PROGRAM CODE	COLLEGE OF LIBERAL ARTS AND SCIENCES
ULASCHESA	
EFFECTIVE DATE	**CHEMISTRY**
Fall 2024	
VERSION NUMBER	*BACHELOR OF SCIENCE*
202430	

APPLIED TRACK

STUDENT:	STUDENT ID NUMBER:

MAJOR PROGRAM

Required Chemistry

COURSE	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 230: ANALYTICAL CHEMISTRY I	4	
CHM 314: PHYSICAL CHEMISTRY I	4	
CHM 310 BIOCHEMISTRY I OR CHM 320 ADVANCED INORGANIC CHEMISTRY	4	
CHM 340: ANALYTICAL CHEMISTRY II	4	
CHM 380: SENIOR SEMINAR IN CHEMISTRY	2	
CHM 37X RESEARCH IN CHEMISTRY (Note 1) OR CHM 390 INTERNSHIP IN CHEMISTRY	2	
TOTAL CREDITS 36		

CONCOMITANT COURSES

Physics

COURSE	CR	GRADE
PHY 100: PHYSICS I	Note 2	
PHY 102: PHYSICS II	4	

Mathematics

MAT 181: CALCULUS I	Note 2	

Biology

BIO 104: PRINCIPLES OF BIOLOGY	Note 2	
TOTAL CREDITS 4		

Free Electives

COURSE	CR	GRADE
TOTAL CREDITS 3-17		

MAJOR PROGRAM

Electives *18 - 20 CREDITS*
AT LEAST THREE COURSES MUST BE TAKEN IN A SINGLE SUBJECT AREA

COURSE	CR	GRADE
Business and Supply Chain Management		
ACC 121: FINANCIAL ACCOUNTING	3	
MKT 210: PRINCIPLES OF MARKETING	3	
MGM 210: PRINCIPLES OF MANAGEMENT	3	
BUS 275: BUSINESS DATA MANAGEMENT AND INFORMATION SYSTEMS	3	
SCM 260: PRINCIPLES OF SUPPLY CHAIN MANAGEMENT	3	
SCM 361: PRINCIPLES OF BUSINESS LOGISTICS	3	
SCM 3XX	3	
Computer Science		
CSC 123: INTRODUCTION TO SCIENTIFIC PROGRAMMING OR CSC 135: COMPUTER SCIENCE I	3	
CSC 223: ADVANCED SCIENTIFIC PROGRAMMING OR CSC 136: COMPUTER SCIENCE II	3	
CSC 125: DISCRETE MATH FOR COMPUTING I	3	
CSC 256: SQL PROGRAMMING	3	
CSC 458: DATA MINING AND PREDICTIVE ANALYTICS I OR CSC 459: INTRODUCTION TO BIG DATA	3	
Mathematics	3	
MAT 140: APPLIED STATISTICAL METHODS OR MAT 150: INTRODUCTION TO BIOSTATISTICS	3	
MAT 182: CALCULUS II	4	
MAT 224: FOUNDATIONS OF HIGHER MATHEMATICS	3	
MAT 283: CALCULUS III	4	
Criminal Justice and Forensic Studies		
CRJ 101: INTRODUCTION TO POLICING	3	
CRJ 181: CRIMINAL LAW	3	
CRJ 182: CRIMINAL PROCEDURE	3	
CRJ 301: INVESTIGATION AND INTELLIGENCE	3	
Astronomy, Geology, Physics and Chemistry		
AST 140: PLANETARY SCIENCE OR AST 142: STELLAR & GALACTIC ASTRONOMY	3	
AST 2XX OR 3XX	3	
GEL 1XX	3 or 4	
GEL 2XX OR 3XX	3 or 4	
PHY 212: MODERN PHYSICS	3	
PHY 2XX OR 3XX	3	
SCI 220: PRACTICAL SCANNING ELECTRON MICROSCOPY	3	
CHM 3XX (Notes 1 and 3)	3 or 4	
CHM 3XX (Notes 1 and 3)	3 or 4	
CHM 3XX (Notes 1 and 3)	3 or 4	
TOTAL CREDITS 18 - 20		

NOTES
1. THE COMBINED CREDIT TOTAL FOR CHM 370, CHM 371, CHM 372, AND CHM 373 IN THE MAJOR PROGRAM MAY NOT EXCEED 4 CREDITS. ANY ADDITIONAL CREDITS MAY COUNT TOWARD FREE ELECTIVES.
2. COURSES REQUIRED FOR THE MAJOR, BUT MAY BE USED TO SATISFY GENERAL EDUCATION CATEGORY C REQUIREMENTS IN UNDERSTANDING SCIENCE AND TECHNOLOGY.
3. ANY COURSE TAKEN AS A REQUIRED COURSE IN THE MAJOR PROGRAM MAY NOT BE USED AS A MAJOR PROGRAM ELECTIVE.

GRADUATION REQUIREMENTS

KUTZTOWN UNIVERSITY

	REQUIRED	✓		REQUIRED	✓
GENERAL EDUCATION CREDITS	42-45		COMPREHENSIVE EXAM	PASS	
PROGRAM CREDITS (MINIMUM)	58-60		MINIMUM QPA OVERALL	2.0	
FREE ELECTIVES	3-17		MINIMUM QPA IN MAJOR	2.0	
TOTAL CREDITS	120				

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

First Year Seminar: Discovering College

CREDITS REQUIRED **3**

CREDITS EARNED:

THIS COURSE MEETS SLO **5** & **7**

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:

A Communicating With And About the World

CREDITS REQUIRED **12**

CREDITS EARNED:

THESE COURSES MEET SLO **1** & **5**

	COURSE NUMBER	COURSE NAME	CR	GR
1	COMPOSITION 100 LEVEL CMP 1__			
2	COMPOSITION 200 LEVEL CMP 2__			
3	SPEAKING			
4	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 Understanding Self & Others

CREDITS REQUIRED **9**

CREDITS EARNED:

THESE COURSES MEET SLO **3** & **6**

	COURSE NUMBER	COURSE NAME	CR	GR
1				
2				
3				

C Understanding Science & Technology

CREDITS REQUIRED **9-12**

CREDITS EARNED:

THESE COURSES MEET SLO **2** & **3**

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

D Understanding & Creating Ideas

CREDITS REQUIRED **9**

CREDITS EARNED:

THESE COURSES MEET SLO **4** & **6**

	COURSE NUMBER	COURSE NAME	CR	GR
1				
2				
3				

B.S. Chemistry Applied Track
Example 4-Year Schedule

Freshman Year

Fall Semester	Cr
CHM 100 - General Chemistry I	4
BIO 104 - Principles of Biology [a]	4
MAT 105 – College Algebra or MAT 106 – Trigonometry or MAT 115 - Precalculus or MAT 181 - Calculus I [a+b]	3 – 4
FYS100 - First Year Seminar	3
Total	14 – 15

Spring Semester	Cr
CHM 102 - General Chemistry II [c]	4
Major Program Elective	3 - 4
MAT 106 – Trigonometry [d] or MAT 181 - Calculus I [d] or Free Elective	3 - 4
Gen Ed A1 (CMP1XX)	3
Total	13 – 15

Sophomore Year

Fall Semester	Cr
CHM 214 - Organic Chemistry I	4
PHY100 - Physics I [a]	4
Major Program Elective	3 - 4
MAT 181 - Calculus 1 [d] or Free Elective	3 - 4
Total	14 – 16

Spring Semester	Cr
CHM 216 - Organic Chemistry II	4
PHY102 - Physics II	4
Gen Ed B1	3
Gen Ed A2 (CMP 2XX)	3
Free Elective	3
Total	17

Junior Year

Fall Semester	Cr
CHM 230 - Analytical Chemistry I [c]	4
CHM 310 - Biochemistry I or Free Elective [e]	3 - 4
Major Program Elective	3 - 4
Gen Ed B2	3
Gen Ed D1	3
Total	16 - 18

Spring Semester	Cr
CHM 340 - Analytical Chemistry II	4
CHM 320 – Advanced Inorganic Chemistry or Free Elective [e]	3 - 4
Major Program Elective	3 - 4
Gen Ed D2	3
Gen Ed B3	3
Total	16 - 18

Senior Year

Fall Semester	Cr
CHM 314 - Physical Chemistry I	4
CHM 380 - Senior Seminar in Chemistry	2
Major Program Elective	3 - 4
Gen Ed A3	3
Gen Ed D3	3
Total	15-16

Spring Semester	Cr
CHM 37X – Research in Chemistry [f] or CHM 390 or Internship in Chemistry [f]	2
Major Program Elective	3 - 4
Gen Ed A4	3
Free Elective	3
Free Elective	3
Total	14-15

a. This course also satisfies a General Education Category C requirement.
b. The ALEKS math placement test is used to determine the appropriate math course in which to begin.
c. A "C" or better in CHM 102 is required for students to enroll in CHM 230.
d. Students may be on a different math pathway, but should continue to take appropriate math courses to lead to completion of Calculus I.
e. Either CHM 310 or CHM 320 is required for the major. If a student wishes to take both, one of them could count as a major program elective.
f. The sum total of CHM370, CHM371, CHM372, CHM373, and CHM 390 may not exceed 4 credits toward the major program.

Note that a minimum of 120 credits are required for graduation (42-45 Cr Gen Ed, 58-60 Cr Major, 3-17 Cr Free Electives).