

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
*NRS100	3					
*BIO101	3					
*BIO103	1					
*BIO102	3					
*BIO104	1					
*CHM101	3					
*EEC105	3					
*GEO103	4					
*MTH131	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		
A2. Social & Behavioral Sciences		
A3. Humanities		
A4. Arts & Design		
COMPETENCIES		
B1. Write effectively		
B2. Communicate effectively		
B3. Mathematical, statistical, or computational strategies		
B4. Information literacy		
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: _____

THE UNIVERSITY OF RHODE ISLAND

Environmental Science and Management

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120 Earned Credits Total

Student: _____

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Intro to URI & NRS (2 credits)

Course	Semester	Credits	Grade
URI 101		1	
NRS 101		1	

Intro. Professional Courses (19 credits)

Course	Semester	Credits	Grade
*EEC 105		3	
*GEO 103		4	
*NRS 100		3	
NRS 200		1	
NRS 212		4	
NRS 223		4	

Basic Sciences (25-27 credits)

Course	Semester	Credits	Grade
*BIO 101, *103		4	
*BIO 102, *104		4	
*CHM 101, 102		4	
CHM 112, 114 (4); Or *CMB 211 (4); Or CMB 311 (3)			
CHM 124, 126		4	
*MTH 131		3	
STA 308 (4); Or STA 409 (3)			

Notes regarding math & chemistry:

- 1) The prereq. for MTH131 is MTH103 or 111. Students interested in taking MTH141 (w/advisor approval) should take MTH111 prereq. instead of 103.
- 2) CHM112/114 recommended. Students opting to take CMB211 or 311 (prereq is 2 semesters of CHM), must first complete CHM124/126.

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

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.

NRS 395 Research Apprenticeship		1-3	
NRS 397 Internship		1-6	
<i>NRS 491/492 Special Projects</i>		<i>1-3</i>	
NRS 495 Advanced Apprenticeship		3 or 6	
<i>NRS 497 Cooperative Internship</i>		<i>6-12</i>	
NRS 498 Teaching Practicum		1-3	
<i>NRS 499 Senior Thesis</i>		<i>6</i>	

*Courses approved for general education.

Concentration Courses (24 credits)

Select at least 3 credits from each of the five categories below. To reach 24 credits, select remaining concentration credits from any of the five categories below, or from Letter Grade Experiential Learning Courses (up to 6 credits). See box below for Letter Grade (e.g. not S/U) Experiential Learning Courses.

1. Biological or Ecological Sciences (minimum 3 credits)

Course	Semester	Credits	Grade
NRS 401		4	
NRS 417		4	
NRS 423		4	
BIO 455, 457		3, 1	

2. Watersheds & Environmental Quality (minimum 3 credits)

Course	Semester	Credits	Grade
NRS 412		3	
NRS 432		4	
NRS 426		3	
NRS 461		4	

3. Methods in Environmental Science (minimum 3 credits)

Course	Semester	Credits	Grade
NRS 409		4	
NRS 410		3	
NRS 415		3	
NRS 471		4	

4. Natural Resources Management (minimum 3 credits)

Course	Semester	Credits	Grade
NRS 305		3	
*NRS 330G <i>AI,C2,G</i>		3	
NRS 406		4	
NRS 407		3	

5. Land Use Management (minimum 3 credits)

Course	Semester	Credits	Grade
NRS 301		3	
NRS 445		4	
*NRS 450G, 452G <i>DI,G</i>		3, 1	

List below any Exp. Learning Concentration Courses (max 6 cr)

Course	Semester	Credits	Grade

Supporting Electives (18 credits)

At least 9 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

Minimum 2.0 GPA required in major for graduation.

Minimum 2.0 cumulative GPA required for graduation.

Effective: 2022 - 2023

B.S. Environmental Science and Management - Effective Fall 2022
College of the Environment and Life Sciences

Environmental Science and Management Supporting Electives	
Environmental Science and Management students are required to select 18 credits of Supporting Electives. At least 9 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.	
<i>Natural Science Supporting Electives</i>	
*NRS/GEO/EEC 234G Intro. to Water Resources (3) <i>AI, G</i>	NRS 538 Physiolog Ecology of Wild Terrestrial Vertebrates (3)
NRS 304 Field Ornithology (3)	NRS 555 Applied Coastal Ecology (2)
*NRS 309 Wildlife Mgmt Techniques Lab. (3) <i>DI</i>	NRS 567 Soil Genesis and Classification (3)
NRS/BIO 323 Field Botany and Taxonomy (4)	NRS 568 Recent Advances in NRS (3)
NRS 324 Mammalogy (4)	BES 532 Advanced Conservation Biology (3)
NRS 326X Global Environmental & Health Crisis Leadership (3)	BIO 262 Introductory Ecology (4)
NRS/BIO/ENT 350 Field Entomology & Taxonomy (4)	BIO 263 Introduction to Ecological Data Analysis (1)
NRS/BIO/ENT 388 Biology of Bees & Pollination Ecology (3)	BIO 321 Plant Diversity (4)
NRS 351 Soil Morphology Practicum (2)	BIO 354 Invertebrate Zoology (4)
NRS 355 Wildlife Conservation & Hunting (3)	BIO 366 Vertebrate Biology (3)
NRS 402 Quantitative Wildlife Ecology (3)	BIO/ENT 385 Introductory Entomology (3)
NRS 403 Quantitative Wildlife Ecology Field Investigations (1)	BIO 467 Animal Behavior (3)
*NRS/GEO 405G Indonesia: Biodiversity, Geo., Water Res. (3) <i>AI, G</i>	*GEO 204 Earth History (4) <i>AI, BI</i>
NRS 480 Colloquium (2)	*GEO 210 Landforms: Origin and Evolution (4) <i>B2</i>
NRS/BIO 485: Salt Marsh Ecology (4)	GEO 272 Intro Evolution (4)
NRS 505 Biol & Mgmt of Migratory Birds (2)	*GEO 305G Global Climate Change (4) <i>DI, G</i>
NRS 516 Remote Sensing in Natural Resources Mapping (3)	GEO 450 Intro to Sedimentary Geology (4)
NRS 518 Ecohydrology (3)	GEO/NRS 482 Innovative Subsurface Remediation Tech. (4)
NRS 522 Advanced GIS Analysis of Environmental Data (3)	GEO 483 Hydrogeology (4)
NRS 524 Application of Advanced Spatial Analysis (1)	GEO/NRS 484 Environmental Hydrogeology (4)
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)	PLS 306 Landscape Mgmt. and Arboriculture (4)
<i>Social Science Supporting Electives</i>	
*NRS 300 /*MAF 350 Intro. Global Issues Sus. Devel. (3) <i>A2, C2</i>	MAF 415 Marine Pollution Policy (3)
NRS 442 Environmental Crisis Communication (3)	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) <i>B4, DI</i>	*PSC 402 Environmental Policy and Politics (4) <i>DI</i>
EEC 440 Benefit-Cost Analysis (3)	PSC 403 Global Ecopolitics (4)
CPL 410 Fund of Community Planning Practice (3)	WRT 303 Public Writing (4)
CPL/LAR 434 Intro to Environmental Law (3)	WRT 304 Writing for Comm. Service (4)
CPL 483 Land Development (3)	*WRT 332 Technical Writing (3) <i>BI, B2</i>
CPL 485 Environmental Planning (3)	*WRT 334 Science Writing (3) <i>BI, B2</i>
<i>Other Supporting Electives</i>	
*MTH 103 Applied Precalc (3) <u>or</u> *MTH 111 Precalc. (3) <i>AI, B3</i>	EVS 366 Communicating Env. Research & Outreach (2)

*Courses approved for general education.

B.S. Environmental Science and Management - Effective Fall 2022
College of the Environment and Life Sciences
SAMPLE Four-Year Plan

Freshman 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

Freshman 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
**CHM 112/114	General Chemistry II/ Lab	4
*GEO 103	Understanding the Earth	4
NRS 212	Introduction to Soil Science	4
	*General Education Course	3-4
		16-17

Sophomore Year *Spring* Semester

Course Code	Description	Cr
CHM124/126	Intro. to Organic Chemistry/Lab	4
STA 308	Introduction to Statistics	4
*EEC 105	Introduction to Resource Economics	3
	NRS Concentration	3-4
	*General Education Course	3-4
		15-17

**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). 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
	NRS Supporting Elective	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
	NRS Supporting Elective	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 <http://web.uri.edu/nrs/undergraduate-programs/> for a list of NRS fall & spring courses and confirm with your advisor.