MASTER OF SCIENCE IN COMPUTER SCIENCE

The College of Computer and Information Science offers students the opportunity to pursue studies in the broad field of computer science. The program is designed for men and women who are seeking to prepare themselves for organizations that design, develop, market, or utilize computing systems. A fundamental goal of the College is to help students develop the ability to recognize and solve problems arising in the use of modern digital computers in business and engineering as well as in educational and research environments. In developing the skills necessary to achieve this goal, the student has the opportunity to assimilate ideas and concepts from theoretical studies and from in-depth, hands-on design and programming of both large time-sharing systems and single-user microcomputers.

The Master's degree in Computer Science is a non-thesis master's degree program designed to combine knowledge of both computing and important application domains. We allow our graduates the ability to expand their broad knowledge of the field, while focusing on one of our curricular specialty areas, which include software engineering, database management, networks, and security.

Graduates of the program are expected to be proficient in designing and maintaining large application software, have the ability to maintain network infrastructure, be familiar with basic algorithms and theoretical computer science principles, as well as demonstrate ability in advanced programing and software design materials.

FACULTY PERSPECTIVE

Olin Shivers, Associate Professor, Research, College of Computer and Information Science

"Computer science is a very rapidly changing field. The industry moves fast and the research areas move fast…we're constantly thinking about is where computer science is going to be in five years? In ten years? …the question is where is the industry going? That's what we think about a lot and how we design our classes."

CURRICULUM

Required Courses (Three Courses, 12 s.h.)

CS 5010	Program Design Paradigm	4 s.h.
CS 5800	Algorithms	4 s.h.

And one of the following two courses:

CS 5600	Computer Systems	4 s.h.
CS 5500	Managing Software Development	4 s.h.

Elective Courses (Five Courses, 20 s.h.)

Artificial Intelligence

CS 5100	Artificial Intelligence	4 s.h.
CS 6140	Machine Learning	4 s.h.
CS 6200	Information Retrieval	4 s.h.
CS 6120	Natural Language Processing	4 s.h.

Databases

CS 5200	Introduction to Databases	4 s.h.
CS 6240	Parallel Processing in MapReduce	4 s.h.
CS 6200	Information Retrieval	4 s.h.
CS 6220	Data Mining	4 s.h.

Networks and Security

CS 5700	Fundamentals of Computer Networking	4 s.h.
CS 5770	Software Vulnerabilities and Security	4 s.h.
CS 6750	Cryptography and Communication Security	4 s.h.
CS 6740	Network Security	4 s.h.

Software Engineering

CS 5610	Web Development	4 s.h.
CS 6520	Methods of Software Development	4 s.h.
CS 5340	Computer and Human Interaction	4 s.h.
CS 5520	Mobile Application Development	4 s.h.
CS 6515	Software Development	4 s.h.

***Students must take two courses in one concentration area. The remaining three courses can be taken under any mix of concentrations.*

Total Semester Hours 32 s.h.

Information about tuition rates for the 2013-2014 academic year is available on northeastern.edu/financialaid/studentaccounts/tuition.html. Tuition and fees are subject to revision by the President and the Board of Trustees at any time.