



Computer Science

Gonzaga's computer science students gain the skills to work with innovative technology, while expanding their capacities for critical thinking and ethical reflection in the Jesuit tradition.

THE PROGRAMS

The Department of Computer Science at Gonzaga University offers students two different degree paths:

- **Bachelor of Science (BS) in Computer Science** degree offered through the School of Engineering and Applied Science
- **Bachelor of Arts (BA) in Computer Science and Computational Thinking** offered through the College of Arts and Sciences

Both degrees are built on a foundation of courses in mathematics, computer programming, data structures and algorithms, software design and development, and software engineering. Both degrees also offer students a broad range of courses in advanced computer science topics, including:

- Machine learning and artificial intelligence
- Human-computer interaction
- Computer networks
- Database management systems
- Speech and natural language processing
- Data science
- Computer security

Concentrations

The department offers three minors and concentrations; minors for students pursuing non-computer science majors, concentrations for students in the department's B.S. or B.A. program:

- **Software Application Development:** How to design and develop large-scale software
- **Data Science:** How to use machine learning and other advanced techniques to make predictions and discover patterns
- **Software Security:** How to secure computers and computer networks from attack

87.5%
SUCCESS RATE,
COMPUTER SCIENCE

(Class of 2020)

61.5%
SUCCESS RATE,
COMPUTER SCIENCE
& COMPUTATIONAL
THINKING

(Class of 2020)

79%
FOUR-YEAR
GRADUATION RATE

*(BS in Computer Science *No data available for BA in CPCT)*

RESEARCH OPPORTUNITIES

Undergraduates can assist in faculty research. Many professors have guided students through the process of presenting their results at regional, national, and international conferences.

Students interested in research frequently receive funding through the National Science Foundation-sponsored program, Research Experience for Undergraduates.

PROGRAM OPTIONS

Bachelor of Science (Focus on computing): Students pursuing the B.S. degree study mathematics, science, and computer science, including computer architecture, operating systems, programming language design, computer security, and theoretical computer science.

Bachelor of Arts (Computing combined with humanities, social and natural sciences): Students pursuing the B.A. degree take many of the same Computer Science courses, and study one additional discipline: Art, Biology, Communication Studies, Economics, English, Environmental Studies, Philosophy, Sociology, or Theatre Arts.



Senior Design Capstone

All seniors participate in a two semester software development project with guidance from a faculty advisor and a project sponsor, often from the computer industry.

AFTER COLLEGE

Graduates of computer science programs work as software developers and computer scientists in the computer industry, universities, and research labs. Many go on to careers in business, law, and healthcare. The Bureau of Labor Statistics predicts that the need for software developers and computer scientists will both grow “much faster than the average of all occupations” (BLS, *Occupational Outlook Handbook*: Software Developers; Computer and Information Research Scientists, 7/21). Advanced degrees are necessary for careers in research. Some graduates go on to Ph.D. programs which cover tuition and living expenses. Others pursue part-time M.S. degrees while working in the computer industry.

John & Joan Bollier Integrated Science & Engineering Facility

Providing Computer Science with labs, collaboration, and office spaces.



CS STUDENT LABS

The Department of Computer Science has five labs, in addition to multiple high-performance servers, for use in coursework and software engineering projects.

The Computer Science Projects Lab consists of computers, project space, and meeting space for students doing research and working on team projects within their courses.

Two computer science instruction labs are used for classes and are available to students around the clock, seven days a week. The department also provides an assortment of hardware for students to check out during the academic year for independent study projects.

Two advanced computing and computer science research labs provide high-performance hardware for faculty and student research.

A virtual reality lab in the Herak Center allows students to explore augmented reality/virtual reality (AR/VR) devices and software.

Faculty Contacts

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