Computer Science

Professors who have a wealth of experience, who are committed to your advancement, and who are willing to take the extra steps to make sure you get a quality education will surround you. You’ll also be surrounded by a great group of fellow students with diverse interests. Finally, you’ll be attending one of the most beautiful campus settings in the country. If the challenge of expanding your education and doing research in your chosen field interests you, we’re anxious to have you join us.

PH.D. DEGREE PROGRAM
A Master’s degree in Computer Science is helpful but strong candidates with a Bachelor’s degree in Computer Science may also apply directly to the Ph.D. program. Admission to the doctoral program follows the requirements of the College of Engineering and the Graduate School. Factors that the department uses in its admissions process include GRE scores, TOEFL scores (for non-native English speakers), reference letters, GPA and previous coursework.

M.S. DEGREE PROGRAM
A Bachelor’s degree in Computer Science is recommended. Students with non-Computer Science degrees at the Bachelor’s level or above are also encouraged to apply; such students will generally be required to take appropriate courses while enrolled at MSU to make up Computer Science and related subject matter deficiencies prior to full acceptance into the Computer Science Master’s program. Factors that the department uses in its admissions process include GRE scores, TOEFL scores (for non-native English speakers), reference letters, GPA and previous coursework.

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PROGRAM REQUIREMENTS
Ph.D. Degree
A Ph.D. student must complete a minimum of 60 credits of coursework beyond the Bachelor’s degree or a minimum of 36 credits of coursework beyond the Master’s degree.

M.S. Degree
Students may pursue the Master’s degree under the thesis option or the courses-only option. Both options require 30 credits. In the thesis option, 10 of these must be thesis credits.

RESEARCH EXPERIENCE
Ph.D. students gain research experience through their doctoral work, journal or conference submissions, and by attending conferences.

Thesis option Master’s degree students gain research experience through their thesis and are expected to submit the results of their thesis work to at least one journal or conference.

RESEARCH FACILITIES
Graduate research and coursework can be performed on systems owned and operated by the Computer Science Department. On-campus work is typically performed in laboratories or graduate student offices. A typical machine is a dual boot (Linux/Windows) PC. Intel-based Macs running OS X are also available. Outside the department, MSU Information Technology Center provides additional computing infrastructure. Computer Science is completely housed in MSU’s high technology Engineering and Physical Sciences Building.

FINANCIAL ASSISTANCE
A number of research and teaching assistantships are available for qualified graduate students. These appointments are normally for 20 hours per week during the academic year. Some appointments may also be available during the summer. Assistantships will only be offered to formally admitted graduate students. See the appropriate Computer Science M.S. degree or Ph.D. degree web page for more information.

FACULTY

Department Head
John Paxton

Graduate Coordinators
John Sheppard (Ph.D.), Rocky Ross (Master’s)

Professors
Brendan Mumey: applied algorithms, combinatorial optimization, green networking and computational biology
John Paxton: artificial intelligence, machine learning, computer science education
Rocky Ross: web-based active learning resources, theoretical computer science
John Sheppard: machine learning, data mining, evolutionary computation, Bayesian methods, fault diagnosis and prognosis, domain ontologies
Binhai Zhu: applied computational geometry, intelligent web searching, combinatorial optimization

Assistant Professors
Clem Izurieta: software engineering, software evolution, ecological modeling
Mike Wittie: network design and management, distributed optimization, network economics
Qing Yang: wireless networks, mobile computing, vehicular networks, network security and privacy

Teaching Professors
Hunter Lloyd: Robotics, computer vision, multimedia and animation