COMPUTER SCIENCE, B.S. (BEHREND)

Begin Campus: Any Penn State Campus

End Campus: Erie

Degree Requirements

For a Bachelor of Science degree in Computer Science, a minimum of 122-123 credits is required:

Requirement	Credits
General Education	45
Electives	1
Requirements for the Major	97-98

21 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 6 credits of GQ courses, 6 credits of GWS courses, 9 credits of GN courses.

Per Senate Policy 83.80.5, the college dean or campus chancellor and program faculty may require up to 24 credits of coursework in the major to be taken at the location or in the college or program where the degree is earned.

Requirements for the Major

A student enrolled in this major must earn at least a grade of C in each 300- and 400-level course in the major field.

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

Code	Title	Credits
Prescribed Courses		
CMPSC 221	Object Oriented Programming with Web-Based Applications	3
MATH 220	Matrices	2
Prescribed Courses: Require a grade of C or better		
CAS 100A	Effective Speech	3
CMPSC 121	Introduction to Programming Techniques	3
CMPSC 122	Intermediate Programming	3
CMPSC 312	Computer Organization and Architecture	3
CMPSC 335	Fundamentals of Communication Networks	3
CMPSC 360	Discrete Mathematics for Computer Science	3
CMPSC 421	Net-centric Computing	3
CMPSC 431W	Database Management Systems	3
CMPSC 461	Programming Language Concepts	3
CMPSC 465	Data Structures and Algorithms	3
CMPSC 474	Operating System & Systems Programming	3
CMPSC 484	Computer Science Senior Project I	2
CMPSC 485W	Computer Science Senior Project II	3
ENGL 202C	Effective Writing: Technical Writing	3
MATH 140	Calculus With Analytic Geometry I	4
MATH 141	Calculus with Analytic Geometry II	4
STAT/MATH 318	Elementary Probability	3
Additional Courses		
Select one of the following sequences:		10-11
CHEM 110 & BIOL 110 & BIOL 220W	Chemical Principles I and Biology: Basic Concepts and Biodiversity and Biology: Populations and Communities	
CHEM 110 & BIOL 110 & BIOL 230W	Chemical Principles I and Biology: Basic Concepts and Biodiversity and Biology: Molecules and Cells	
CHEM 110 & BIOL 110 & BIOL 230M	Chemical Principles I and Biology: Basic Concepts and Biodiversity and Honors Biology: Molecules and Cells	
CHEM 110 & BIOL 110 & BIOL 240W	Chemical Principles I and Biology: Basic Concepts and Biodiversity and Biology: Function and Development of Organisms	
CHEM 110 & BIOL 110 & BIOL 240M	Chemical Principles I and Biology: Basic Concepts and Biodiversity and Honors Biology: Function and Development of Organisms	
CHEM 110 & CHEM 111 & CHEM 112 & CHEM 113 & CHEM 210	Chemical Principles I and Experimental Chemistry I and Chemical Principles II and Experimental Chemistry II and Organic Chemistry I	
PHYS 211 & PHYS 212 & PHYS 213	General Physics: Mechanics and General Physics: Electricity and Magnetism and General Physics: Fluids and Thermal Physics	
PHYS 211 & PHYS 212 & PHYS 214	General Physics: Mechanics and General Physics: Electricity and Magnetism and General Physics: Wave Motion and Quantum Physics	
Select at least 15 additional science credits from department approved list		15
Supporting Courses and Related Areas		
Select 6 credits from the school approved list [1]		6
Select 9 additional credits from department approved courses in CMPSC, CMPEN, or SWENG		9

[1] Students may apply 6 credits of ROTC and/or 6 credits of internship CMPSC 495.

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

- **Arts (GA):** 3 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN,** may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher**:** 6 credits

University Degree Requirements

First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.