



Program Approval Form

For approval of new programs and deletions or modifications to an existing program.

Action Requested:

- Create New (SCHEV approval required except for minors)
 Inactivate Existing
 Modify Existing (check all that apply)

- Title (SCHEV approval required except for minors)
 Concentration (Choose one): Add Delete Modify
 Degree Requirements
 Admission Standards/ Application Requirements
 Other Changes: _____

Type (Check one):

- B.A. B.S. Minor
 M.A. M.S. M.Ed.
 Ph.D.
 Undergraduate Certificate*
 Graduate Certificate*
 Other:

College/School: **Department:**
Submitted by: **Ext:** **Email:**

Effective Term: Fall **Please note:** For students to be admitted to a new degree, minor, certificate or concentration, the program must be fully approved, entered into Banner, and published in the University Catalog.

Justification: (attach separate document if necessary)

Change number of credits for each concentration to 21 due to addition of 3-credit course to Core Requirements; change course numbers to EVPP numbers, add new course elective, add courses determined to be necessary for students in concentrations; note relevance of topic necessary for special studies, research, and internship courses.

Program Title: (Required)

Title must identify subject matter. Do not include name of college/school/dept.

Concentration(s):

Admissions Standards / Application Requirements:

(Required only if different from those listed in the University Catalog)

Degree Requirements:

Consult University Catalog for models, attach separate document if necessary using track changes for modifications

Courses offered via distance:

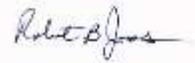
(if applicable)

TOTAL CREDITS REQUIRED:

Existing	New/Modified
Environmental Science	
	Concentration in Conservation Concentration in Ecological Science Concentration in Environmental Health Concentration in Human and Ecosystem Response to Climate Change Concentration in Marine, Estuarine and Freshwater Ecology
See attached markup file	See attached markup file Add EVPP 494 Environmental Internship to all concentrations as an elective (if approved by COS CC)

*For Certificates Only: Indicate whether students are able to pursue on a Full-time basis Part-time basis

Approval Signatures

 03
 Dec
 2014
 Department _____ Date _____ College/School _____ Date _____ Provost's Office _____ Date _____
Required for Minors and Interdisciplinary Programs

If this program may impact another unit or is in collaboration with another unit at Mason, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date
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- Students must take 21 credits from the following:
- EVPP 309 - Introduction to Oceanography Credits: 3
 - EVPP 449 - Marine Ecology Credits: 3
 - Concentration in Environmental Health (ENVH):
 - EVPP 427 – Disease Ecology and Conservation Credits: 3
 - EVPP 445 - Principles of Environmental Toxicology Credits: 3
 - and 15 credits from the following:
 - Concentration in Human and Ecosystem Response to Climate Change (HERC):
 - EVPP 309 - Introduction to Oceanography Credits: 3
 - EVPP 432 – Energy Policy
 - Concentration in Marine, Estuarine and Freshwater Ecology (MEFC):
 - EVPP 309 - Introduction to Oceanography Credits: 3
 - EVPP 449 - Marine Ecology Credits: 3
 - and at least 8 credits from the following:
 - And add:
 - EVPP 490 - Special Topics in Environmental Science and Policy Credits: 0-4
 - Total: 21 credits
 - *In a relevant topic (specific courses marked with asterisk to designate this)
- Reason for the Modification:
 - Concentration in Conservation (CNSV): Reduced by 3 credits because 3 credits added to Core Requirements
 - Concentration in Ecological Science (ECSI): Reduced by 3 credits because 3 credits added to Core Requirements, EVPP course numbers obtained for cross-listed courses
 - Students in the Environmental Health (EVHL) concentration need the disease ecology course to understand more about wildlife diseases, their relationship to human diseases, and the One Health concept.
 - Concentration in Human and Ecosystem Response to Climate Change (HERC): Elective credits adjusted due to change in total and corrected previous typo, EVPP course number obtained for cross-listed course
 - Concentration in Marine, Estuarine and Freshwater Ecology (MEFC): EVPP course numbers obtained for cross-listed courses, EVPP 490 inadvertently left out of last catalog change
 - Total credits: Added one 3-credit course to Core Requirements so reducing concentration credits from 24 to 21 credits
 - Clarify requirement for special studies, research, and internship courses

FOR NEW PROGRAMS (required if creating a new program)

- Reason for the New Program:
- Relationship to Existing Programs:
- Relationship to Existing Courses:
- Semester of Initial Offering:
- Insert Tentative SCHEV Proposal Below

Concentrations (214 credits)

Students select a concentration in aquatic ecology, conservation, ecological science, environmental health, human and ecosystem response to climate change. Students take 241 credits of course work as indicated below for the selected concentration.

▲ Concentration in Conservation (CNSV)

Students must take at least 214 credits from the list below. CONS courses (except [CONS 498](#) and [CONS 499](#)) are offered exclusively through the Mason-Smithsonian Semester

- [EVPP 318 - Conservation Biology](#) Credits: 3
- [EVPP 378 - Ecological Sustainability](#) Credits: 4
- [EVPP 395 - Undergraduate Research in Environmental Science and Policy](#) Credits: 1-3*
- [EVPP 396 - Directed Topic in Environmental Science and Policy](#) Credits: 1-4*
- [EVPP 419 - Marine Mammal Biology and Conservation](#) Credits: 3
- [EVPP 420 - Marine Mammal Biology and Conservation Field Course](#) Credits: 1
- [EVPP 421 - Marine Conservation](#) Credits: 3
- [EVPP 427 - Disease Ecology and Conservation](#) Credits: 3
- [EVPP 440 - Field Environmental Science](#) Credits: 0-4*
- [EVPP 490 - Special Topics in Environmental Science and Policy](#) Credits: 0-4*
- [EVPP 494 - Environmental Internship Credits: 1-3*](#)
- [BIOL 310 - Biodiversity](#) Credits: 5
- [BIOL 435 - Selected Topics in Biology](#) Credits: 0-4
- [CONS 320 - Conservation in Practice](#) Credits: 3
- [CONS 401 - Conservation Theory](#) Credits: 3
- [CONS 402 - Applied Conservation](#) Credits: 4
- [CONS 403 - Ecology and Conservation Theory](#) Credits: 3
- [CONS 404 - Monitoring and Assessment of Biodiversity](#) Credits: 4
- [CONS 410 - Human Dimensions in Conservation](#) Credits: 3
- [CONS 411 - Science Communication for Conservation](#) Credits: 3
- [CONS 420 - Human-Wildlife Conflict](#) Credits: 3
- [CONS 490 - Integrated Conservation Strategies](#) Credits: 3
- [CONS 491 - Comprehensive Conservation Planning](#) Credits: 3
- [CONS 497 - Special Topics in Conservation](#) Credits: 1-3
- [CONS 498 - Internship](#) Credits: 1-3
- [CONS 499 - Independent Study/Research](#) Credits: 1-3
- [GGG 303 - Conservation of Resources and Environment](#) Credits: 3
- [GGG 307 - Sustainable Development](#) Credits: 3
- [NCLC 311 - The Mysteries of Migration: Consequences for Conservation](#) Credits: 6
- [PRLS 300 - People with Nature](#) Credits: 3
- [PRLS 402 - Human Behavior in Natural Environments](#) Credits: 3

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- additional courses approved by the program coordinator
- NOTE: all CONS courses (except [CONS 498](#) and [CONS 499](#)) are offered through the Smithsonian-Mason semester
- *In a relevant topic

Total: **214** credits

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▲ Concentration in Ecological Science (ECSI)

Students must take **214** credits from the following:

- [EVPP 309 - Introduction to Oceanography Credits: 3](#)
- [EVPP 350 - Freshwater Ecosystems Credits: 4](#)
- [EVPP 355 - Ecological Engineering and Ecosystem Restoration Credits: 4](#)
- [EVPP 378 - Ecological Sustainability Credits: 4](#)
- [EVPP 395 - Undergraduate Research in Environmental Science and Policy Credits: 1-3*](#)
- [EVPP 396 - Directed Topic in Environmental Science and Policy Credits: 1-4*](#)
- [EVPP 408 - Mushrooms, Molds and Society Credits: 3](#)
- [EVPP 427 - Disease Ecology and Conservation Credits: 3](#)
- [EVPP 440 - Field Environmental Science Credits: 0-4*](#)
- [EVPP 449 - Marine Ecology Credits: 3](#)
- [EVPP 490 - Special Topics in Environmental Science and Policy Credits: 0-4*](#)
- [EVPP 494 - Environmental Internship Credits: 1-3*](#)
- [BIOL 310 - Biodiversity Credits: 5](#)
- [BIOL 345 - Plant Ecology Credits: 4](#)
- [BIOL 435 - Selected Topics in Biology Credits: 0-4](#)
- ~~[BIOL 449 - Marine Ecology Credits: 3](#)~~
- [BIOL 459 - Fungi and Ecosystems Credits: 3](#)
- [GEOL 305 - Environmental Geology Credits: 3](#)
- [GEOL 306 - Soil Science Credits: 3](#)
- ~~[GEOL 309 - Introduction to Oceanography Credits: 3](#)~~
- [GGG 307 - Sustainable Development Credits: 3](#)
- additional courses approved by the program coordinator
- *In a relevant topic

Total: **214** credits

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▲ Concentration in Environmental Health (EVHL)

- ~~EVPP 427 - Disease Ecology and Conservation Credits: 3~~
- [EVPP 445 - Principles of Environmental Toxicology](#) Credits: 3
- and ~~21~~15 credits from the following:
- [EVPP 395 - Undergraduate Research in Environmental Science and Policy](#) Credits: 1-3*
- [EVPP 396 - Directed Topic in Environmental Science and Policy](#) Credits: 1-4*
- [EVPP 409 - Medical Mycology](#) Credits: 3
- ~~EVPP 427 - Disease Ecology and Conservation Credits: 3~~
- [EVPP 440 - Field Environmental Science](#) Credits: 0-4*
- [EVPP 490 - Special Topics in Environmental Science and Policy](#) Credits: 0-4*
- [EVPP 494 - Environmental Internship Credits: 1-3*](#)
- [EVPP 515 - Molecular Environmental Biology I](#) Credits: 3
- [BIOL 402 - Applied and Industrial Microbiology](#) Credits: 3
- [BIOL 404 - Medical Microbiology](#) Credits: 3
- [BIOL 465 - Histology](#) Credits: 4
- [CHEM 505 - Hazardous Materials Waste Management](#) Credits: 1-3
- [CEIE 555 - Principles of Environmental Engineering](#) Credits: 3
- [GCH 205 - Global Health](#) Credits: 3 (fulfills Mason Core requirement for global understanding)
- [GCH 360 - Health and Environment](#) Credits: 3
- [GCH 560 - Environmental Health](#) Credits: 3
- [GGG 302 - Global Environmental Hazards](#) Credits: 3
- [GGG 304 - Populations Dimensions of Global Change](#) Credits: 3
- [GGG 307 - Sustainable Development](#) Credits: 3
- [GGG 319 - Air Pollution](#) Credits: 3
- [GGG 322 - Issues in Global Change](#) Credits: 3
- additional courses approved by the program coordinator
- *In a relevant topic

Total: ~~21~~14 credits

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

- [EVPP 336 - Human Dimensions of the Environment](#) Credits: 3
- and 18 credits from the following:
- [CLIM 101 - Global Warming: Weather, Climate, and Society](#) Credits: 3
- [GGG 121 - Dynamic Atmosphere and Hydrosphere](#) Credits: 4
- and choose either
- [GGG 309 - Meteorology and Climate](#) Credits: 3
- or
- [CLIM 314](#)

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or [GGS 314 - Severe and Extreme Weather](#) Credits: 3

• ~~Also, select 8 credits from the following:~~

- [EVPP 355 - Ecological Engineering and Ecosystem Restoration](#) Credits: 4
- [EVPP 378 - Ecological Sustainability](#) Credits: 4
- [EVPP 395 - Undergraduate Research in Environmental Science and Policy](#) Credits: 1-3*
- [EVPP 396 - Directed Topic in Environmental Science and Policy](#) Credits: 1-4*
- [EVPP 427 - Disease Ecology and Conservation](#) Credits: 3
- [EVPP 432 – Energy Policy Credits: 3](#)
- [EVPP 436 - The Human Dimensions of Global Climate Change](#) Credits: 3
- [EVPP 440 - Field Environmental Science](#) Credits: 0-4*
- [EVPP 490 - Special Topics in Environmental Science and Policy](#) Credits: 0-4*
- [EVPP 494 - Environmental Internship Credits: 1-3*](#)
- [CLIM 111 - Introduction to the Fundamentals of Atmospheric Science](#) Credits: 3
- [CLIM 112 - Introduction to the Fundamentals of Atmospheric Science Lab](#) Credits: 1
- [CLIM 312](#)

or [GGS 312 - Physical Climatology](#) Credits: 3

- [CLIM 319](#)

or [GGS 319 - Air Pollution](#) Credits: 3

- [CLIM 412 - Physical Oceanography](#) Credits: 3
- [GEOL 309 - Introduction to Oceanography](#) Credits: 3
- [GGS 302 - Global Environmental Hazards](#) Credits: 3
- [GGS 304 - Populations Dimensions of Global Change](#) Credits: 3
- [GGS 307 - Sustainable Development](#) Credits: 3
- [GGS 321 - Biogeography: Space, Time and Life](#) Credits: 3
- [GGS 322 - Issues in Global Change](#) Credits: 3
- [GGS 353 - Observations of the Earth and its Climate](#) Credits: 3
- [GGS 354 - Data Analysis and Global Change Detection Techniques](#) Credits: 3
- [GGS 456 - Introduction to Atmospheric Radiation](#) Credits: 3
- additional courses approved by the program coordinator
- *In a relevant topic

Total: 24~~1~~ credits

▲ Concentration in Marine, Estuarine and Freshwater Ecology (MEFC)

- [EVPP 350 - Freshwater Ecosystems](#) Credits: 4
- [EVPP 421 - Marine Conservation](#) Credits: 3

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- [EVPPGEOL 309 - Introduction to Oceanography](#) Credits: 3
- [EVPPBIOL 449 - Marine Ecology](#) Credits: 3
- and at least ~~44~~8 credits from the following:
- [EVPP 318 - Conservation Biology](#) Credits: 3
- [EVPP 363 - Coastal Morphology and Processes](#) Credits: 4
- [EVPP 380 - Wetlands of the World](#) Credits: 4
-
- [EVPP 395 - Undergraduate Research in Environmental Science and Policy](#) Credits: 1-3*
- [EVPP 396 - Directed Topic in Environmental Science and Policy](#) Credits: 1-4*
- [EVPP 419 - Marine Mammal Biology and Conservation](#) Credits: 3
- [EVPP 420 - Marine Mammal Biology and Conservation Field Course](#) Credits: 1
- [EVPP 427 - Disease Ecology and Conservation](#) Credits: 3
- [EVPP 440 - Field Environmental Science](#) Credits: 0-4*
- [EVPP 490 - Special Topics in Environmental Science and Policy](#) Credits: 0-4*
- [EVPP 494 - Environmental Internship](#) Credits: 1-3*
- [BIOL 331 - Invertebrate Zoology](#) Credits: 4
- [BIOL 480 - The Diversity of Fishes](#) Credits: 3
- [GEOL 364 - Marine Geology](#) Credits: 3
- [GEOL 458 - Chemical Oceanography](#) Credits: 3
- [GGG 307 - Sustainable Development](#) Credits: 3
- [CLIM 412 - Physical Oceanography](#) Credits: 3
- [NCLC 318 - Exploring Virginia's Watersheds](#) Credits: 4
- additional courses approved by the program coordinator

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Total: ~~241~~ credits

Degree Total: Minimum 120 credits

