

Department of Computer Science

The Department of Computer Science in the College of Engineering at NC State University offers a Bachelor of Science in Computer Science degree. The BS degree is nationally accredited by the Computing Accreditation Commission of ABET, <https://www.abet.org>. Additionally, the Department of Computer Science offers a Minor in Computer Programming and a Post Baccalaureate Computer Programming Certificate.

Core courses provide a foundation for all students in programming languages, data structures, software engineering, computer architectures, the theory of computation, the basics of building secure software and systems, teaming and communication, and the social and ethical dimensions of the practice of computer science. Students explore the mathematical methods needed to analyze and compare both computation problems themselves and alternative approaches to solving them. All Computer Science majors must complete a team project in Senior Design. Projects under the auspices of the department's Senior Design Center (<https://sdc.csc.ncsu.edu/>) have industrial sponsors, so student teams gain experience working jointly with industry representatives to achieve project goals. Senior Design teams are expected to solve a technical computing problem while effectively communicating their work and process to various audiences.

Students take a variety of courses to explore more advanced areas, among them artificial intelligence, cloud computing, compilers, computer architecture and multiprocessors, computer graphics, cryptography, database management systems, data science, development and operations, educational technology, file organization and processing, human-computer interface design, multimedia technology, networks, privacy, security (computer, network, and software), sensor systems, social computing, and web services.

We offer three concentrations in Artificial Intelligence (<https://www.csc.ncsu.edu/academics/undergrad/bs-csc-ai.php>), Cybersecurity (<https://www.csc.ncsu.edu/academics/undergrad/bs-csc-cyber.php>), and Game Development (<https://www.csc.ncsu.edu/academics/undergrad/bs-csc-gdc.php>), which allow for specialization in depth. We also offer two undergraduate elective tracks in Security (<https://www.csc.ncsu.edu/academics/undergrad/tracks/security.php>) and Entrepreneurship (<https://www.csc.ncsu.edu/academics/undergrad/tracks/entrepreneurship.php>). The tracks provide the opportunity for students to focus some of their Computer Science Restricted Electives on areas of interest without the depth of the concentration.

Departmental Highlights

NC State Computer Science was established in 1967 and is one of the oldest Computer Science departments in the county.

Computer Science majors can:

- Participate in undergraduate research and independent study projects mentored by faculty. These projects are the starting point for completing the CSC Honors Program.
- Apply their learning through our award-winning capstone Senior Design Center projects. Most projects are industrially sponsored and challenge students to deliver a cohesive software system solving a problem.

- Interact with more than 100 companies that actively partner with the department via sponsored programs, research, scholarships, projects, and initiatives.
- Participate in a variety of student organizations (https://www.csc.ncsu.edu/academics/students_orgs.php) for leadership skills, service, networking, and informal learning opportunities, including ACM/AITP, HackPack, Honors Programs/Honors Societies, Linux Users Group, STARS Student Leadership Corps, and Women in Computer Science.

Our areas of expertise include artificial intelligence, bioinformatics and computational sciences, computing education, graphics and visualization, high-performance & power-aware systems, networks, security, software engineering, theory and algorithms.

Departmental Information

The Department of Computer Science is located in Engineering Building II on NC State's Centennial Campus.

Department of Computer Science

Contact: Computer Science Academic Advising

Faculty

Department Head

G.A. Rothermel, *and Professor*

Director of Graduate Programs

G.N. Rouskas

Director of Undergraduate Programs

S.S. Heckman

Director of Advising (Undergraduate)

B.J. Adams

Distinguished University Research Professor

D.L. Bitzer

Distinguished Professor

M.A. Vouk, *and Vice Chancellor for Research Development*

L.A. Williams, *and Co-Director - NCSU Science of Security Lablet*

Distinguished University Professor

J.C. Lester, *and Director of the Center for Educational Informatics*

M. Rappa

Alumni Distinguished Graduate Professor

G.N. Rouskas

M.P. Singh, *and Co-Director - NCSU Science of Security Lablet*

Professors

T.M. Barnes

R.Y. Chirkova

R. Dutta, *and Associate Department Head*

W.H. Enck, *and Director of Wolfpack Security & Privacy Research (WSPR) Laboratory*

E.F. Gehringer

X. Gu

C.G. Healey, *and Goodnight Distinguished Professor Analytics, Institute for Advanced Analytics*

S. Heber

T.J. Menzies

F. Mueller

X. Shen

M.F. Stallmann

R. Vatsavai

Associate Professors

K. Anyanwu Ogan

M. Chi

K. Harfoush

A. Jhala

A. Kapravelos

X. Liu

C. Lynch

N. Matsuda

C.J. Parnin

D.L. Roberts, *and Assistant Director of Undergraduate Programs*

M. Shahzad

D.R. Sheehy

K.T. Stolee

B. Watson

Assistant Professors

V. Catete

A. Das

G. Jin

J.P. Ore

T. Price

B. Reaves

A. Scafuro

R. Yu

Teaching Professor

S.S. Heckman

Associate Teaching Professor

T. Battestilli

J. King

J.Y. Schmidt

D.B. Sturgill

Assistant Teaching Professor

B. Akram

S.P. Balik

I. Dominguez

J. Jennings

S. Jiao

Lecturers

B.J. Adams

M. Heil, *and Director of Senior Design Center*

TA. Marini, *and Assistant Director of Undergraduate Advising*

Emeritus

D. Bahler
 W. Chou
 E.W. Davis
 J. Doyle
 R.J. Fornaro
 T.L. Honeycutt
 D.F. McAllister
 H. Perros
 D.S. Reeves
 W.E. Robbins
 C.D. Savage
 W.J. Stewart
 A.L. Tharp
 D.J. Thuenta

Research Professor

F. Brglez

Director of Development & External Relations

K. Tate

Director of Development

S. Seltzer

Director of Graduate Career Services

L. Rand-Pickett

Research and Development Staff

K. Cassell
 T.S. Coates, *and Assistant Director of External Relations*
 W. Min
 B.W. Mott
 S. Reaves
 J.P. Rowe

P. Smith
 R. Spain
 A. Thorp
 J. Vandenberg
 D.R. Wright

Adjuncts

K.E. Boyer
 R. Chillarege
 A. Dagnino
 P. Ning
 I. Rhee
 A. Rindos
 R.A. St.Amant
 X. Wang
 T. Xie
 R.M. Young

Associate Members of the Department

For a list of Associate Members of the Department, please see the Computer Science Department's webpage

Plans

- Computer Programming (Certificate) (For Post-Baccalaureate Students, Distance Education) (<http://catalog.ncsu.edu/undergraduate/engineering/computer-science/computer-programming-certificate-distance-education/>)
- Computer Programming (Minor) (<http://catalog.ncsu.edu/undergraduate/engineering/computer-science/computer-programming-minor/>)
- Computer Science (BS) (<http://catalog.ncsu.edu/undergraduate/engineering/computer-science/computer-science-bs/>)
- Computer Science (BS), Artificial Intelligence Concentration (<http://catalog.ncsu.edu/undergraduate/engineering/computer-science/artificial-intelligence-concentration/>)
- Computer Science (BS), Cybersecurity Concentration (<http://catalog.ncsu.edu/undergraduate/engineering/computer-science/computer-science-bs-cybersecurity-concentration/>)
- Computer Science (BS), Game Development Concentration (<http://catalog.ncsu.edu/undergraduate/engineering/computer-science/computer-science-bs-game-development-concentration/>)