

21

| | |
|---------------------------------|---|
| <u>EVPP 309</u> | Oceanography |
| <u>EVPP 350</u> | Freshwater Ecosystems |
| <u>EVPP 355</u> | Ecological Engineering and Ecosystem Restoration |
| <u>EVPP 378</u> | RS: Ecological Sustainability (<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 1 |
| <u>EVPP 408</u> | Mushrooms, Molds and Society |
| <u>EVPP 427</u> | Conservation Medicine |
| <u>EVPP 440</u> | Field Environmental Science 1 |
| <u>EVPP 449</u> | 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 |

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 I |
| 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 |
| GGS 302 | Global Environmental Hazards |
| GGS 304 | Population Geography (Mason Core) |
| GGS 307 | Geographic Approaches for Sustainable Development |
| GGS 319 | Air Pollution |
| GGS 322 | Issues in Global Change |
| 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

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: 18

- [EVPP 309](#) Oceanography
- [EVPP 355](#) Ecological Engineering and Ecosystem Restoration
- [EVPP 378](#) RS: Ecological Sustainability ([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 432](#) Energy Policy
- [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
- [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 319](#) Air Pollution
- [GGS 321](#) Biogeography

- [GGS 322](#) Issues in Global Change
- [GGS 354](#) Data Analysis and Global Change Detection Techniques
- [GGS 456](#) Introduction to Atmospheric Radiation

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 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 440](#) Field Environmental Science 1
- [EVPP 490](#) Special Topics in Environmental Science and Policy 1
- [EVPP 494](#) Internship
- [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

| | |
|---------------------------------|--|
| <u>EVPP 395</u> | Undergraduate Research in Environmental Science and Policy 1 |
| <u>EVPP 396</u> | Directed Topic in Environmental Science and Policy 1 |
| <u>EVPP 419</u> | Marine Mammal Biology and Conservation |
| <u>EVPP 494</u> | Internship 1 |
| <u>BIOL 437</u> | Orinthology |
| <u>BIOL 438</u> | Mammalogy |
| <u>BIOL 439</u> | Herpetology |

Zoology Courses

Choose one course from the following:

3-4

| | |
|---------------------------------|--|
| <u>EVPP 395</u> | Undergraduate Research in Environmental Science and Policy 2 |
| <u>EVPP 396</u> | Directed Topic in Environmental Science and Policy 2 |
| <u>EVPP 427</u> | Conservation Medicine |
| <u>EVPP 494</u> | Internship 2 |
| <u>BIOL 311</u> | General Genetics |
| <u>BIOL 331</u> | Invertebrate Zoology |
| <u>BIOL 332</u> | Insect Biology |

Botany Courses

Choose from the following courses:

9

| | |
|---------------------------------|--|
| <u>EVPP 395</u> | Undergraduate Research in Environmental Science and Policy 3 |
| <u>EVPP 396</u> | Directed Topic in Environmental Science and Policy 3 |
| <u>EVPP 494</u> | Internship 3 |
| <u>BIOL 140</u> | Plants and People <u>(Mason Core)</u> |
| <u>BIOL 304</u> | Plant Biology |
| <u>BIOL 344</u> | Plant Diversity and Evolution |
| <u>BIOL 345</u> | Plant Ecology |
| <u>INTS 402</u> | 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

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

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

No

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

No

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

No

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

No

What off-campus location(s)? List all

What percentage of credits toward this program a

Will this program change affect any specialized accreditation?

No

Is the content of the new program closely related to that of an existing approved program?

No

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)?

No

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)?

No

Which existing approved program(s)?

Does this change represent a repackaging of content in an existing approved degree/certificate program?

No

Which existing approved program(s)?

Percentage of total credits containing new course content, excluding gen ed courses for undergraduate program: ("New content" means content that is not currently included in an existing approved degree/certificate program.) Please choose a percentage (i.e. 0%-100%)

less than 25%

Are the total credits for the program increasing or decreasing by more than 3 credits?

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:

Will any 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 a

List sustainability-related courses

Does this program cover material which crosses into another department?

No

Impacted

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%

