

# COMPUTER SCIENCE

Chair: David Reed

Department Office: Old Gym, Room 209

Professors: D. Malik (secondary appointment), P. Nair;

Associate Professors: James Carlson (secondary appointment), D. Reed, M. Wierman.

**Department Description:** Computer science is a broad field that encompasses the study of computation and problem-solving, including the design and analysis of algorithms, the formalization of algorithms as programs, the development of computational devices for executing those programs, and the networking of devices in order to share resources and computational power. Grounded in the liberal arts, the Department of Computer Science emphasizes critical thinking, communication skills, and breadth of knowledge in preparing its graduates for dynamic careers and continued professional growth.

**Web Contact/Information:** Additional information about this department may be found at <http://cs.creighton.edu>. However, for definitive details, students are strongly encouraged to check the University's website for Bulletin changes at <http://www.creighton.edu/Registrar>.

## PROGRAMS IN COMPUTER SCIENCE

**Specific Requirements for Admission to the Computer Science Major:** None.

### ***B.S., Major in Computer Science: 27 Credits***

#### *Course Requirements*

CSC 221	Computer Programming I	3 credits
CSC 222	Computer Programming II	3 credits
CSC 309	Discrete Structures	3 credits
CSC 414	Introduction to Computer Organization	3 credits
CSC 427	Data Structures and Algorithm Analysis	3 credits
CSC 533	Organization of Programming Languages	3 credits
CSC 539	Operating Systems Structure and Design	3 credits
CSC 548	Object Oriented Design	3 credits
One 400-level-or-above computer science course is required.		3 credits

### ***B.S.C.S., Major in Computer Science: 36 Credits***

#### *Course Requirements*

CSC 221	Computer Programming I	3 credits
CSC 222	Computer Programming II	3 credits
CSC 309	Discrete Structures	3 credits
CSC 414	Introduction to Computer Organization	3 credits
CSC 427	Data Structures and Algorithm Analysis	3 credits
CSC 533	Organization of Programming Languages	3 credits
CSC 539	Operating Systems Structure and Design	3 credits
CSC 548	Object Oriented Design	3 credits
Four additional 400-level-or-above computer sciences courses.		12 credits

No more than 6 credits of CSC 493, 495, 497, 499 may be applied to the major.

## COMPUTER SCIENCE MINOR

**Program Description:** Computer Science is the study of computation, encompassing all aspects of problem solving. This includes the design and analysis of algorithms (step-by-step sequences of instructions for carrying out some task), the formalization of algorithms as programs, and the development of computing devices for executing those programs. The study of Computer Science emphasizes logical and critical thinking, as well as an understanding of technology. A minor in Computer Science provides a strong foundation in computing that can complement other major fields and also prepare graduates for assessing the technology they use in everyday life.

**Contact:** Chair, Department of Computer Science

#### **(All of the following:)**

CSC 221	Computer Programming I	3 credits
CSC 222	Computer Programming II	3 credits
Twelve additional Computer Science credits numbered 200 and above.		12 credits

CSC 493, 495, 497, 499 cannot be applied toward this minor.

*INTERACTIVE WEB DEVELOPMENT MINOR*

**Program Description:** The World Wide Web has emerged as a universal medium for presentation, communication, and commerce. The Interactive Web Development minor enables the student to master the technical and artistic skills needed to create interactive media for the Web. This minor combines the programming concepts and skills required to develop applications for the Web with the artistry of graphic design and multimedia presentation.

**Contact:** Chair, Department of Computer Science, Director, Graphic Design Program

**(All of the following:)**

CSC 221	Computer Programming I	3 credits
CSC 551	Web Programming	3 credits
JMC 381	Computer Illustration	3 credits
JMC 382	Web Design	3 credits
JMC 423	Multimedia Design	3 credits

**(One of the following:)**

CSC 121	Computers and Scientific Thinking	3 credits
CSC 222	Computer Programming II	3 credits

***Certificate Programs in University College***

This department offers two certificate programs to students in University College: *Applied Computer Science* and *Computer Science*. See the descriptions for these certificates on page 290-298 in the University College section of the Bulletin.

*For all CSC courses, please refer to page 357.*