COMPUTER SCIENCE, MINOR

At William & Mary's School of Computing, Data Sciences & Physics, we empower students and faculty to push boundaries through innovation, interdisciplinary collaboration, and cutting#edge research. Grounded in the university's liberal arts tradition, we cultivate ethical leaders fluent in technology, data, and science–prepared to tackle critical challenges from AI and quantum computing to societal transformation. Through immersive hands#on learning, close mentorship, and engagement with industry and the public sector, CDSP prepares its graduates to generate new knowledge, drive meaningful change, and shape a vibrant future.

The Computer Science Program

Computer science studies the development of algorithms and data structures for representing and processing information using computers. Additionally, computer science examines the logical organization of computers themselves. Questions which arise include the following. Given the enormous difficulty of writing large programs, what kinds of computer languages can be easily specified, easily understood, and yet mechanically translated? What concepts govern information processing? What are the most advantageous ways of distributing computing loads over a collection of distributed processors? How are graphical images best stored and processed? Are some functions inherently harder to compute than others? Do functions exist which cannot be computed? How is knowledge best represented in a computer?

The department's programs prepare students for graduate study in computer science and for employment as computer science professionals.

BA/BS in Computer Science

Bachelor of Arts (BA) and Bachelor of Science (BS) are two similar undergraduate degrees in Computer Science. BS degrees typically involve more coursework that covers more deeply the core area of the Computer Science curriculum, while BA degrees are more flexible and encourage reaching out to other disciplines on top of computer science.

The list of possible elective courses for the BA includes non-CS courses that are offered by departments in Arts & Sciences. These courses contribute to this program of study by exploring applications of computing to arts and sciences fields in a significant way or by providing fundamental computing depth and background. The CS department may choose to adjust the list of courses over time and students can request addition of further courses.

Graduate Program

The department offers the degrees of Master of Science in Computer Science and Doctor of Philosophy in Computer Science. For degree requirements and a full description of graduate courses in computer science, visit the department's website at http://www.cs.wm.edu (http://www.cs.wm.edu/).

Special Five-Year M.S. Program

he department offers a special program designed to enable particularly well-prepared B.S. or B.A. students to obtain an M.S. in Computer Science 12 or 15 months after receiving their bachelor's degrees. Students taking computer science as either their major or as a minor in their undergraduate years may be eligible for this program and upon request will receive a graduate advisor in computer science . Candidates may register for at least two graduate-level courses as undergraduates with up to four such courses after completing their undergraduate degrees. Candidates will complete the requirement for an independent research project in either the summer following the completion of undergraduate study or the summer after the course work is completed. Students qualifying for this program may apply to the department for possible financial assistance.

Course Requirements

Required Credit Hours: 18 - 19 depending on credits awarded for CSCI 141 Modern Programming Fundamentals.

Code	Title	Hours
Core Requirements		
CSCI 141	Modern Programming Fundamentals	4
CSCI 241	Data Structures	3
CSCI 243	Logic and Discrete Structures	3
Select nine elective credits chosen from 300-400 level Computer Science courses [1]		9
Total Hours		**19**

[1] excluding CSCI 320 Directed Study, CSCI 430 Computer Languages and CSCI 498 Internship.

Additional Information

- MATH 214 Foundations of Math may be substituted for CSCI 243 Logic and Discrete Structures.
- MATH 413 Introduction to Numerical Analysis I and MATH 414 Introduction to Numerical Analysis II may be counted toward partial fulfillment of the requirement for nine elective credits.