

PROGRAM CODE  
ULASENVCH  
EFFECTIVE DATE  
SPRING 2020  
VERSION NUMBER  
2202

COLLEGE OF LIBERAL ARTS AND SCIENCES

ENVIRONMENTAL SCIENCE

BACHELOR OF SCIENCE

CHEMISTRY TRACK

STUDENT NAME:

: ID NUMBER

MAJOR PROGRAM

Environmental Science Core		
REQUIRED COURSES	CR	GRADE
ENV 100: INTRODUCTION to ENVIRONMENTAL SCIENCE	3	
ENV 210: ENVIRONMENTAL GEOLOGY	3	
ENV 220: ENVIRONMENTAL ANALYSIS	3	
ENV 222: ENVIRONMENTAL BIOLOGY OR BIO 244: ECOLOGY	3-4	
GEG 274: INTRO. to GEOGRAPHIC INFORMATION SYSTEMS	3	
ENV 380: SENIOR SEMINAR	2	
<b>TOTAL CREDITS</b>	<b>17-18</b>	

Chemistry Track		
REQUIRED + ELECTIVE COURSES <sup>1</sup>	CR	GRADE
CHM 100: GENERAL CHEMISTRY I	4	
CHM 102: GENERAL CHEMISTRY II	4	
CHM 214: ORGANIC CHEMISTRY I	4	
CHM 216: ORGANIC CHEMISTRY II	4	
CHM 2XX OR 3XX:	4	
CHM 3XX:	4	
<b>ENVIRONMENTAL SCIENCE ELECTIVES<sup>1</sup> (Select 2 courses)</b>		
ENV/CHM/BIO/GEG/GEL/MAT/PHY	3-4	
ENV/CHM/BIO/GEG/GEL/MAT/PHY	3-4	
<b>TOTAL CREDITS</b>	<b>30-32</b>	

NOTES:

- CHOICE OF COURSES MADE WITH ADVISOR FROM A LIST MAINTAINED BY ENVIRONMENTAL SCIENCE COMMITTEE.
- A GRADE OF C OR BETTER FOR BIO 104 IS REQUIRED TO BE COUNTED AS A PREREQUISITE.
- RECOMMENDED TO BE USED FOR COMPLETING 1 OR 2 MINORS IN BIO, GEG OR GEL.

▲ INDICATES COURSE REQUIRED FOR THE MAJOR, BUT MAY BE USED TO SATISFY REQUIREMENTS OF GENERAL EDUCATION. THESE UNITS ARE ONLY COUNTED UNDER GENERAL EDUCATION.

CONCOMITANT COURSES

COURSE	CR	GRADE
<b>Biology</b>		
BIO 104: PRINCIPLES of BIOLOGY <sup>2</sup> (4 cr) (GE C1)	▲	
BIO 106 INTRODUCTION to ZOOLOGY <i>or</i> BIO 108: INTRODUCTION to BOTANY	4	
<b>Geography</b>		
GEG 10: ELEMENTS of PHYSICAL GEOGRAPHY	3	
<b>Geology</b>		
GEL 100: PHYSICAL GEOLOGY (4 cr) (GE C2)	▲	
<b>Mathematics</b>		
MAT 181: CALCULUS I (4 cr) (GE C3)	▲	
<b>Physics</b>		
PHY 100: PHYSICS I	4	
<b>TOTAL CREDITS</b>	<b>11</b>	

Check Sheet Last Revised: 4/09/2019

FREE ELECTIVES<sup>3</sup>

COURSE	CR	GRADE
<b>TOTAL CREDITS</b>	<b>14-17</b>	

GRADUATION REQUIREMENTS

	REQUIRED	✓	REQUIRED	✓	
	GENERAL EDUCATION CREDITS	45		COMPREHENSIVE EXAM	PASS
	PROGRAM CREDITS (MINIMUM)	58		MINIMUM QPA OVERALL	2.0
	FREE ELECTIVES	17		MINIMUM QPA IN MAJOR	2.0
	TOTAL CREDITS (120 MIN NEEDED TO GRADUATE)	120			

NAME	EFFECTIVE DATE AUGUST 27, 2018
ID NUMBER	VERSION 2188

# KUTZTOWN

## UNIVERSITY

### DEGREE REQUIREMENTS

## GENERAL EDUCATION

### Student Learning Outcomes (SLO)

Upon completion of the requirements for the General Education Program, students will be able to:

- 1 communicate clearly and effectively orally and in writing.
- 2 apply scientific and quantitative reasoning to solve problems and increase knowledge.
- 3 apply skills in critical analysis and reasoning for the interpretation of data.
- 4 engage critically with creative or artistic works.
- 5 demonstrate the ability to retrieve, interpret, evaluate, and use information.
- 6 analyze the role of values, ethics, diversity, and multiple perspectives in local and global society.
- 7 demonstrate an understanding of various models for the development of the whole person.

Completion of the KU General Education program will give students opportunities to:

- 8 explore concepts, ideas, and methods from a variety of disciplines.

Use this checksheet to plan your degree program. Meet every semester with your academic advisor to be sure that you are taking courses that are required to obtain the degree you are seeking. Discuss your goals and choose courses that will help you to attain them. Get the most out of your education by taking advantage of everything that Kutztown University has to offer.

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**TOTAL GENERAL EDUCATION CREDITS 42-45**

FIND A FULL EXPLANATION OF THE GENERAL EDUCATION PROGRAM AT [WWW.KUTZTOWN.EDU](http://WWW.KUTZTOWN.EDU)

<b>First Year Seminar: Discovering College</b>	<b>CREDITS REQUIRED</b>	<b>3</b>
THIS COURSE MEETS SLO <b>5</b> & <b>7</b>		<b>CREDITS EARNED:</b>

COURSE NUMBER	COURSE NAME	CR	GR
FYS 100	First Year Seminar		

TRANSFER STUDENTS TRANSFERRING 15 CREDITS OR MORE AND NOT TRANSFERRING AN FYS OR FYE COURSE MAY SELECT ANY ADDITIONAL COURSE FROM SECTIONS A, B, C, OR D TO MEET THEIR FYS REQUIREMENT

TRANSFER ELECTIVE:

<b>A</b>	<b>Communicating With And About the World</b>	<b>CREDITS REQUIRED</b>	<b>12</b>
THESE COURSES MEET SLO <b>1</b> & <b>5</b>		<b>CREDITS EARNED:</b>	

COURSE NUMBER	COURSE NAME	CR	GR
<b>1</b>	COMPOSITION 100 LEVEL CMP 1__		
<b>2</b>	COMPOSITION 200 LEVEL CMP 2__		
<b>3</b>	SPEAKING		
<b>4</b>	ANY WRITING (A2) OR SPEAKING COURSE (A3) OR FROM THE APPROVED LIST		

COURSES IN CATEGORIES B, C & D MUST BE TAKEN OUTSIDE THE STUDENT'S MAJOR. THE MAJOR IS DEFINED AS THE PREFIX THAT IDENTIFIES THE MAJOR. CONCOMITANT REQUIREMENTS MAY BE TAKEN TO MEET GENERAL EDUCATION REQUIREMENTS.

<b>B</b>	<b>Understanding Self &amp; Others</b>	<b>CREDITS REQUIRED</b>	<b>9</b>
THESE COURSES MEET SLO <b>3</b> & <b>6</b>		<b>CREDITS EARNED:</b>	

COURSE NUMBER	COURSE NAME	CR	GR
<b>1</b>			
<b>2</b>			
<b>3</b>			

<b>C</b>	<b>Understanding Science &amp; Technology</b>	<b>CREDITS REQUIRED</b>	<b>9-12</b>
THESE COURSES MEET SLO <b>2</b> & <b>3</b>		<b>CREDITS EARNED:</b>	

COURSE NUMBER	COURSE NAME	CR	GR
<b>1</b>	SCIENTIFIC INQUIRY		
<b>2</b>	QUANTITATIVE REASONING		
<b>3</b>	ANY COURSE APPROVED FOR C1 OR C2		

<b>D</b>	<b>Understanding &amp; Creating Ideas</b>	<b>CREDITS REQUIRED</b>	<b>9</b>
THESE COURSES MEET SLO <b>4</b> & <b>6</b>		<b>CREDITS EARNED:</b>	

COURSE NUMBER	COURSE NAME	CR	GR
<b>1</b>			
<b>2</b>			
<b>3</b>			

ELECTIVE COURSES for MAJOR PROGRAM

<b>ENV</b>	<b>CHM</b>	<b>BIO</b>	<b>GEG</b>
ENV 224: Appl. Env. Microbiology	CHM 230: Analytical Chemistry I	BIO 106: Intro to Zoology	<b><i>Physical Geography</i></b>
ENV 370: Research in Env. Science	CHM 310: Biochemistry I	BIO 108: Intro to Botany	GEG 40: Descriptive Oceanography
	CHM 312: Biochemistry II	<b><i>Advanced Plant</i></b>	GEG 204: Meteorology
<b>MAT</b>	CHM 314: Physical Chemistry I	BIO 230: Plant Taxonomy	GEG 304: Weather Analysis
MAT 140: Applied Statistics	CHM 316: Physical Chemistry II	BIO 232: Plant Physiology	GEG 322: Climatology
MAT 150: Biostatistics	CHM 318: Adv. Biochemistry	BIO 236: Plant Pathology	GEG 323: Global Warming and the Science of Climate Change
MAT 182: Calculus II	CHM 320: Adv. Inorganic Chemistry	BIO 324: Plant Ecology	<b><i>Planning and Conservation</i></b>
	CHM 326: Adv. Organic Chemistry	<b><i>Advanced Animal</i></b>	GEG 210: Environmental Conservation
<b>PHY</b>	CHM 336: Adv. Physical Chemistry	BIO 218: Vertebrate Biology	GEG 212: Geography of Natural Hazards
PHY 102: Physics II	CHM 340: Analytical Chemistry II	BIO 302: Entomology	GEG 341: Environmental Planning
	CHM 351: Selected Topics	BIO 308: Ornithology	GEG 343: Land Use Planning
		BIO 316: Invertebrate Biology	<b><i>Geographic Techniques</i></b>
	<b>GEL</b>	BIO 342: Herpetology	GEG 330: Cartography
	GEL 102: Historical Geology	BIO 457: Systematic Entomology	GEG 333: Advanced GIS
	GEL 200: Field Geology	<b><i>Advanced Ecology</i></b>	GEG 347: Remote Sensing of the Environment
	GEL 304: Structural Geology	BIO 320: Physiological Ecology of Animals	
	GEL 358: General Geophysics	BIO 322: Population and Community Ecology	
	GEL 362: Hydrogeology	BIO 326: Marine Ecology	
		BIO 332: Aquatic Ecology	
		BIO 358: Conservation Biology	

## B.S. Environmental Science/Chemistry Example 4-Year Schedule

ULASENVCH	First Semester Suggested Advising for Connections
CHM 100	
ENV 100	***If ENV 100 is full, enroll in BIO 104
GEG 10	***If GEG 10 is full, enroll in CMP 100 or COM 10
MAT 105, 106, 115, or 181	depending on ALEKS placement score.
FYS 100	

### Freshman Year

Fall Semester	Cr	Spring Semester	Cr
CHM 100 - Gen Chem I	4	CHM 102 - Gen Chem II	4
ENV 100 - Intro to Env Sci	3	BIO 104 - Principles of Biology (C1)	4
GEG 10 - Elem Phys Geography	3	MAT 181 - Calculus I* (C3)	4
MAT 106 - Trigonometry*	3	Gen Ed (A1 – CMP 1XX)	3
FYS 100 - First Year Seminar	3		
Total	16	Total	15

\*Students may be at a different level of math, but should continue within the MAT sequence depending on initial math course taken.

### Sophomore Year

Fall Semester	Cr	Spring Semester	Cr
CHM 214 - Organic Chem I	4	CHM 216 - Organic Chem II	4
GEL100 - Physical Geology (C2)	4	ENV 210 – Env Geology	3
PHY 100 - Physics I	4	GEG 274 – GIS <u>or</u> BIO106 –Zoology	3 (or 4)
Gen Ed (A3 – COM 10)	3	Gen Ed (B1)	3
Total	15	Total	13

### Junior Year

Fall Semester	Cr	Spring Semester	Cr
CHM 2XX or 3XX – Chem Elective	4	ENV 220 – Env Analysis	3
BIO 108 – Botany <u>or</u> GEG 274 – GIS	4 (or 3)	ENV 222 – Env Biology**	3
Gen Ed (A2 – CMP2XX)	3	Env Sci Elective	4
Gen Ed (D1)	3	Gen Ed (A4)	3
		Gen Ed (D2)	3
Total	14	Total	16

\*\*Students may take BIO 244 – Ecology (4 cr) instead of ENV 222 – Env Biology.

### Senior Year

Fall Semester	Cr	Spring Semester	Cr
CHM 3XX – Chem Elective	4	ENV 380 – Senior Seminar	2
Env Sci Elective	4	Gen Ed (B3)	3
Gen Ed (B2)	3	Gen Ed (D3)	3
Free Elective	3	Free Elective	3
Free Elective	3	Free Elective	3
Total	17	Total	14

IMPORTANT NOTES:

1. PHY 100, PHY 102, ENV 210 & ENV 222 are all offered MW(F) at 9 AM.
2. CHM 216 and ENV 220 are both offered MW(F) at 11 AM.
3. PHY 100 and BIO 108 are ONLY offered in the Fall semester.
4. PHY 102, ENV 222, ENV 220, and ENV 380 are ONLY offered in the Spring semester.