MASTER OF SCIENCE IN COMPUTER SCIENCE

Why the MS in Computer Science degree?

The MS in Computer Science degree provides students with added depth and technical expertise beyond that of an undergraduate degree. This advanced degree is of particular benefit to those with non-CS backgrounds who are looking to make a transition into the field of computer science, including areas such as software development, network administration and cyber security.

Why the MS in Computer Science at BGSU?

BGSU's Computer Science Department is comprised of expert, teaching-focused faculty who are accessible and approachable, plus all courses in the curriculum are taught by qualified professors rather than graduate students. The department has strong relationships with American Greeting, Eaton, Ernst & Young, Marathon, Owens Corning, Progressive, and Nationwide, offering opportunities for students to gain meaningful internship experience at top companies with strong IT and software divisions.

In addition, the department is active and social, providing events that encourage students to develop strong ties with both students and professors. Activities have included research colloquia and study sessions, as well as recreational outings to the movies, bowling, picnics and more.

Learning outcomes

Graduates of the MS in Computer Science program are prepared to:

- Perform research, discovery and integration by applying advanced knowledge of computer science.
- Critically analyze a body of current, published research in an area of computer science.
- Evaluate algorithmic and/or software-based solutions to a given problem.

FOR MORE INFORMATION

Contact Computer Science Graduate Coordinator,
Dr. Venu Dasigi,
at vdasigi@bgsu.edu or csgradstudies@bgsu.edu

Program strength and uniqueness

- Small class sizes and professor-student ratios promote quality interaction and one-on-one attention.
- All courses are taught by highly qualified professors rather than graduate students.
- Opportunities exist to gain meaningful internship experiences at top companies that have strong IT and software divisions.
- Students have the option to complete a research project or a master's thesis, providing flexibility within the curriculum.
- Dual degree programs are offered combining Computer Science with any other major - common options are Psychology and Mathematics.
- The program is available to daytime and evening students.
- Specializations are available in Software Engineering and Cybersecurity & Digital Forensics

Professional opportunities

Graduates of the MS in Computer Science program will be well prepared to pursue work as professionals within the computing industry or to achieve pay increases and job promotions. They will also be able to teach computer science courses or gain admission into Ph.D. programs to continue their academic pursuits.

"I chose the MS in Computer Science program at BGSU because the advisors worked with me to build the foundation I needed to transition from a career as a high school mathematics teacher to a technology professional. Through coursework, internship, and assistantship opportunities I was able to gain the technical skills I needed to be competitive in the job market."

— Rachel Householder '14,
Business Intelligence Application Developer,
Libby, Inc., Toledo, OH.

Admission requirements

To gain regular status admission, applicants must have a minimum 2.75/4.0 undergraduate grade point average (GPA). Applicants are required to submit scanned copies of official or unofficial transcripts from all institutions attended. Upon admission, final official or notarized copies of transcripts from all institutions where degrees were earned and diplomas from international institutions must be submitted. Applicants with a GPA below 3.0 are also required to submit official scores from the Graduate Record Examination (GRE) with a minimum combined score of 300 (preferred 150 or better quantitative).

All applicants must submit a professional resume or curriculum vitae and three (3) letters of recommendation.

International applicants are also required to submit scores from the International English Language Testing System (IELTS), the Pearson Test of English (PTE), or the Test of English as a Foreign Language (TOEFL). Successful completion of ELS 112 will also be accepted for this requirement.

Course prerequisites include: Fundamental and Intermediate Programming, Data Structures and Algorithms, Computer Organization, Operating Systems, Software Engineering, Calculus, and Discrete Mathematics.

Cost of tuition

Please refer to www.bgsu.edu/offices/bursar for current information on tuition and fees.

Financial assistance

A limited number of graduate assistantships and tuition scholarships are available for full-time students who qualify. Typically, these are not awarded during the first semester of study. For more information, please contact the department.

Domestic students enrolled in four (4) or more credit hours are eligible to apply for financial aid using the Free Application for Federal Student Aid (FAFSA) to calculate student contribution and financial need. You may apply online at www.fafsa.ed.gov.

How to apply

Visit the BGSU Graduate College website at www.bgsu.edu/graduate/admissions.

The application deadline to start the program in fall or spring is one month prior to the start of the term.

The application deadline to be considered for funding is March 1 for the fall semester.

Curriculum

All candidates must complete at least 30 hours of graduate level course work, including the following:

- 18 hours of regular computer science course work at or above the 6000 level
- 12 additional hours of computer science course work at or above the 5000 level (including CS 5050 and CS 5120)

Students in Plan I (Thesis) must include at least 3 and no more than 6 hours of CS 6990. They may also include 3 hours of CS 5850 (Independent Study), CS 5890 (Internship) or approved graduate-level coursework in other departments.

Students in Plan II (Project) must include 3 hours of CS 6910 and may include up to 3 hours of CS 5850 (Independent Study), CS 5890 (Internship) or approved graduate-level coursework in other departments.

Specialization in Software Engineering

This specialization is designed for students who want a focused study of software engineering. The program provides intensive studies in software development methodologies, software design, and quality assurance and management. The prerequisites for this program are the same as for the general CS program. Students wishing to earn this specialization must complete the following coursework as part of the requirements for the MS in Computer Science degree.

1. Take the following:

- CS 5550: Software Architecture and Design
- CS 5560: Software Testing and Quality Assurance

2. Choose two of the following:

- CS 6150: Reliable Computing
- CS 6310: Secure Software Engineering
- CS 6640: Software Engineering
- CS 6650: Human Issues in Computing

Specialization in Cybersecurity & Digital Forensics

This specialization is designed for students who want a focused study in Cybersecurity & Digital Forensics. The program provides intensive studies in the fundamentals of both Cybersecurity and Digital Forensics with a focus on traditional and mobile computing. The prerequisites for this program are the same as for the general CS program but also require a background in computer security. Students wishing to earn this specialization must complete the following coursework as part of the requirements for the MS in Computer Science degree.

Cybersecurity & Digital Forensics Core (15 Credit Hours)

- CS 5320: Computer and Mobile Forensics
- CS 5330: Network Security and Forensics
- CS 6210: Computer System Security
- CS 6310: Secure Software Engineering
- FORI 5400: Law, Evidence & Procedures (Counts towards MS in CS)