

# 2012-2013 B.S. Biology – Environmental Biology Concentration

NAME \_\_\_\_\_ ID# \_\_\_\_\_

## UNIVERSITY CORE

## COLLEGE CORE

### A. Core Foundations

CORE 101 \_\_\_\_\_ 3  
 CORE 102 \_\_\_\_\_ 3  
 CORE 103\* \_\_\_\_\_ 3  
 CORE 201 \_\_\_\_\_ 3  
 CORE 202 \_\_\_\_\_ 3

**NOTE:** Courses listed in multiple areas can only be used to fulfill a single area requirement.

Students can use only one course with their major prefix to fulfill core requirements.

\* Honors course – will replace CORE 101 & 102 for those students in the RU honors program

### B. Core Skills & Knowledge

Courses must be from different disciplines:

**MATHEMATICAL SCIENCES (3SH)**  
 MATH 119,138, or 151 \_\_\_\_\_ 3

**NATURAL SCIENCES (4 SH)**  
 CHEM 101 \_\_\_\_\_ 4

**HUMANITIES (3 SH)**  
 \_\_\_\_\_ 3

One of the following: ENGL 200, HIST 101, 102 PHIL 111, 112, 114 POSC 110; RELN 111, 112, 203, 206

**VISUAL & PERFORMING ARTS (3 SH)**  
 \_\_\_\_\_ 3

One of the following: ART 111, 215, 216 CVPA 266 DNCE 111 MUSC 100, 121, 123 THEA 100, 180

**SOCIAL/BEHAV. SCIENCES (3 SH)**  
 \_\_\_\_\_ 3

One of the following: ANSC 101, APST 200 ECON 105, 106 GEOG 101, 102, 103 HIST 111, 112 POSC 120 PSYC 121 RELN 205 SOCY 110, 121

### A. National & International

**Perspectives** Courses must be from different disciplines:

**U. S. PERSPECTIVES (3 SH)**  
 ECON 106 recommended \_\_\_\_\_ 3  
 One of the following: APST 200 ECON 101, 105, 106, ENGL 203 GEOG 201, 202, 203 HIST 111, 112 POSC 120, SOCY 110

**GLOBAL PERSPECTIVES (3SH)**  
 GEOG 140 recommended \_\_\_\_\_ 3

One of the following: CVPA 266, ENGL 201, FORL 103 GEOG 101, 102, 140, 280 HIST 101, 102 INST 101 ITEC 112 PEAC 200 RELN 112, 205, SOCY 121, THEA 180 WMST 101

### B. Supporting Skills & Knowledge

**NATURAL SCI. OR MATHEMATICAL SCIENCES (3-4 SH)**

STAT 219 \_\_\_\_\_ 3

**HUMANITIES, VISUAL & PERFORMING ARTS, OR FOREIGN LANGUAGES (3-4 SH)**

\_\_\_\_\_ 3-4

One of the following: ENGL 200 HIST 101, 102 PHIL 111, 112, 114 POSC 110; RELN 111, 112, 203, 206 Or ART 111, 215, 216; CVPA 266; DNCE 111 MUSC 100, 121, 123 THEA 100, 180 Or CHNS 101: 102, 201: 202 FORL 100, 109, 200, 209, 210, 309, 409; FREN 100, 200:210, 300, 320 GRMN 100, 200: 210, 300 LATN 101, 201, 350; RUSS 100, 200, 210, 300; SPAN 101: 102, 201, 202

**SOCIAL/ BEHAV. SCI. OR HEALTH & WELLNESS (3SH)**

\_\_\_\_\_ 3

One of the following: ANSC 101, APST 200 ECON 105, 106 GEOG 101, 102, 103 HIST 111, 112 POSC 120; PSYC 121 RELN 205 SOCY 110, 121 HLTH 111,200 NURS 111 NUTR 214; RCPT 200

### Environmental Biology

#### Prerequisites

BIOL 160 \_\_\_\_\_ (2)  
 BIOL 460 \_\_\_\_\_ (2)

#### OR

2 semesters of BIOL 460 Advanced Seminar in Biology (2:2)

BIOL 131 \_\_\_\_\_ (4) Ecology and Adaptation F/S  
 BIOL 132 \_\_\_\_\_ (4) Biology of Cells and Microorganisms F/S  
 BIOL 231 \_\_\_\_\_ (4) Genetics, Evolution, and Development F/S  
 BIOL 232 \_\_\_\_\_ (4) Organismal Biology F/S  
 BIOL 390 \_\_\_\_\_ (3) Conservation Biology S  
 GEOG 250 \_\_\_\_\_ (4) Introduction to GIS F/S  
 CHEM 101 \_\_\_\_\_ (4) General Chemistry F/S/SU  
 CHEM 102 \_\_\_\_\_ (4) General Chemistry S/SU  
 STAT 219 \_\_\_\_\_ (3) Statistics for Biology F/S/SU  
 MATH 119/138/151 \_\_\_\_\_ (3) Math Core Curriculum see above F/S/SU

Three to six credit hours in total completed from any combination of hours in the following:

BIOL 495 \_\_\_\_\_ Internship in Biology F/S 2.5 BIOL GPA, 16 cr. hrs of lab science, Permission of department chair  
 AND/OR \_\_\_\_\_ (3-6)  
 BIOL 491/492 \_\_\_\_\_ Undergraduate Research F/S

One of the below courses:

BIOL 333 \_\_\_\_\_ Population and Community Ecology (4) TBD BIOL 131 and STAT 200  
 OR \_\_\_\_\_ (4)  
 BIOL 476 \_\_\_\_\_ Forest and Wetland Ecology (4) F'10 every other F BIOL 131 and STAT 200

One of the below courses:

GEOG 241 \_\_\_\_\_ Environmental Regulation (3) S GEOG 140  
 GEOG 340 \_\_\_\_\_ International Environmental Problems (3) TBD GEOG 140 and 241  
 ECON 375 \_\_\_\_\_ (3) Environmental Economics (3) TBD ECON 106

One of the below courses:

BIOL 392 \_\_\_\_\_ Environmental Toxicology (4) F'11 every other F 8 credits of BIOL & 8 credits CHEM  
 OR \_\_\_\_\_ (3-4)  
 CHEM 215 \_\_\_\_\_ Environmental Chemistry (3) F'11 Fall Only CHEM 102 or 103

11-12 credit hours chosen from the below courses:

Courses taken for requirements listed above may not be counted as electives:

BIOL 215 General Botany (4)	BIOL 361 Parasitology (4)	BIOL 464 Vertebrate Zoology (4)	BIOL 333 Population and Community Ecology (4)
BIOL 216 General Zoology (4)	BIOL 380 Ornithology (4)	CHEM 215 Environmental Chemistry (3)	
BIOL 217 Flora of Virginia (4)	BIOL 392 Environmental Toxicology (4)	GEOG 474 Hydrogeology (4)	
BIOL 351 Comparative Physiology (4)	BIOL 408 Principles of Microbiology (4)	GEOG 335 Biogeography (3)	
BIOL 353 Comparative Behavior (4)	BIOL 462 Invertebrate Zoology (4)	BIOL 476 Forest and Wetland Ecology (4)	

BS Requirements: CHEM 301 and CHEM 302 \_\_\_\_\_ (4) \_\_\_\_\_ (4)

### CONCENTRATION

F/S Freshmen only  
 F/S BIOL 131, 132, 231 and 232

"C" or better in BIOL 131 (BIOL majors) or "C" or better in CHEM 101  
 "C" or better in BIOL 132  
 BIOL 131, 132, and 231  
 BIOL 231, OR BIOL 103 & (104 or 105)

CHEM 101

2.5 BIOL GPA, 16 cr. hrs of lab science, Permission of department chair

BIOL 131 and STAT 200

BIOL 131 and STAT 200

GEOG 140  
 GEOG 140 and 241  
 ECON 106

8 credits of BIOL & 8 credits CHEM

CHEM 102 or 103

## Sample Schedule B.S. Biology – Environmental Biology Concentration 12/13

Fall Semester		Spring Semester	
<b>Freshman Year</b>	<b>Cr.</b>	<b>Freshman Year</b>	<b>Cr.</b>
University Core A: Core 101	3	University Core A: Core 102	3
BIOL 131	4	BIOL 132 "C" or better in 131(majors) or C or better in CHEM 101	4
CHEM 101	4	CHEM 102 (S ONLY) CHEM 101	4
BIOL 160	2	STAT 219	3
Math 119, 138 or 151	3		
University 100	1		
	<b>17</b>		<b>14</b>
Declared Biology majors must earn a grade of "C" or better in BIOL 131, 132, 231, 232, before admission to biology electives requiring these courses as prerequisites. Students who enter the major as a freshman must take BIOL 160, those who transfer or change majors after their freshman year will take (4) hours of BIOL 460 instead.			
<b>Sophomore Year</b>	<b>Cr.</b>	<b>Sophomore Year</b>	<b>Cr.</b>
University Core A: Core 201	3	University Core A: Core 202	3
BIOL 231 "C" or better in BIOL 132	4	BIOL 232 "C" or better in BIOL 231	4
CORE (GEOG 140 recommended) CCA: Global Perspectives	3	GEOG 250	3
CORE (ECON 106 recommended) CCA: U.S. Perspectives	3	BIOL 390 (S Only) BIOL 231 OR BIOL 103 & (104 or 105)	3
CORE	3	CORE	3
	<b>16</b>		<b>16</b>
CORE 101, 102, 201, and 202 must be completed in succession. Students should complete CORE 202 prior to their Junior year.			
<b>Junior Year</b>	<b>Cr.</b>	<b>Junior Year</b>	<b>Cr.</b>
CHEM 301 (F Only) CHEM 102 B. S. Requirement	4	CHEM 302 CHEM 301 B.S. Requirement	4
BIOL 476 (Every other F) OR BIOL 333 BIOL 131 and STAT 200	4	GEOG 241 OR GEOG 340 OR ECON 375	3
Required BIOL/CHEM/GEOL/GEOG elective	3-4	Required BIOL/CHEM/GEOL/GEOG elective	4
CORE	3	CORE	3
	<b>14-15</b>		<b>14</b>
<b>Senior Year</b>	<b>Cr.</b>	<b>Senior Year</b>	<b>Cr.</b>
BIOL 460 BIOL 131, 132, 231 and 232	2	Required BIOL/CHEM/GEOL/GEOG elective	4
BIOL 392 (Every other F) or CHEM 215 (F ONLY)	4	CORE	3
BIOL 491 OR 495	3-6	General Elective to reach 120 credit hours	3
General Elective to reach 120 credit hours	3	General Elective to reach 120 credit hours	3
		General Elective to reach 120 credit hours if needed	3
	<b>12-15</b>		<b>13-16</b>

### B.S. Requirements (8 hours)

CHEM 301 _____ (4)	Organic Chemistry	F	CHEM 102
CHEM 302 _____ (4)	Organic Chemistry	S	CHEM 301

**Graduation Requirements:** Students must attain a minimum 2.0 in major and overall GPA in order to graduate. Major GPA is calculated using grades received in Biology 131, 132, all Biology courses 200 level or higher, all courses outside of Biology used as electives (including: CHEM 471:472 and Physics if used as elective) and/or any course used as an elective by academic petition. Students are required to complete a minimum of 120 credit hours.