THE UNIVERSITY OF RHODE ISLAND

Environmental Science & Management
EL_ESMG_BS
120 Earned Credits Total
web.uri.edu/nrs/

Student: _____
Student ID: _____
Advisor: _____

Environmental Science & Management: Environmental Science and Management incorporates course work in water resources, geospatial technologies, wetland ecology, wildlife biology, soil science, forestry, and land use/environmental quality relationships. Coursework emphasizes the field techniques that underpin environmental assessment and restoration. This is a comprehensive major that includes a background in the basic sciences and exposure to a broad array of subject matter relating to environmental science and management. This major provides preparation for more specialized study at the graduate level. There are several minor fields of study available within the Department of Natural Resources Science at URI that may serve as focus areas for students in the Environmental Science and Management major: GIS/Remote Sensing; Soil-Environmental Science; Wildlife and Conservation Biology, Global Water Resources (interdepartmental minor), International Development (interdepartmental minor), and Restoration Science and Management (interdepartmental minor).

General Education Guidelines: General education requires 40 credits. Each of the twelve outcomes (A1-D1) must be met by at least 3 credits. A single course may meet more than one outcome, but cannot be double counted towards the 40 credit total. At least one course must be a Grand Challenge (G). No more than twelve credits can have the same course code (note- HPR courses may have more than 12 credits). General education courses may also be used to meet requirements of the major or minor when appropriate.

LIST COURSES THAT MEET GENERAL EDUCATION:

General Education Credit Count						
At least 40 credits, no more than 12 credits with the same course code						
Course	**Credit**	**Grade**		**Course**	**Credit**	**Grade**
*NRS 100	3					
*BIO 101	3					
*BIO 103	1					
*BIO 102	3					
*BIO 104	1					
*CHM 101	3					
*EEC 105	3					
*GEO 103	4					
*MTH 131	3					
				Total Gen Ed Credits		

NOTE: BECAUSE MOST COURSES MEET MORE THAN ONE OUTCOME, YOUR OUTCOME AUDIT MIGHT BE COMPLETED BEFORE YOU REACH YOUR 40 CREDITS. HOWEVER, YOU MUST STILL COMPLETE 40 CREDITS OF GENERAL EDUCATION

*course fulfills general education and a major requirement

LIST COURSE AS EACH OUTCOME IS MET:

General Education Outcome Audit		
	Course	**Grade**
KNOWLEDGE		
A1. STEM	*NRS 100	
A2. Social & Behavioral Sciences	*EEC 105	
A3. Humanities		
A4. Arts & Design		
COMPETENCIES		
B1. Write effectively		
B2. Communicate effectively		
B3. Mathematical, statistical, or computational strategies	*MTH 131	
B4. Information literacy	*GEO 103	
RESPONSIBILITIES		
C1. Civic knowledge & responsibilities		
C2. Global responsibilities		
C3. Diversity & Inclusion		
INTEGRATE & APPLY		
D1. Ability to synthesize		
GRAND CHALLENGE		
G. At least one course of your 40 credits is an approved "G" course		
**Note: NRS450G/452G fulfills D1,G; NRS330G fulfills A1,C2,G; NRS234G fulfills A1,G.*		

Requirements to Transfer out of University College for Academic Success: Must have completed at least 24 credits with a minimum cumulative 2.0 GPA, and received permission from the University College major advisor.

Advising Notes: _____

Effective: 2026 - 2027

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Intro to URI & NRS (2 credits)

Course	Semester	Credits	Grade
URI 101 Planning for Academic Success		1	
NRS 101 Fresh. Inquiry into NRS		1	

Intro. Professional Courses (23 credits)

Course	Semester	Credits	Grade
*NRS 100 Natural Res. Conservation		3	
NRS 200 Seminar in Natural Resources		1	
NRS 212 Introduction to Soil Science		4	
NRS 223 Conservation Biology		4	
BIO 262 Introductory Ecology		4	
*EEC 105 Intro. to Res. Economics		3	
*GEO 103 Understanding the Earth		4	

Basic Sciences (25-27 credits)

Course	Semester	Credits	Grade
*BIO 101 Princ. of Biology I		3	
*BIO 103 Princ. of Biology I Lab		1	
*BIO 102 Princ. of Biology II		3	
*BIO 104 Princ. of Biology II Lab		1	
*CHM 101 Gen. Chemistry I		3	
CHM 102 Gen. Chemistry I Lab		1	
CHM 112, 114 Gen Chem II, Lab (4); **or** *CMB 211 Intro. Microbiology (4); **or** CMB 311 Intro. Biochemistry (3)		3 or 4	
CHM 124 Intro. Organic Chemistry		3	
CHM 126 Intro. Organic Chem. Lab		1	
*MTH 131 Applied Calculus		3	
STA 308 Introductory Statistics (4); **or** STA 409 Statistical Method in Res. (3)		3 or 4	

Notes regarding math & chemistry:
1) The prerequisite for MTH131 is MTH103 or 111. Students interested in taking MTH141 (w/advisor approval) should take MTH111 prereq. instead of MTH103.
2) CHM112/114 recommended. Students opting to take CMB211 or 311 (prerequisite is two semesters of CHM) must first complete CHM124/126.

Experiential Learning Courses

Up to 15 credits of Experiential Learning Courses may be taken. A maximum of 6 credits of Letter Grade courses (in italics below) may be taken for Concentration credit; both Letter Grade courses and S/U courses may be used as Supporting Electives. S/U courses cannot be used for Concentration credit.

NRS 395 Research Apprenticeship (S/U)	1-3
NRS 397 Internship (S/U)	1-6
NRS 491/492 Special Projects (Letter Grade)	*1-3*
NRS 495 Advanced Apprenticeship (S/U)	3 or 6
NRS 497 Cooperative Internship (Letter Grade)	*6-12*
NRS 498 Teaching Practicum (S/U)	1-3
NRS 499 Senior Thesis (Letter Grade)	6

***Courses approved for general education.**

Minimum 2.0 GPA required in major for graduation.
Minimum 2.0 cumulative GPA required for graduation.

Concentration Courses (24 credits)

Complete ≥ 6 credits in each of the 3 categories below. **At least 3 cr. in each category must be NRS courses and a minimum of 16 of 24 concentration credits must be from NRS.** To reach 24 credits, select remaining credits from any of the three categories below, or Letter Grade Experiential Learning Courses (≤ 6 credits). *****See the approved list of concentration courses on the following page.***

1. Environmental Science and Ecology (minimum 6 credits, at least 3 credits must be NRS)

Course	Semester	Credits	Grade

2. Methods and Applications (minimum 6 credits, at least 3 credits must be NRS)

Course	Semester	Credits	Grade

3. Environmental Management (minimum 6 credits, at least 3 credits must be NRS)

Course	Semester	Credits	Grade

List additional concentration courses, including *letter grade* exper. learning courses, to reach 24 credits (16/24 cr. must be NRS).

Course	Semester	Credits	Grade

Supporting Electives (14 credits)

At least 6 credits must be NRS courses. Courses may be chosen from: a) the supporting elective list - attached; b) Concentration courses not used for Concentration; or c) up to 9 cr. of Letter Grade or S/U Experiential Learning Courses-see box. **NRS 480 Sr. Colloquium (2 cr) is strongly recommended.**

Course	Semester	Credits	Grade

Free Electives

Courses taken beyond the requirements of the major and general education to reach the 120 credits required for graduation.

Course	Semester	Credits	Grade

Effective: 2026 - 2027

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Approved Concentration Courses (24 credits required)
Select ≥ 6 credits from each of the 3 categories below. At least 3 credits in each category must be NRS courses and a minimum of 16 of 24 concentration credits must be from NRS. To reach 24 credits, select remaining credits from any of the three categories below, or Letter Grade Experiential Learning Courses (≤ 6 credits).
1. Environmental Science and Ecology (min. 6 credits, at least 3 cr. must be NRS)
NRS 388 Biology of Bees & Pollination Ecology (3) †
NRS 401 Foundations in Restoration Ecology (4)
NRS 412 Soil-Water Chemistry (3)
NRS 423 Wetland Ecology (4)
NRS 426 Soil Microbiology (3)
NRS 475 Coral Reef Conservation (3)
BIO/ENT 385 Introductory Entomology (3) †
BIO 416 Intertidal Ecology (4)
BIO 444 Insect Ecology (3)
BIO 455 Marine Ecology (3)
BIO 480 Community Ecology (3)
*GEO 305G Global Climate Change (4) *D1, G*
2. Methods and Applications (min. 6 credits, at least 3 cr. must be NRS)
NRS 326 Leadership in Global Environmental Health Crises (3)
NRS 350 Field Entomology & Taxonomy (4) †
NRS 402 Quantitative Ecology I (3)
NRS 409 Concepts in GIS & Remote Sensing (4)
NRS 410 Fundamentals of GIS (3)
NRS 415 Remote Sensing of the Environment (3)
NRS 442 Environmental Crisis Communication (3)
NRS 471 Soil Morphology & Mapping (4)
BIO 439 Big Data Analysis (3)
WRT 306 Writing Healthy Disability (3)
*WRT 332 Technical Writing (3) *B1, B2*
*WRT 334 Science Writing (4) *B1, B2*
3. Environmental Management (min. 6 credits, at least 3 cr. must be NRS)
NRS 301 Introduction to Forest Science (3)
NRS 305 Principles of Wildlife Management (3)
NRS 323 Field Botany and Taxonomy (4) †
*NRS 330G Biodiversity Crisis (3) *A1, C2, G*
NRS 406 Wetland Wildlife Management (4)
NRS 407 Endangered Species Conservation (3)
NRS 432 Principles of Wastewater Treatment (4)
NRS 445 Invasive Species Research, Management & Policy (4)
*NRS 450G, 452G Soils, Land Use & the Environment, Investigations (3, 1) *D1, G* *Note: NRS450G & NRS452G must be taken concurrently together*
NRS 461 Watershed Hydrology & Management (4)
NRS 482 Innovative Subsurface Remediation (4) †

† Course is cross listed with a course in another department. Consult the Academic Catalog for additional information.

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Approved Supporting Electives (14 credits required)

Environmental Science and Management students are required to select 14 credits of Supporting Electives. **At least 6 credits** must be NRS courses. Courses may be chosen from: a) the following list; b) concentration courses not used for concentration credit; or c) any NRS Experiential Learning Courses. Additional courses at or above the 300 level from CELS, Engineering, GSO, and A&S may qualify as supporting electives with advisor permission.

Natural Science Supporting Electives	
*NRS/GEO/EEC 234G Intro. to Water Resources (3) *A1, G*	NRS 555 Applied Coastal Ecology (2)
NRS 304 Field Ornithology (3)	NRS 567 Soil Genesis and Classification (3)
*NRS 309 Wildlife Mgmt. Techniques Lab. (3) *D1*	NRS 568 Recent Advances in NRS (3)
NRS 324 Mammalogy (4)	BES 532 Advanced Conservation Biology (3)
NRS 351 Soil Morphology Practicum (2)	BIO / NRS 263 Introduction to Ecological Data Analysis (1)
NRS 355 Wildlife Conservation & Hunting (3)	BIO 321 Plant Diversity (4)
NRS 366 Vertebrate Biology (3)	BIO 354 Invertebrate Zoology (4)
NRS 403 Quantitative Wildlife Ecology Field Investigations (1)	BIO 467 Animal Behavior (3)
*NRS/GEO 405G Indonesia: Biodiversity, Geo., Water Res. (3) *A1, G*	ENT 519 Insect Biological Control (3)
NRS 417 Herpetology (4)	ENT 555 Insect Pest Management (3)
NRS 480 Colloquium (2)	*GEO 204 Earth History (4) *A1, B1*
NRS 505 Biol & Mgmt. of Migratory Birds (2)	*GEO 210 Landforms: Origin and Evolution (4) *B2*
NRS 516 Remote Sensing in Natural Resources Mapping (3)	GEO 272 Intro Evolution (4)
NRS 518 Ecohydrology (3)	GEO 450 Intro to Sedimentary Geology (4)
NRS/EEC 520 Quant. Techniques in Natural Resource Research (3)	GEO 483 Hydrogeology (4)
NRS 522 Advanced GIS Analysis of Environmental Data (3)	GEO/NRS 484 Environmental Hydrogeology (4)
NRS 524 Application of Advanced Spatial Analysis (1)	GEO/EVS 587 Env. Hazards, Risks, Response & Safety (3)
NRS 526 Microbial Ecology of Soils & Sediments (3)	MAF 465 GIS Applications in Coastal Mgmt. (3)
NRS 533 Landscape Pattern and Change (3)	MAF 496 International Development Seminar (3)
NRS 534 Ecology of Fragmented Landscapes (2)	OCG 480 Introduction to Marine Pollution (3)
NRS 538 Physiology Ecology of Wild Terrestrial Vertebrates (3)	PLS 306 Landscape Mgmt. and Arboriculture (4)
Social Science Supporting Electives	
*NRS 300 /*MAF 350 Intro. Global Issues Sus. Devel. (3) *A2, C2*	CPL 485 Environmental Planning (3)
COM 230 The Art of Storytelling (3)	MAF 415 Marine Pollution Policy (3)
*COM/SUS 315 Environ. Dimensions of Communication (3) *C1, D1*	MAF 450 International Development in Practice (1-6)
EEC 205 Environmental Economics and Policy (3)	MAF 461 Coastal Zone Management (3)
EEC 310 Economics of Nat Res Mgmt. & Policy (3)	MAF 484 Environ Analysis Policy Coastal Mgmt. (3)
*EEC 432 Environmental Economics and Policy (3) *B4, D1*	*PSC 402 Environmental Policy and Politics (4) *D1*
*EEC 440 Benefit-Cost Analysis (3)	PSC 403 Global Ecopolitics (4)
CPL 410 Fund of Community Planning Practice (3)	WRT 235 Digital Writing & Rhetoric (4)
CPL/LAR 434 Intro to Environmental Law (3)	WRT 303 Public Writing (4)
CPL 483 Land Development (3)	WRT 404 Writing with Community Partners (4)
Other Supporting Electives	
EVS 366 Communicating Env. Research & Outreach (2)	*NRS/AFS/CMB/PLS 190 Issues in Biotechnology (3) *A1*
*MTH 103 Applied Precalc. (3) **or** *MTH 111 Precalc. (3) *A1, B3*	NRS 480 Colloquium (2)

***Courses approved for general education.**

B.S. Environmental Science and Management - Effective Fall 2026

College of the Environment and Life Sciences

SAMPLE Four-Year Plan

First Year *Fall* Semester

Course Code	Description	Cr
*NRS 100	Natural Resource Conservation	3
NRS 101	Freshman Inquiry into NRS	1
URI 101	Planning for Academic Success	1
*BIO 101/103	Principles of Biology I/ Lab	4
*MTH103, *111, or *131	Applied Precalculus, Precalculus, or Applied Calculus (based on placement)	3
	*General Education Course	3-4
		15-16

First Year *Spring* Semester

Course Code	Description	Cr
NRS 223	Conservation Biology	4
*BIO 102/104	Principles of Biology II/ Lab	4
*CHM 101/102	General Chemistry I/Lab	4
*MTH 131, or *General Ed.	Applied Calculus, or General Education Course	3-4
		15-16

Note: MTH131 Applied Calculus is required for ESM majors. A placement exam determines if a prerequisite is needed (i.e. MTH103 or 111). Students interested in taking MTH141 Calculus I (with advisor approval) should take MTH111 instead of 103 for the prerequisite.

Year 1 Milestones: Complete 30 credits with a cumulative gpa of 2.0 or higher. NRS100 & NRS223 (offered fall and spring). Transfer from UC to CELS. Consider a summer internship.

Sophomore Year *Fall* Semester

Course Code	Description	Cr
NRS 200	Seminar in Natural Resources	1
NRS 212	Introduction to Soil Science	4
*GEO 103	Understanding the Earth	4
**CHM 112/114	General Chemistry II/ Lab	4
BIO262 or *Gen. Ed.	Introductory Ecology or *General Education Course	3-4
		16-17

Sophomore Year *Spring* Semester

Course Code	Description	Cr
CHM124/126	Intro. to Organic Chemistry/Lab	4
*EEC 105	Introduction to Resource Economics	3
STA 308	Introduction to Statistics	4
	NRS Concentration	3-4
BIO262 or *Gen. Ed.	Introductory Ecology or *General Education Course	3-4
		17-19

**CHM112/114 recommended. Students opting to take CMB211 or 311 instead (prereq is 2 sem. of CHM), must first complete CHM124/126.

Year 2 Milestones: Complete 60 credits with a cumulative gpa of 2.0 or higher. NRS 200 & NRS 212 (offered fall only). BIO262 can be completed fall or spring sophomore year. Meet with faculty advisor to plan junior year courses and discuss internship/research/study abroad opportunities.

Junior Year *Fall* Semester

Course Code	Description	Cr
	NRS Concentration	3-4
	NRS Concentration	3-4
	NRS Supporting Elective	3-4
	*General Education Course	3-4
	Free Elective	3-4
		15-17

Junior Year *Spring* Semester

Course Code	Description	Cr
	NRS Concentration	3-4
	NRS Concentration	3-4
	NRS Supporting Elective	3-4
	*General Education Course	3-4
	Free Elective	3-4
		15-17

Year 3 Milestones: Complete 90 credits with a cumulative gpa of gpa 2.0 or higher. Meet with faculty advisor to plan senior year courses, discuss internship/research opportunities, and prepare Intent to Graduate Application for fall submission.

Senior Year *Fall* Semester

Course Code	Description	Cr
	NRS Concentration	3-4
	NRS Concentration	3-4
	NRS Supporting Elective	3-4
	*General Education Course	3-4
	Free Elective	3-4
		15-17

Senior Year *Spring* Semester

Course Code	Description	Cr
	NRS Concentration	3-4
	NRS Concentration	3-4
	NRS Supporting Elective	3-4
	NRS Supporting Elective	3-4
		15-17

Total Credits to Graduate = 120

Year 4 Milestones: Complete all remaining courses and requirements. Minimum of 120 earned credits with a cumulative gpa of 2.0 or higher; and minimum 2.0 gpa in major concentration courses.

NOTE: Visit https://web.uri.edu/nrs/academics/environmental-science-and-management/curriculum/ for a list of NRS fall & spring courses and confirm with your advisor.

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