

STUDENT:	STUDENT ID NUMBER:
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*MAJOR PROGRAM*

Core Courses		
COURSE	CR	GRADE
MAT 181: CALCULUS I	4	
MAT 182: CALCULUS II	4	
MAT 224: FOUNDATIONS OF HIGHER MATHEMATICS	3	
MAT 260: LINEAR ALGEBRA I	3	
MAT 283: CALCULUS III	4	
MAT 301: PROBABILITY & STATISTICS I	3	
MAT 311: ABSTRACT ALGEBRA I	3	
MAT 351: REAL ANALYSIS I	3	
MAT 380: SENIOR SEMINAR IN MATHEMATICS	3	
<b>TOTAL CREDITS</b>	<b>30</b>	

Specialization A: Applied Mathematics		
REQUIRED COURSE	CR	GRADE
MAT 340: DIFFERENTIAL EQUATIONS	3	
<b>CHOOSE THREE COURSES, AT LEAST ONE WITH **</b>		
MAT 302: PROBABILITY & STATISTICS II **	3	
MAT 305: MATHEMATICS OF FINANCE I	3	
MAT 306: MATHEMATICS OF FINANCE II **	3	
MAT 332: NUMERICAL ANALYSIS	3	
MAT 361: OPERATIONS RESEARCH I	3	
MAT 362: OPERATIONS RESEARCH II **	3	
MAT 367: MATHEMATICAL MODELING	3	
MAT 403: ANALYSIS OF DATA SETS	3	
MAT 473: PARTIAL DIFFERENTIAL EQUATIONS **	3	
<b>TOTAL CREDITS</b>	<b>12</b>	

Specialization P: Pure Mathematics		
CHOOSE FOUR COURSES, AT LEAST ONE WITH **	CR	GRADE
MAT 312: ABSTRACT ALGEBRA II **	3	
MAT 321: COMBINATORICS	3	
MAT 330: THEORY OF NUMBERS	3	
MAT 337: INTRODUCTION TO CRYPTOGRAPHY	3	
MAT 352: REAL ANALYSIS II **	3	
MAT 369: INTRODUCTION TO GRAPH THEORY	3	
MAT 400: COMPLEX VARIABLES	3	
MAT 431: TOPOLOGY	3	
MAT 460: LINEAR ALGEBRA II **	3	
<b>TOTAL CREDITS</b>	<b>12</b>	

Mathematics Electives <small>9 ADDITIONAL MAT CREDITS AT THE 200 LEVEL OR HIGHER, WITH AT LEAST 6 CREDITS AT THE 300 LEVEL OR HIGHER</small>		
COURSE	CR	GRADE
<b>TOTAL CREDITS</b>	<b>9</b>	

Free Electives		
COURSE	CR	GRADE
<b>TOTAL CREDITS</b>	<b>24-27</b>	

Concomitant Courses <small>CREDITS ARE COUNTED IN GEN ED OR FREE ELECTIVES</small>		
COURSE	CR	GRADE
CSC 123 OR CSC 135	X	
CSC 136 OR HIGHER, OR MAT 210	X	
<b>If MAT 210 is counted here, it cannot count as a Mathematics Elective above.</b>		

Required General Education Courses		
LABORATORY SCIENCE SEQUENCE: CHOOSE TWO COURSES WITH SAME PREFIX	CR	GRADE
	X	
	X	
<b>See Restrictions Below</b>		

**RESTRICTIONS ON LABORATORY SCIENCE COURSES:**

AST 140, 142, 205; BIO 104, 106, 108, 120, 122, 160, 216, 218, 220, 222, 224, 226; CHM 100, 102; ENV 100, 210, 220, 222; GEG 204, 304; GEL 100, 102; PHY 100, 102

**CERTIFICATES (B OR BETTER IN EACH COURSE REQUIRED):**

OPERATIONS RESEARCH CERTIFICATE: MAT 361 AND 362  
STATISTICS CERTIFICATE: MAT 301, 302, AND 403

GRADUATION REQUIREMENTS							
		REQUIRED	✓		REQUIRED	✓	
	GENERAL EDUCATION CREDITS	<b>42-45</b>			COMPREHENSIVE EXAM	<b>PASS</b>	
	MATH CREDITS	<b>51</b>			MINIMUM QPA OVERALL	<b>2.0</b>	
	FREE ELECTIVES	<b>24-27</b>			MINIMUM QPA IN MAJOR	<b>2.0</b>	
	TOTAL CREDITS	<b>120</b>					

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>			

Kutztown University of Pennsylvania  
Suggested Course Sequence  
B.S. in Mathematics

	Fall	Spring
Freshman F: 16 credits S: 16 credits	<b>MAT 181</b> FYS 100 CMP 100 (A1) Gen. Ed. Course or Free Elective Gen. Ed. Course or Free Elective	<b>MAT 182</b> <b>CSC 123 or CSC 135 (C2)</b> CMP 200 (A2) COM 10 (A3) (suggested) Gen. Ed. Course or Free Elective
Sophomore F: 16-17 credits S: 15-16 credits	<b>MAT 283</b> <b>MAT 224</b> <b>CSC 136+ or MAT 210</b> <b>Lab Science (C1)</b> Gen. Ed. Course or Free Elective	<b>MAT 260</b> <b>MAT 301</b> <b>Lab Science (with same prefix) (C3)</b> Gen. Ed. Course or Free Elective Gen. Ed. Course or Free Elective
Junior F: 15 credits S: 15 credits	<b>MAT 351</b> <b>Math Specialization</b> <b>Math Elective</b> CMP 207 (A4) (suggested) Gen. Ed. Course or Free Elective	<b>MAT 311</b> <b>Math Specialization</b> <b>Math Elective</b> Gen. Ed. Course or Free Elective Gen. Ed. Course or Free Elective
Senior F: 12-15 credits S: 12 credits	<b>MAT 380</b> <b>Math Specialization</b> Gen. Ed. Course or Free Elective Gen. Ed. Course or Free Elective Gen. Ed. Course or Free Elective	<b>Math Specialization</b> <b>Math Elective</b> Gen. Ed. Course or Free Elective Gen. Ed. Course or Free Elective

Notes:

- Courses in Bold Print are program requirements. All other courses satisfy either the general education requirements or are free electives.
- At least 120 credits required to graduate
- Math Specialization A (Applied Mathematics):
  - o Must take MAT 340
  - o Choose three courses from MAT 302\*\*, 305, 306\*\*, 332, 361, 362\*\*, 367, 403, 473\*\*, at least one of which must be a course with \*\*
- Math Specialization P (Pure Mathematics):
  - o Choose four courses from MAT 312\*\*, 321, 330, 337, 352\*\*, 369, 400, 431, 460\*\*, at least one of which must be a course with \*\*
- Lab Science courses: Choose two courses with the same prefix from the following list:  
 AST 140, 142, 205; BIO 104, 106, 108, 120, 122, 160, 216, 218, 220, 222, 224, 226;  
 CHM 100, 102; ENV 100, 210, 220, 222; GEG 204, 304; GEL 100, 102; PHY 100, 102