

# DEPARTMENT OF COMPUTER SCIENCE

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Computer science is the systematic study of algorithmic processes that describe and transform information through their theory, analysis, design, efficiency, implementation, and application. It is a broad discipline with an ever-growing array of opportunities. Graduates in this field can find employment in a wide spectrum of public and private enterprises.

The field of computer science encompasses many areas of specialization. One may find a personal niche in software development, systems development and hardware selection, studies of compatibility between hardware and software, programming language development and modification, information assurance, bioinformatics, or a combination of these and any number of other diverse computer-oriented applications and concepts. Because of this diversity in potential application areas, the computer scientist must be familiar with the language of the physical or biological sciences, mathematics, and English. If the computer is to extend its role as a benefit to mankind, the computer scientist must be broadly educated and conversant with the many implications of the powerful tool that they are controlling and developing.

The Department of Computer Science was formed in 1981 and is in the College of Engineering (<https://catalog.uidaho.edu/colleges-related-units/engineering/>). The Bachelor of Science (B.S.) in computer science has been offered at UI since 1977. This program consists of a carefully designed computer science core, surrounded by an extensive array of challenging technical elective courses. The core consists of courses in algorithms and data structures, programming languages, computer architecture, operating systems, software engineering, theory of computation, and a senior capstone design experience. All of these courses have important components of theory, abstraction, and design.

The bachelor of science program in computer science is accredited by the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET) at 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, who can be reached at 410-347-7700. The department has made substantial contributions to achieving the University's designation by the US Department of Homeland Security as a National Center of Excellence in Information Assurance Education.

The department offers graduate programs leading to M.S. and Ph.D. degrees. These programs combine a core of advanced work with a complement of elective courses selected to provide a focused plan of study.

Students in computer science have the unique opportunity to draw from the expertise of an outstanding faculty with extensive experience in industry, teaching, and research. Computers currently available to students include an extensive department network of UNIX, Linux, and Windows-based workstations and several campus personal computer laboratories for research focus. All major campus and department computer systems are networked together with internet connections, providing a state-of-the-art computing environment. The department was instrumental in establishing the Center for Secure and Dependable Systems (CSDS) and the Initiative for Bioinformatics

and Evolutionary Studies (IBEST). The importance of these labs can be seen from the range of private and government funding which supports the department's research in computer security, computer reliability, bioinformatics, evolutionary computation, and high performance computing.

## Majors

- Computer Science (B.S.C.S.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/computer-science-bscs/>)
- Cybersecurity (B.S.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/cybersecurity-bs/>)

## Minors

- Computer Science Minor (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/computer-science-minor/>)
- Cybersecurity Minor (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/cybersecurity-minor/>)

## Certificates

- Cybersecurity Undergraduate Academic Certificate (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/cybersecurity-undergraduate-academic-certificate/>)
- Robotics Systems Undergraduate Academic Certificate (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/robotics-systems-undergraduate-certificate/>)

## Computer Science Graduate Program

Candidates must fulfill the requirements of the College of Graduate Studies and the Department of Computer Science. See the College of Graduate Studies (<https://catalog.uidaho.edu/colleges-related-units/graduate-studies/>) section for the general requirements applicable to each degree.

- Computer Science (M.S.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/computer-science-ms/>)
- Computer Science (Ph.D.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/computer-science-phd/>)
- Cybersecurity (M.S.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/cybersecurity-ms/>)
- Secure and Dependable Computer Systems Graduate Academic Certificate (<https://catalog.uidaho.edu/colleges-related-units/engineering/computer-science/secure-dependable-computing-systems-graduate-academic-certificate/>)