# KUTZTOWN

### COLLEGE OF LIBERAL ARTS & SCIENCES • BS • ENVIRONMENTAL SCIENCE/BIOLOGY

#### Program Code: ULASENVBI

### Version Number: 2118

#### Effective Date: 08/29/2011

1. UNIVERSITY CORE (12 credits)	RC	CR	GR	III. COMPETENCIES ACROSS THE CURRICULUM RC		CR	GR	CAC	
A. Oral Communication: COM 10 or above					A. Writing Intensive (WI) (9 credits)				
COURSE:	3				COURSE:	3			WI
B. Written Communication: ENG 23, 24, or 25					COURSE:	3			WI
COURSE:	3			]	COURSE:	3			WI
C.Mathematics: MAT 17 or above				-	B. Quantitative Literacy (QL) (3 credits)				
COURSE: A MAT106, 115, 181 (4 credits)	3			]	Computer-Intensive (CP) (3 credits)		1		1
D. Wellness: Any 3-credit HEA course	ĺ			d 	COURSE: C. Visual Literacy (VL) (3 credits)	3			
COURSE:	3			1	Communication-Intensive (CM) (3 credits)				
II. UNIVERSITY DISTRIBUTION (15 credits)			<u></u>	CAC	COURSE:	3			
A. Natural Sciences: Any lab or non-lab course with prefix	RC	CR	GR	CAC	D.Cultural Diversity (CD) (3 credits) COURSE:		-		
AST, BIO, CHM, ENV, GEL, MAR, NSE, or PHY; or certain GEG courses (see note at right)									CD
COURSE: A ENV 100	3				E. Critical Thinking (CT) (3 credits)				1
B. Social Sciences: Any course with prefix ANT, CRJ, ECO, HIS, INT, MCS, PSY, POL, SOC, SSE, or SWK; or certain GEG courses (see note at right)					COURSE: 3			СТ	
COURSE:	3		I	A Competency Across the Curriculum (CAC) course is not a separate cour rather an overlay that is "double counted" as fulfilling both the CAC require		ement	t and		
C.Humanities: Any course with prefix ENG, HUM, PAG, PHI, WRI, WGS, or Modern Language					another requirement in either General Education (except for the major, or the minor. Indicates the suggested placement in General Education				
COURSE:	3				course. The units count only under General Education	i or a re	Squirea	major	
D.Arts: Any course with prefix ARC, ARH, ART, CDE, CDH, CFT, DAN, FAR, FAS, MUP, MUS, or THE					RC = Minimum required number of credits CR = Credits earned (fill in number of credit	ts)			
COURSE:	3				GR = Grade earned (fill in letter grade) CAC = Competency Across the Curriculum (fill in designation)				
E. Free Elective: Any course carrying university credit					NOTE: GEG courses with a lab and 40, 322, and	323 ma	y be u	sed	
COURSE	3				in II.A. and GEG courses 40, 204, 274, 304, 322, 323, 324, 347, 380, and 394 may NOT be used in II.B.				

IV. COLLEGE DISTRIBUTION (33 credits)	RC	CR	GF	R CAC		RC	CR	GR	CAC
A. Natural Science, Mathematics, and Computer Science <sup>#</sup> (6 credits): Choose one	C. Humanities (9 credits): Choose one course in each subcategory.								
course in each subcategory.		1. Elective: pag*, eng, wri, or hum							
1. Natural Science with Lab: AST, BIO, CHM, ENV, GEL, PHY, or MAR; or GEG (see note at right)					COURSE:	3			
COURSE: A BIO/ENV 222	3				2. Elective: Modern Language (103 or above) or PHI				
<ol> <li>Elective: MAT, CSC, AST, BIO, CHM, ENV, GEL, PHY, or MAR; or GEG (see note at right)</li> </ol>					COURSE:	3			
COURSE: A CHM/ENV 220	3		I		<ol> <li>Elective: PAG*, ENG, WRI, HUM, Modern Language (103 or above), or PHI</li> </ol>				
B. Social Science (9 credits): Choose one course in each subcategory.					COURSE:	3			
1. Elective: HIS, ANT, GEG (see note at right), or POL	_				D. Free Electives (9 credits): Choose agy university courses that count toward graduation.				
COURSE: A GEG 010	3	-		-	COURSE: A BIO/ENV 224	3			
2. Elective: PSY, SOC, CRJ, or SWK					COURSE: A MAT 140, PSY/SOC 200, MAT 150	3			
COURSE:	3				COURSE: A GEG 274	3			
3. Elective: ANT, HIS, ECO, GEG (see note at right), PSY, POL, SOC, CRJ, or SWK					NOTE: GEG courses with a lab and 40, 322, and				7
COURSE:	3				in IV.A. and GEG courses 40, 204, 274, 304, 32 380, and 394 may NOT be used in IV.B.	2, 323,	324, 3	847,	

# Students in the College of Liberal Arts and Sciences are required to take at least one course in Biological Science (BIO) and at least one course in Physical Science (AST, CHM, ENV, GEL, PHY, MAR, GEG with lab, or GEG 40, GEG 322, or GEG 323), and at least one of which must be a lab (each course may be counted in either sections II.A or IV.A).

\* Excludes PAG 011 and PAG 012

### LIBERAL ARTS AND SCIENCES: BACHELOR OF SCIENCE ENVIRONMENTAL SCIENCE/BIOLOGY

VI. MAJOR PROGRAM: 60 S.H. A. Core (12 SH)	Gr.	S.H.
BIO 104 Principles of Biology		4
CHM 100 General Chemistry I	-	4
▲ENV 100 Intro. to Env. Science		+ -
▲ GEG 010 Physical Geography		
GEL 100 Physical Geology		4
B.Common Courses (26 SH)	-	
BIO 106 Intro. To Zoology	1	1 4
BIO 108 Intro. To Botany	i –	4
CHM 102 General Chemistry II		4
CHM 214 Organic Chemistry I OR		4
CHM 204 Fund of Organic Chemistry		
▲ ENV 210 Environmental Geology		
▲ENV 220 Environmental Analysis		-
▲ENV 222 Environmental Biology	<u>[</u>	
ENV 380 Senior Seminar		2
▲ GEG 274 Introduction to GIS		
▲MAT 106 Trigonometry OR		
▲ MAT 115 Precalculus OR		
▲ MAT 181 Calculus I AND		
▲MAT 140 Appl. Statistics <b>OR</b>	1.2	
▲MAT 150 Intro to Biostatistics OR		
▲PSY 200 Stat.So.&Be.Sci. (Note 1)		
PHY 040 General Physics I &		4
PHY 042 General Physics II OR		4
PHY 100 Physics I &		
PHY 102 Physics II		
C. Environmental Biology Track (16 SH)		1.11
BIO 230 Taxonomy of Vasc Plants OR		
BIO 232 Plant Physiology		3
▲ENV 224 Applied Env Micro	1	1
BIO 320 Physiol. Ecol. of Animals OR		-
BIO 324 Plant Ecology OR		
BIO 326 Marine Ecology OR		3
BIO 332 Limnology		
BIO 302 Entomology <b>OR</b>	-	
BIO 316 Invertebrate Biology		3
		+
BIO 244 Ecology		4
BIO/ENV 3XX BIO/ENV Elective (Note 2)		3
D. Restricted Electives (6 SH)		
(Note 3)	Gr.	S.H.
		3
		3

VIII. GRADUATION CLEARANCE					
A. At least 120 semester hours	yes	no			
B Comprehensive Exam Passed	yes	no			
C. Minimum QPA of 2.0 overall	yes	no			
D. Minimum of 2.0 in major	yes	no			

Advisor's Signature

Date\_\_\_\_

#### NOTES

 PSY 011, & SOC 010, are prerequisites to all other courses in their respective disciplines.
 BIO OR ENV3XX Research in Biology or Environmental Science OR Internship in Biology may be used for three credits only.
 Choice of courses made with advisor from a list maintained by Env. Sci. Committee.

Program Code: ULASENVBI Effective Date of Program: 08/27/2012 Revised: Spring 2016 Version Number: 2128

Approved

▲Indicates courses required for the major, but used to satisfy requirements of General Education. The units for these courses are counted only under General Education.

## B.S. Environmental Science/Biology Suggested 4-Year Schedule

### Freshman Year

Fall Semester	Cr
BIO 104 - Principles of Biology	4
ENV 100 - Intro to Env Sci	3
GEG 010 – Physical Geography	3
MAT 105/106/115 OR 181*	3 (4*)
Total	13/14

Spring Semester	Cr
BIO 106 – Intro to Zoology	4
CHM 100 - Gen Chem I	4
MAT 140 OR MAT 150 OR PSY200	3
Gen Ed Course	3
Gen Ed Course	3
Total	17

### Sophomore Year

Fall Semester	Cr
BIO 108 – Intro to Botany	4
CHM 102 - Gen Chem 2	4
GEG 274 – Intro to GIS <sup>1</sup>	3
Gen Ed Course	3
Gen Ed Course	3
Total	17

Spring Semester	Cr
ENV 220 – Env. Analysis	3
BIO 232 Plant Phys <sup>2</sup>	3
GEL 100 – Physical Geology	4
Restricted Elective	3
Gen Ed Course	3
Total	16

### **Junior Year**

Fall Semester	Cr
CHM 204 OR CHM 214 Org Chem	4
ENV224 – App Env Microbiology	3
BIO244 - Ecology	4
Gen Ed Course	3
Restricted Elective	3
Total	17

Spring Semester	Cr
ENV 222 – Env. Biology	3
ENV210 - Env Geology	3
Gen Ed Course	3
Gen Ed Course	3
Gen Ed Course	3
Total	15

### **Senior Year**

Fall Semester	Cr
BIO320/324/326/332 (Adv Ecology) <sup>4</sup>	3
BIO 302 or 316 (Ent or Invert Bio)	3
PHY 40 or 100	4
Gen Ed Course	3
Total	13

Spring Semester	Cr
ENV 380 - Senior Seminar	2
BIO 3XX Elective	3
PHY 42 or 102	4
Gen Ed Course	3
Total	12

<sup>1</sup>A prerequisite of GEG 10 - Elements of Physical Geography is required for GEG 274 - Intro to GIS. Also, prerequisites likely exist for the Restricted Electives. (See Restricted Elective Course List.)

<sup>2</sup>Instead of BIO 232 (Plant Physiology), BIO 230 (Taxonomy of Vascular Plants) can be taken fall of odd numbered years, and in proposed course plan a General Elective can replace BIO 232 in spring of sophomore semester.

<sup>3</sup>A prerequisite of PSY 11 – Intro to Psychology is required for PSY 200 (Statistics for the Social and Behavioral Sciences).

<sup>4</sup>Advanced Ecology courses offered in the Spring semester of the Senior year may replace the Advanced Ecology courses listed for Fall semester Senior year.

\* MAT 181 Calculus I is a four (4) credit course that may be completed at the student's option.