COMPUTER SCIENCE MAJOR: CYBERSECURITY OPTION (B.A.)

https://ceps.unh.edu/computer-science/program/ba/computer-science-major-cybersecurity-option

Description

The B.A. in Computer Science will allow students to combine the study of computer science with the study of another field. Given the emergence of computational approaches to virtually all areas of scholarship and creative expression, it is important to offer this flexibility. The three tracks in the B.A. program contain the same computer science core as the B.S. program, but give more control to the student to choose the complementary and advanced courses.

Requirements

Code	Title	Credits
Computer Science Classes		
Select of of the following:		
CS 400	Introduction to Computing	1
CS 415 & CS 416	Introduction to Computer Science I and Introduction to Computer Science II	8
or CS 414 & CS 417	From Problems to Algorithms to Programs and From Programs to Computer Science	
or CS 410P & CS 417	Introduction to Scientific Programming/Python and From Programs to Computer Science	
or CS 410C & CS 417	Introduction to Scientific Programming/C and From Programs to Computer Science	
IT 403	Introduction to Internet Technologies	4
CS 501	Professional Ethics and Communication in Technology-related Fields	4
CS 420	Foundations of Programming for Digital Systems	4
CS 515	Data Structures and Introduction to Algorithms	4
CS 520	Assembly Language Programming and Machine Organization	4
CS 527	Fundamentals of Cybersecurity	4
CS 620	Operating System Fundamentals	4
CS 727	Software Security	4
IT 666	Cybersecurity Practices	4
CS 791 & CS 792	Senior Project I and Senior Project II	4
or CS 799	Thesis	
Computer Science Electives		
Select one of the following:		4
CS 725	Computer Networks	
IT 609	Network/Systems Administration	
HLS 515	Critical Infrastructure Security and Resilience	
POLT 568	International Security	
Mathematics Courses		
MATH 425	Calculus I	4
MATH 539	Introduction to Statistical Analysis	4
Select two MATH or CS Theory Courses [1]		8
Science Courses [2]		
One Discovery Biological Science (BS) with Discovery Lab		4
One Discovery Physical Science (PS) with Discovery Lab		4
Elective Courses		
7 Courses [3]		28
Other Courses		
ENGL 401	First-Year Writing	4
Discovery requirements not already covered by required courses		20
Total Credits		**129**

1. CS Theory courses include: CS 659, CS 723, CS 745, CS 750, CS 755, CS 757, CS 758
2. Courses must carry the Discovery attributes of Biological Science or Physical Science and include Discovery lab (DLAB).
3. Must include the foreign language requirement as defined by the University for all B.A. degrees.

Computer science majors must maintain an overall grade-point average of 2.0 or better in all required computer science, mathematics, and computer engineering courses in order to graduate. If at the end of any semester, including the first, a student's cumulative grade-point average in these courses falls below 2.0, the student may not be allowed to continue as a CS major.

The following courses must be passed with a grade of C- or better: CS 410C, CS 410P, CS 414, CS 415, CS 416, CS 417, CS 420, CS 515, CS 520, IT 403

If a student wishing to transfer into the computer science major has any coursework that is applicable to the major, the grades in those courses must satisfy the minimum grade requirements for the B.S. degree in computer science. The student must have an overall grade-point average of 2.0 or better in all courses taken at the university.

Student Learning Outcomes

Graduates of the UNH B.A. CS programs will have an ability to:

- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.
- Learn independently about new technologies, and have the skills needed to understand them.