

Program Change Request

Date Submitted: 11/13/18 3:09 pm

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

Last approved: 11/07/18 9:18 pm

Last edit: 12/09/18 9:52 pm

Changes proposed by: scheselk

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

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. 11/13/18 4:03 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 Rebekah Zacharias (rzachari)
5. Nov 7, 2018 by Jennifer Bazaz Gettys (jbazaz)

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

Yes

Requestor:

Name	Extension	Email
Joris van der Ham	x3-5863	jvanderh@gmu.edu

Effective Catalog: 2019-2020
Program Level: Undergraduate
Program Type: Bachelor's
Degree Type: Bachelor of Science
Title: Environmental Science, BS
Banner Title: **SC-BS-EVSC**
Registrar/OAPI Use Only – SCHEV Status Approved
Registrar's Office Use Only – Program Start Term Fall 2018
Registrar/OAPI Use Only – SCHEV Letter
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

Registrar/IRR Use Only – Concentration CIP Code
College/School: College of Science
 Environmental Science & Policy

**Department /
Academic Unit:****Jointly Owned
Program?**

No

Justification

These changes will require student to include an experiential learning component to their degree. Specifically, with these changes students are required to either complete at least 1 credit of EVPP 395 or EVPP 494.

**Total Credits
Required:**

Total credits: minimum 120

Registrar's Office Use Only - Program Code:

SC-BS-EVSC

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

Code	Course List Title	Credits
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:

EVPP 336	Human Dimensions of the Environment	3
EVPP 338	Economics of Environmental Policy	
EVPP 362	Intermediate Environmental Policy	
EVPP 475	Global Biodiversity Governance	

Code	Title	Credits
Select one from the following:		
EVPP 378	RS: Ecological Sustainability (Mason Core)	3-4
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 ~~Only offered through the Smithsonian-Mason Semester.~~

Chemistry

Code	Course List Title	Credits
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

Code	Course List Title	Credits
Select two from the following:		
MATH 111	Linear Mathematical Modeling (Mason Core)	7-8
MATH 113	Analytic Geometry and Calculus I (Mason Core)	
MATH 114	Analytic Geometry and Calculus II	
Total Credits		7-8

Geology

Code	Course List Title	Credits
GEOL 102	Introductory Geology II (Mason Core)	4
Total Credits		4

Information Technology

Code	Course List Title	Credits
CDS 130	Computing for Scientists (Mason Core)	3
Total Credits		3

Experiential Learning

Code	Course List Title	Credits
Select at least one from the following:		
EVPP 395	Undergraduate Research in Environmental Science and Policy	1-6
EVPP 494	Internship	
CONS 496	Research in Conservation (Mason Core)	
CONS 498	Internship	
Total Credits		1-6

Concentration in Conservation (CNSV)

Code	Course List Title	Credits
Select at least 21 credits from the following:		
EVPP 318	Conservation Biology	21
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	

Code	Title	Credits
EVPP 420	Marine Mammal Biology and Conservation Field Course	
EVPP 421	Marine Conservation	
EVPP 427	Disease Ecology and Conservation	
EVPP 440	Field Environmental Science 1	
EVPP 475	Global Biodiversity Governance	
EVPP 490	Special Topics in Environmental Science and Policy 1	
EVPP 494	Internship	
BIOL 310	Biodiversity	
& BIOL 330	and Biodiversity Lab and Recitation	
BIOL 300	BioDiversity	
BIOL 435	Selected Topics in Biology 1	
GGG 303	Geography of Resource Conservation (<u>Mason Core</u>)	
GGG 307	Sustainable Development	
CONS 320	Conservation in Practice	
CONS 400	Conservation Seminar	
CONS 401	Conservation Theory	
CONS 402	Applied Conservation	
CONS 403	Course CONS 403 Not Found ²	
CONS 404	Biodiversity Monitoring	
CONS 405	Landscape and Macrosystems Ecology	
CONS 406	Small Population Management	
CONS 410	Human Dimensions in Conservation (<u>Mason Core</u>)	
CONS 411	Course CONS 411 Not Found ²	
CONS 490	RS: Integrated Conservation Strategies (<u>Mason Core</u>) (Synthesis course)	
CONS 491	RS: Conservation Management Planning (<u>Mason Core</u>)	
CONS 496	Research in Conservation (Mason Core)	
CONS 497	Special Topics in Conservation	
CONS 498	Internship	
CONS 499	Independent Study/Research	
INTS 311	The Mysteries of Migration: Consequences for Conservation (<u>Mason Core</u>)	
PRLS 300	People with Nature	
PRLS 402	Human Behavior in Natural Environments	

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

Total Credits 21

¹ In a relevant topic.

² ~~Only offered through the Smithsonian-Mason Semester.~~

Concentration in Ecological Science (ECSE)

Code	Title	Credits
Select at least 21 credits from the following:		
EVPP 309	Introduction to Oceanography	21
EVPP 350	Freshwater Ecosystems	
EVPP 355	Ecological Engineering and Ecosystem Restoration	
EVPP 378	RS: Ecological Sustainability (<u>Mason Core</u>)	
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	Disease Ecology and Conservation	
EVPP 440	Field Environmental Science 1	
EVPP 449	Marine Ecology	
EVPP 490	Special Topics in Environmental Science and Policy 1	
EVPP 494	Internship	

Code	Title	Credits
BIOL 310	Biodiversity	
& BIOL 330	and Biodiversity Lab and Recitation	
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	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)

Code	Course List Title	Credits
Required Courses		
EVPP 427	Disease Ecology and Conservation	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 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	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)

Code	Course List Title	Credits
Required Course		
EVPP 336	Human Dimensions of the Environment	3
Course Options		
Select at least 18 credits from the following:		18
EVPP 309	Introduction to Oceanography	

Code	Title	Credits
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	Disease Ecology and Conservation	
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	Introduction to Oceanography	
GGS 121	Dynamic Atmosphere and Hydrosphere (Mason Core)	
GGS 302	Global Environmental Hazards	
GGS 304	Population Geography (Mason Core)	
GGS 307	Sustainable Development	
GGS 309	Meteorology 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)

Code	Title	Credits
Required Courses		
EVPP 309	Introduction to 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 380	Course EVPP 380 Not Found	
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	Disease Ecology and Conservation	

Code	Title	Credits
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	Sustainable Development	
CLIM 412	Physical Oceanography	
INTS 318	Exploring Virginia's Watersheds	
Alternative courses may be taken as approved by the program coordinator.		
Total Credits		21
1	In a relevant topic.	

Concentration in Wildlife (WILD)

Code	Course List Title	Credits
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 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	Disease Ecology and Conservation	
EVPP 494	Internship 2	
BIOL 311	General Genetics	
BIOL 331	Invertebrate Zoology	
BIOL 332	Insect Biology	
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		21-26
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:

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

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 [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%

Key: 151