# COMPUTER SCIENCE

Computer scientists must learn how computers work and "think," then they perform the complex critical thinking and coding required to translate problems into a format computers can understand and solve. Today, computer science is a rapidly evolving discipline that affects almost every industry and problem in the modern world. Additionally, LSU is now designated as a Center of Academic Excellence in Cyber Operations by the National Security Agency, making it one of 21 universities and colleges in the U.S. and the only university in Louisiana with that designation.

## What Do Computer Scientists Do?

Computer science involves programming computing devices, creating information systems, engineering new products, visualizing and creating imagery, working with data infrastructure and networks, and protecting information through cybersecurity. Computer scientists can focus on software development, databases and analytics, cybersecurity, computer graphics and visualization, video game design, among others.

## Concentrations

**Software Engineering (SEG)**—The field of SEG involves developing quality software, meeting project deadlines and budget parameters, and ensuring software is built systematically to requirements and design specifications.

**Cybersecurity (CYB)**—The field of CYB involves protecting networks, devices, and data from unauthorized access or criminal use and ensuring confidentiality, integrity, and availability of information.

**Data Science and Analytics (DSA)**—The field of DSA incorporates techniques and theories from diverse areas such as mathematics, biology, statistics, data warehousing, and artificial intelligence.

**Cloud Computing and Networking (CCN)**—The field of CCN involves a system which utilizes multiple computers distributed, connected in real time, and running software that collaborates to provide work (service) to a customer (the user).

**Computer Science and Second Discipline**—The concentration permits a 15-hour study area outside of computer science. Students may select an official LSU minor or customize a study plan following department guidelines.

## PROGRAM FACTS

**2022–2023 Enrollment:** 900 Students

**Common Minors:** Digital Media Arts and Engineering (DMAE), Robotics, eCommerce, Information Technology Management, Mathematics, Business Administration (BADM)

**Student Organizations:**
WICS—Women in Computer Science
WICys—Women in Cybersecurity
SSL—Security Society at LSU

## GRADUATE STARTING SALARIES

Median full-time in field salary info for graduates of the last three years

Middle 50%

$67,000          $73,000

**$70,000**
Median Salary
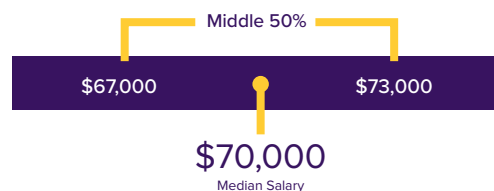
**Undergraduate Coordinator and Advisor
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## CAREER OPTIONS

Computer Scientist

Software Developer

Cybersecurity Specialist

Network/Database Designer

Technical Analyst

Computer Animator

Web Developer

Data Analyst

**LSU** | College of Engineering

Computer Science

# CURRICULUM OVERVIEW

| YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 |
|---|---|---|---|
| Intro to Computer Science I | Discrete Structures | Operating Systems | Programming Languages |
| Intro to Computer Science II | Advanced Data Structures and Algorithm Analysis | Software Systems Development | Ethics in Computing |
| Biology I | Numerical Methods | Computer Science Elective | Computer Science Elective |
| Physical Science I | Computer Organization and Design | Computer Science Elective | Computer Science Concentration Elective |
| Physical Science I Lab | Object Oriented Design | Computer Science Concentration Elective | Computer Science Concentration Elective |
| Calculus I | Biology II or Physical Science II | Computer Science Concentration Elective | Computer Science Concentration Elective |
| Calculus II | Biology II or Physical Science II Lab | Technical Elective | Computer Science Approved Elective |
| General Ed: Humanities | Elementary Differential Equations and Linear Algebra | Technical Elective | Computer Science Approved Elective |
| General Ed: English Comp I | General Ed: English Comp II | Engineering Statistics | General Ed: Social Sciences |
| | Communication Studies | General Ed: Humanities | General Ed: Arts |
| | | General Ed: Social Sciences | |

**LEGEND**

- Major-specific Engineering
- Other Engineering
- Science
- Math
- General Education

Detailed curriculum flow-charts: https://www.lsu.edu/eng/current/resources/flowcharts.php