College of Sciences

Computer Science Department
Janet Brunelle; CDA
Agenda

• Introductions
• College of Sciences Overview
• Computer Science at ODU
  • Life in the classroom
  • Research
  • Post-graduation
• Questions?
College of Sciences

• Departments
  • Biology
    • General
    • Marine Biology
  • Chemistry
  • Computer Science
  • Math
  • Ocean, Earth, & Atmospheric Sciences
  • Psychology
  • Physics

• Pre-health advising
Computer Science at ODU

- Bachelor of Science in Computer Science (BSCS)
- Bachelor of Science in Computer Science with Teacher Licensure
- Linked BS/MS program (5 years)
- Honors Program
- Tech Talent Investment Program
- Signature Distance Learning Program
- Double Major in 5 year programs: ECE, Cyber Security, Cyber Operations
Skills and Preparation

• Love for Logic and Problem Solving
• Math!
  • Ready for Calculus (MATH 211)
  • Or – the courses to get you there:
    • MATH 163 – Precalculus II
    • MATH 162 – Precalculus I
    • MATH 102/3M - Algebra
• No Previous Programming Assumed
  • You’ll start with CS 150 and C++
• Similar to today’s professional environments classes will be:
  • Face-to-face (Synchronous), and
  • Online (Asynchronous)
  • All using current technology and software tools that reflect professional, research, and entrepreneur paths

• Programming I and II (150 and 250)
  • 2.5 hour traditional lecture (~100 students per section)
  • 2.5 hour instructor-led hands-on laboratory (~35 students)
  • 1 hour instructor led recitation (~35 students) which for supplemental instruction

• All other courses have a maximum capacity of 50 students, most with required laboratory components

• Capstone course sequence (410 and 411W)
  • Entrepreneurial approach to solving real world problems
  • Team oriented
  • Industry reviewed presentations
  • Topics: research, feasibility, risk assessment, prototyping, oral and written communication
BSCS Degree Requirements

• **Lower Division General Education (met by A.S. degree)**
• Upper Division General Education
• Math and Statistics – 14 credit hours
  • MATH: 211, 212, 316; STAT 330
• Programming and Software Engineering – 21 credit hours
  • CS: 150, 250, 252, 330, 350, 355, 361
• Systems Architecture – 9 credit hours
  • CS: 170, 270, 471
• Discrete Math and Algorithms – 9 credit hours
  • CS: 381, 390, 417
• Senior Project Capstone Sequence – 6 credit hours
  • CS: 410, 411W, (300T)
• CS Upper-level Electives – 9 credit hours
Popular Elective Courses

- Machine learning
- Artificial intelligence
- Web science
- Parallel computing
- Data science
- Networking
- Cyber security
- App development
Get Involved!

- Honors Program
- Undergraduate Research Opportunities
- Internships
- Community Partnerships
- Professional Networking
- ACM: Association for Computing Machinery
- ACM-W: Association for Computing Machinery- Women
- System Staff – employment with mentoring by our administrators
Research Opportunities

• Computer Science is problem solving
  • Using the newest technologies in innovative ways
  • Providing innovative customized implementations of existing systems

• Undergraduate Research – paid and unpaid

• Undergraduate Honors Program
  • Director of Honors Programs - Dr Jing He – jhe@cs.odu.edu

• Conferences, publications, scholarships, thesis, paid summer research experiences

• CS 395: Research Methods in Web Science
STEM Jobs through 2026

US-BLS Avg Annual STEM Job Openings Thru 2026 As Percentage

Computing, 63.0%

Engineering, 22.9%

Mathematics, 3.2%

Natural Sciences, 10.9%

Job Categories:
- Computer/Info. research scientists, 0.9%
- Computer systems analysts, 8.1%
- Information security analysts, 1.9%
- Software developers, 26.8%
- Database administrators, 1.7%
- Network + systems administrators, 0.5%
- Network architects, 7.1%
- Computer support specialists, 13.0%
- Computer occupations, other, 4.0%
Career Opportunities

- Applications Architect
- Applications Development Engineer
- Information Systems Security Analyst
- Software Engineer
- Network Architect
- Data Warehouse Analyst
- Data Architect
- UX Designer

- Researcher
- Database Manager
- Software Manager
- Software Quality Assurance
- Business Intelligence Analyst
- Cloud Architect
- Machine Learning
- Artificial Intelligence
Career Opportunities - Employers of BSCS Alumni

- Facebook
- ADP
- IBM
- Dominion Enterprises
- Google
- LinkedIn
- MITRE
- Naval Surface Warfare Center
- Anthem
- RedHat
- Amazon
- L3Harris
- ODU ITS
- Alion Science
- Frontier
Important Notes...

- Internships are guaranteed! Weekly emails from your advisor about new opportunities from industry contacts
  - So you can - Check the “experience required” box on applications
- $20,000 pay differential for MS degree holding applicants
  - Linked BS/MS in CS program – 1 additional year of study
  - MS in Computer Science
  - MS in Data Science
  - MS in CIS: Computer Information Systems
  - MS in Cyber Security
Questions?