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

COMPUTER SCIENCE

Bloomsburg LOCK HAVEN MANSFIELD
COMMONWEALTH UNIVERSITY

Bachelor of Science (BS)

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**
CMSC 120 - OOP with Java (Technology Gen Ed)	4	CMSC 130 - Graphical User Interfaces in Java	4
MATH 160 - Calculus I (Quantitative Gen Ed)	4	CMSC 150 Principles of Database Design	3
COMM 101 Public Speaking (Oral Comm Gen Ed)	3	MATH 170 - Calculus II	4
General Education Course -- First Year Seminar	3	Writing General Education Course	3
		Arts or Creative General Education Course	3
Semester Total	14	Semester Total	17

Second Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
CMSC 230 - Advanced Java	4	DGFR 275 - Introduction to Networks	3
CMSC 240 - Parallel Processing in C	3	CMSC 270 - Data Structures Using C++	4
Lab Science 1 (Natural World General Education) Advisor approved	4	Lab Science 2 (Natural World General Education) Advisor approved	4
MATH 250 - Discrete Math (Crit. Reasoning Gen Ed)	3	CMSC 330 - Computer Organization	3
History General Education Course	3	STAT 141 - Introduction to Statistics	3
Semester Total	17	Semester Total	17

Third Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
CMSC 320 - Comp Ethics, Social Impact and Security	3	CMSC 380 - Operating Systems	3
CMSC 350 - Org. of Programming Languages	3	General Education Course (S or E)	3
CMSC 370 - Analysis of Algorithms and Data Struct	3	CMSC Elective 1	3
General Education Course (D, G or F)	3	General Education Course (D, G or F)	3
Math Elective MATH 270 or above	3	General Education Course (D, G or F)	3
Semester Total	15	Semester Total	15

Fourth Year			
Fall Courses	**Credits**	**Spring Courses**	**Credits**
CMSC Elective 2	3	CMSC 480 - Objected Oriented Software Engineering	3
Literature General Education Course	3	CMSC Elective 3	3
Elective	3	Elective	3
Elective	3	Elective	1
Elective	3		
Semester Total	15	Semester Total	10

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.

Revised March 2025

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Curriculum Checklist

Fall 2023 Commonwealth Courses (44 credits)

___ CMSC 120 OOP with Java (4)
___ CMSC 130 Graphical User Interfaces in Java (4)
___ CMSC 150 Principles of Database Design (3)
___ CMSC 230 Advanced Java (4)*
___ CMSC 240 Parallel Processing in C (3)*
___ CMSC 270 Data Structures Using C++ (4)*
___ DGFR 275 Introduction to Networks (3)*
___ CMSC 320 Computer Ethics, Social Impact & Security (3)*
___ CMSC 330 Computer Organization (3)*
___ CMSC 350 Org. of Programming Languages (3)*
___ CMSC 370 Analysis of Algorithms & Data Structures (3)*
___ CMSC 380 Operating Systems (3)*
___ CMSC 480 Object-Oriented Software Engineering (4)*

Fall 2023 Commonwealth Elective Courses

A. CS Electives (48 Credits)

Required (9 Credits, at most 3 from internship)

___ CMSC 245 Game Programming (3)*
___ CMSC 310 Software Developmental Methods (3)*
___ CMSC 345 Mobile Device Application Development (3)*
___ CMSC 360 Local Area Networks (3)*
___ CMSC 355 Web Application Development and Deployment (3)*
___ CMSC 375 Web Development Frameworks (3)*
___ CMSC 395 Web Services (3)*
___ CMSC 410 Graphics Programming (3)*
___ CMSC 445 Advanced Parallel Processing (3)*
___ CMSC 460 Internet Programming (3)*
___ CMSC 491 Special Topics (3)*
___ CMSC 498 Internship (2-12 credits) (3)*
___ DATA 310 Databases for Big Data (3)*
___ DATA 320 Data Mining (3)*
___ DATA 410 Machine Learning 3)*
___ MATH 440 Theory of Computation (3)*

B. Required Mathematics Courses (10 Credits)

Required (10 Credits)

___ MATH 170 Calculus II (4)*
___ STAT 141 Introduction to Statistics (3) or STAT 241 Introduction to Probability and Statistics (3)*
___ MATH course numbered 270 or higher (4)*

C. Required General Education Courses (20-22 Credits)

Required (20-22 Credits)

___ CMSC 120 OOP with Java (Technology) (4)
___ MATH 160 Calculus I (Quantitative) (4)*
___ MATH 250 Discrete Math (Critical Reasoning) (3)*
___ COMM 101 Public Speaking (Oral Communication) (3)
___ Science Lab 1 (Advisor approved) (3-4)
___ Science Lab 2 (Advisor approved) (3-4)

*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 gen 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)
  - COMM 101 Public Speaking
  - MATH 160 Calculus I
- Interconnections (9 credits)
- Citizenship & Responsibility
  (6 credits from at least two goals)
  - MATH 250 Discrete Math
- Natural World & Technologies (9 credits)
  - CMSC 120 – OOP Programming with Java
  - (N) For the other 6 credits, see our list of acceptable science courses - Advisor approved.
- 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.