

Computer Science

Department of Computer Science

As a computer science student at Missouri S&T, you will take courses in the design and implementation of various aspects of computer systems (i.e., operating system, database system, software system, computer organization ...) and the algorithms (problem-solving techniques) used to solve "real world" problems in business, industry, and engineering or as preparation for graduate study.

Computer science is an exciting, dynamic field with a critical demand throughout the world today. This degree may suit you if your interests lie in: computer security, networking, databases, high performance computing, software development, and the hardware and software implementations.

While instruction and research at Missouri S&T are on the leading edge of computing, class sizes are small to facilitate interaction between students and faculty. Each graduate's senior capstone gives students actual experience working with teams comprised of fellow students and practicing computer scientists. These teams design, implement, test, and maintain viable software systems. Students are given both the depth and breadth of computer science necessary to keep them competitive in today's fast-changing world.

The computer science faculty has a broad range of scholarly interests which include computer security and networking, high performance computer architectures and algorithms, parallel and distributed processing, databases and data mining, artificial intelligence, software engineering, scientific visualization, and algorithms. The research being done in these areas involves both undergraduates and graduates and supports the department's major areas; software lifecycle, critical infrastructure protection, and pervasive and mobile computing. Faculty is not only actively doing research in these areas, but also integrates their research experiences into their classrooms.

The department holds frequent seminars, giving students the opportunity to learn about leading-edge advances in computing from experts. Seminar speakers range from lecturers in the latest internet computing technology to attorneys discussing intellectual property issues.

The Computer Science department is accredited by ABET, CNSS, the U.S. Department of Homeland Security, the National Security Agency, and IAD.

Degree Options and Minors

- Bachelor of Science, Computer Science
- Master of Science, Computer Science
- Doctor of Philosophy, Computer Science
- Minor, Computer Science

Student Organizations and Undergraduate Research

Undergraduate research opportunities are available through Missouri S&T's OURE, NSF, and REU programs. Computer Science students can join student organizations such as the Association for Computing Machinery (ACM), Association for Computing Machinery-Women (ACM-W), the Institute for Electrical and Electronic Engineers Computer Society, Upsilon Pi Epsilon National Computer Honorary Society, and the Computing Research Association.

Each year the department has a programming team that competes at regional and international programming contests. Past teams have won high recognition at both levels. Students also participate in an Artificial Intelligence tournament.

Entry-Level Job Titles

Software Designer	Entrepreneur
Research Assistant	Various IT Positions
Troubleshooter	Computer Programmer
Writer	Teacher

Co-op and Internship Availability

Co-op and summer intern programs are available to students. These programs provide students with the opportunity to integrate their classroom studies with learning through productive work experiences in a field related to a student's academic or career goals.

Scholarship Information

The department provides several scholarships to both freshmen and upper level students. Scholarships are based on need and scholastic standing. Some may require a separate application.

Departmental Contact Information:

1.573.341. 4491	325 Computer Science Building
http://cs.mst.edu	csdept@mst.edu
Department Chair:	Dr. Frank Liu

Faculty

Professors:

Fikret Ercal, Ph.D., Ohio State
 Ali Hurson, Ph.D., Central Florida
 Thomas Weigert, Ph.D., Illinois
 Bruce McMillin, Ph.D., Michigan State
 Chaman Sabharwal, Ph.D., Illinois
 Frank Liu, Ph.D., Texas A&M
 Donald Wunsch, Ph.D., Univ. of Washington
 Jagannathan Sarangapani, Ph.D., Texas

Associate Professors:

Sanjay Madria, Ph.D., Indian Institute of Technology
 Jennifer Leopold, Ph.D., Kansas
 Daniel Tauritz, Ph.D., Leiden University
 Maggie Cheng, Ph.D., Minnesota
 Sahra Sedigh, Ph.D., Purdue University

Assistant Professors:

Sriram Chellappan, Ph.D., Ohio State
 Wei Jiang, Ph.D., Purdue University
 Dan Lin, Ph.D., National University of Singapore
 Zhaozheng Yin, Ph.D., Pennsylvania State University
 Marouane Kessentini, Ph.D., University of Montreal

Associate Teaching Professor/Freshman and Transfer Advisor

Clayton Price, M.S., Missouri S&T

Assistant Teaching Professor

Ricardo Morales, Ph.D., Texas Tech University

Teaching Associate:

David M. Mentis, M.S., Missouri S&T

Adjunct Faculty:

William E. Bond, Ph.D., Rensselaer
 Randy Canis, JD, Missouri-Columbia
 Chris Merz, Ph.D., California-Irvine
 William Van Stoecker, M.D., Missouri-Columbia
 Karl Lutzen, Information Security Officer, Missouri S&T
 Tim Doty, Information Security Officer, Missouri S&T

Facilities and Technology

- Instructional Workstation Laboratory that provides Unix/Linux workstations
- Instructional PC Laboratory consisting of PC computing platforms
- McDonnell Douglas Software Engineering Laboratory
- Pervasive and Mobile Computing Laboratory
- Experimental Computation Laboratory
- Information Security and Privacy Laboratory
- Web and Wireless Computing (W2C) Laboratory
- Natural Computation Laboratory
- Network Research Laboratory
- Computer Learning Centers around campus provide around-the-clock access

Centers

- National Center of Academic Excellence in Information Assurance Education

Bachelor of Science

Computer Science 128 credit hours

FIRST YEAR

	Credit
Cmp Sc 1010-Intro to Computer Science	1
Cmp Sc 1570/1580-Intro to Programming w/ Lab.....	4
English 1120-Exposition.....	3
Math 1208-Calculus I w/ Analytic Geometry	5
Elective/Hum or Social Science.....	3
Cmp Sc 1510-Data Structures I.....	3
Cmp Sc 1200-Discrete Math for Cmp Sc.....	3
Math 1221-Calculus II w/ Analytic Geometry	5
Elective/Science w/ Lab	5
	32

SECOND YEAR

Cmp Eng 2210-Intro to Computer Engineering	3
Cmp Sc 2300-File Struct & Intro Database Sys.....	3
Cmp Sc 2500-Algorithms	3
Math 3108-Linear Algebra I.....	3
Phys 1135-Engineering Physics I.....	4
Speech 1185-Intro to Speach.....	3
Stat 3115- Engineering Statistics	3
Phys 2135-Engineering Physics II.....	4
Elective/Hum or Social Science.....	3
Elective/Literature	3
	32

THIRD YEAR

Cmp Eng 3550-Digital Systems Design	3
Cmp Sc 2200-Theory of Computer Science	3
Cmp Sc 3100-Software Engineering I	3
Cmp Sc 3500-Programming Languages & Translators	3
Cmp Sc 3800-Intro Operating Systems	3
Cmp Sc 3200-Intro to Numerical Methods.....	3
Elective/Free	3
English 1160-Writing and Research	3
Elective/Hum or Social Science.....	3
Constitutional Requirement	3
	30

FOURTH YEAR

Cmp Sc 4096-Software Systems Development I.....	3
Cmp Sc Elective.....	3
Cmp Sc Elective.....	3
Cmp Sc Elective.....	3
Elective/Engineering or Science.....	3
Elective/Engineering or Science.....	3
Elective/Free	4
Cmp Sc Elective.....	3
Cmp Sc Elective.....	3
Elective/Engineering or Science.....	3
Elective/Ethics.....	3
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Notes

Detailed information on course equivalencies, acceptable credits for elective coursework, grade requirements and prerequisites is available from Missouri S&T's Registrar's Office at <http://registrar.mst.edu>.