

# Online MS in Computer Science

## Program Overview

Computer science is an in-demand field that impacts nearly every industry and sector, including transportation, healthcare, education and financial services. Our online Master of Science in Computer Science (MSCS) program offers a cutting-edge, experiential curriculum that provides you with the fundamental technical knowledge you'll need to succeed while exploring new industry challenges and innovations. With two program tracks to choose from, you can pursue a course sequence that aligns with your computer science skill level.

## Learning Outcomes

- **Develop strong technical skills** such as algorithms and theory, artificial intelligence, databases and data mining.
- **Build awareness of team dynamics** to effectively collaborate in group settings and communicate through presentations and reports.
- **Establish deep knowledge of a particular domain and broad foundation of computer science disciplines**, including a dynamic understanding of decision principles and software patterns.
- **Maintain an independent, self-starter mentality** with intellectual flexibility so you can advance into leadership/management roles.
- **Strengthen data-driven leadership skills** by using data to make good decisions, frame questions and tell a persuasive story.
- **Embody persistence in learning and problem-solving** with a mindset that strives to create innovative technologies and solutions.

## Quick Facts

10–11\*  
**Courses**

2  
**Program Tracks**

5–6 Academic Terms\*  
**Program Length**

50 Minutes  
**Live class time per week**

20,000+  
**Alumni across 70 countries**

\$45,000–  
\$51,750  
**Total Tuition\*\***

\* The number of courses and program length vary depending on your program track.

\*\* The tuition and fees listed are effective for the 2022–2023 academic year, based upon the student's selected program track. Per credit hour or per semester calculations are available from Student Financial Services. Tuition and fees are subject to review and/or change, with approval by the University Provost's Office and Case Western Reserve University Board of Trustees.

# About Case School of Engineering

Case School of Engineering is an ecosystem of innovation, recognized for its creative scholarship, expert faculty and multidisciplinary approach to hands-on learning. We have a **140-year history of rigorous academic training** and a robust research portfolio. Through our efforts to advance industries and match our students with leading institutions for co-ops, internships or employment, we maintain deep ties with some of the world’s largest engineering, technology and science firms—and some of the smallest but most promising startups.

## Course Overview

At Case School of Engineering, we engineer to make a better world. Our collaborative academic environment demands excellence, encourages innovation and supports groundbreaking discovery and invention. The online MSCS addresses current issues, trends and best practices in computer science and focuses on four key areas: artificial intelligence (AI), databases and data mining, security and privacy, and software engineering. Courses are not interdependent, so you can complete them in any order.

We offer two tracks based on your education and experience level.\*

### Pathways Track

Built for mid-level professionals with a strong STEM background who want to transition into computer science, this track offers foundational coursework necessary for success in our program.

### Advanced Track

Designed for professionals with an agile STEM background and a strong foundation in computer science concepts, this track prepares students for the next level of proficiency in the field.

### Courses

- Introduction to Graduate Computer Science (4.5)\*\*
- Programming Language Concepts (3)
- Introduction to Artificial Intelligence (3)
- Analysis of Algorithms (3)
- Computer Networks 1 (3)
- Database Systems (3)
- Data Mining (3)
- High Performance Data and Computing (3)
- Smartphone Security (3)
- Data Privacy (3)
- Computational Perception (3)

# Career Outlook

The landscape for a career in computer science is robust.

Potential Job Titles & Average Salaries
Computer Scientist \$81,991
Quantitative Analyst \$86,340
Data Engineer \$93,255
Data Scientist \$97,254
Machine Learning Engineer \$112,266
Software Development Engineer \$112,764
Senior Software Engineer \$120,982
Senior Data Scientist \$127,576
Senior Software Architect \$136,001

Source: Payscale (March 2022).

## Ready to learn more?

Start Your Application

\*Contact our enrollment team by emailing [onlineMSCS@case.edu](mailto:onlineMSCS@case.edu) or calling 216.859.9922 to discuss our program and admissions requirements, track eligibility and to get your questions answered.

\*\* This course is only required for the Pathways track. All other courses comprise the curriculum for both program tracks.