College of Health, Science and Technology
Department of Mathematics, Computer Science, and Digital Forensics

Bloomsburg LOCK HAVEN MANSFIELD
COMMONWEALTH UNIVERSITY

Applied Mathematics Concentration

Bachelor of Science (BS) in Mathematics

This degree map is based on the current Academic Catalog and is subject to change. Please note that the degree map is designed to give you a sense of roughly how courses might be distributed over a 4-year degree. Your exact schedule will differ depending on a range of factors though we recommend taking a minimum of 15 credits each fall and spring semester. Regular consultation with your academic advisor is the best way to make sure that you are taking the courses you need in the right order to ensure efficient progress through your degree program..

Sample 4-Year Plan

First Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
MATH 160 - Calculus 1 (Quantitative General Education)	4	MATH 170 - Calculus 2	4
CMSC 115 Python Programming or 120 OOP with Java (Technology General Education)	3 or 4	MATH 250 - Discrete Mathematics (Critical Reasoning Education)	3
FYS 100 First Year Seminar	3	General Education	3
General Education	3	General Education	3
General Education	3	General Education	3
Semester Total	16	Semester Total	16

Second Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
MATH 270 - Calculus 3	4	STAT 241 - Probability and Statistics	3
MATH Elective	3	MATH 340 - Linear Algebra	3
General Education	3	General Education	3
General Education	3	General Education	3
General Education	3	Elective	3
Semester Total	16	Semester Total	15

Third Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
MATH 480 - Abstract Algebra	3	Applied Math Sequence Course 1	3
Math Elective	3	Math Elective	3
General Education	3	Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
Semester Total	15	Semester Total	15

Fourth Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
Applied Math Sequence Course 2	3	Applied Math Sequence Course 3	3
Math Elective	3	Math Elective	3
Elective	3	Elective	3
Elective	3	Elective	3
Elective	3		
Semester Total	15	Semester Total	12

Winter/Summer College - Optional
While not required, Winter and Summer sessions are offered each year and may help you stay on track or get ahead. You may take up to seven (7) credits during Winter College and up to 14 credits during Summer College.

Applied Mathematics

Bloomsburg LOCK HAVEN MANSFIELD
COMMONWEALTH UNIVERSITY

Curriculum Checklist

Required Math and Computer Science Courses (51 Total Credits)

Required Courses (27 Credits Required)

___ Math 170 Calculus 2 (4)*
___ Math 270 Calculus 3 (4)*
___ Stat 241 Probability and Statistics (3)*
___ Math 340 Linear Algebra (3)*
___ Math 480 Abstract Algebra 1 (3)* or Math 482 Real Analysis 1 (3)*

Elective Math (15 Credits Required)

___ Math 220 History of Mathematics (3)*
___ Stat 240 Statistical Methods (3)*
___ Math 260 College Geometry (3)*
___ Math 350 Combinatorics and Graph Theory (3)*
___ Math 355 Coding Theory and Cryptology (3)*
___ Math 360 Modern Geometry (3)*
___ Math 370 Differential Equations (3)*
___ Math 380 Number Theory (3)*
___ Math 401 Financial Mathematics for Actuarial Science (3)*
___ Math 402 Probability Theory for Actuarial Science (3)*
___ Math 410 Mathematical Modeling (3)*
___ Math 440 Theory of Computation (3)*
___ Math 484 Partial Differential Equations (3)*
___ Math 486 Complex Variables (3)*
___ Math 488 Introduction to Topology (3)*
___ Math 490 Abstract Algebra 2 (3)*
___ Math 492 Real Analysis 2 (3)*

Required Applied Mathematics Sequence (9 Credits)

Advisor Approved

___ Course 1:
___ Course 2:
___ Course 3:

*Denotes advanced coursework

Students must take a minimum of 42 credits of advanced coursework. Advanced coursework can be met in major courses, minor courses, free elective courses, and general education courses. Courses that meet this requirement are designated in Banner.

General Education Requirements (45 credits)

Note: Some requirements may be fulfilled by coursework in your major program including directed Gen Ed courses noted below

- Foundations (15 credits)
  - Math 160 Calculus 1 (4)*
- Interconnections (9 credits)
- Citizenship & Responsibility
  (6 credits from at least two goals)
  - Math 250 Discrete Mathematics (3)*
- Natural World & Technologies (9 credits)
  - CMSC 115 Python Programming (3) or CMSC 120 OOP with Java (4)
- Creativity & Expression (6 credits)

Degree Requirements

All students must obtain a minimum of 120 credits, (a minimum of 42 credits must be advanced coursework), complete all General Education requirements, and all requirements for the selected major. Meet with your advisor and consult Degree Works to monitor your progress and for all graduation requirements.

A minimum GPA of 2.0 in the major and overall are required.