

# NJIT

New Jersey's Science &  
Technology University

*THE EDGE IN KNOWLEDGE*

## The Master of Science in Internet Engineering



Department of Electrical and Computer Engineering

Newark College of Engineering

**New Jersey Institute of Technology**

\*Proposed and pending approval

## WHY PURSUE A MASTER'S IN INTERNET ENGINEERING?

The explosive growth in Internet-related technologies has created a need for engineers who understand internetworking and the emerging multimedia technologies that support on-line functions. Internet engineers are needed to develop, design and evaluate interfaces, computer networks that support Internet activities, front pages, and the tools to navigate and make secure web sites. These skills cannot be learned adequately in traditional degree programs. NJIT's MS in Internet Engineering is a program unique in the nation that focuses exclusively on Internet technologies as they relate to engineering, emphasizing design and analysis problems in both wireline and wireless computer networking and internetworking.

## WHY STUDY INTERNET ENGINEERING AT NJIT?

NJIT's Department of Electrical and Computer Engineering has been very successful in teaching and research activities in the computer networking field through interaction and growing partnership with companies including AT&T, Alcatel-Lucent Technologies-Bell Laboratories, NEC, IBM, Sarnoff, Sun Microsystems, PSE&G, Globix, Telcordia, and Mitre Corp. NJIT also has a long history of innovation in on-line communications. University faculty created the first computer-mediated communications system in 1976. As one of the most computing intensive campuses in the world, NJIT has pioneered the application of new technologies as learning tools. The university educates one of the largest groups of information technology students in the nation.

This unique program draws upon the university's strengths in electrical and computer engineering, computing sciences, management of technology, and entrepreneurship and management information systems to prepare a new type of technical professional with the engineering skills required for design, deployment and evaluation of systems that support the Internet.

Not coincidentally, New Jersey is one of the leading states for computing and high technology businesses. New Jersey ranks 8th in the nation for high technology employment and offers the second highest wages in the nation for technology workers.

## WHO TEACHES THE COURSES?

In addition to more than 36 full-time faculty members, students are taught by adjunct professors from industry that offer specialty courses in their areas of expertise and can also serve on thesis and dissertation committees.

## DO STUDENTS HAVE OPPORTUNITIES FOR RESEARCH?

NJIT's faculty includes nationally recognized researchers in networking, security, telecommunications, signal processing, multimedia, and embedded systems. Students have the opportunity to work, one-on-one, with faculty researchers pursuing projects in cutting edge technologies at such state-of-the-art centers and labs as the Center for Wireless Communications and Signal Processing Research, Advanced Networking Laboratory, and several other research laboratories. Ongoing research projects are well funded by federal funding agencies and leading industries. Students have opportunities to conduct thesis research with participating industry, hospitals, and university centers and departments

## IS PART TIME STUDY AVAILABLE?

Evening and weekend courses accommodate the working professional, who may pursue the degree part time.

## PROGRAM SUMMARY?

Degree Awarded: Master of Science in Internet Engineering

Credits Required: 30

Program Objective: To educate students in the field of Internet Engineering, with emphasis on computer internetworking and relevant applications.

## Core courses:

ECE 637	Introduction to Internet Engineering
ECE 683	Computer Network Design and Analysis
CS 602	Java Programming

## Project, Thesis (optional)

ECE 700	Master's Project in Internet Engineering (3 Credits), replace 1 Elective
ECE 701	Master's Thesis in Internet Engineering (6 Credits), replace 2 Electives

## IS FINANCIAL AID AVAILABLE?

Financial support for full-time students in the MS program is limited (available via research projects conducted by ECE faculty members). Full-time domestic and international students may also be eligible to receive the Provost Fellowship. For further information on financial aid:

[www.njit.edu/financialaid/graduate/index.php](http://www.njit.edu/financialaid/graduate/index.php)

## WHO SHOULD APPLY?

Computer engineers, electrical engineers with a telecommunications background, and computer scientists with some background in networking will benefit from the program. The curriculum requires a foundation in computer and communications fundamentals, such as signals and systems, basic communication systems, programming, data structures and algorithms, and computer organization. A bridge program is available to students who lack specific prerequisites.

## FOR FURTHER INFORMATION

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[ece.njit.edu/academics/graduate/ms-internet.php](http://ece.njit.edu/academics/graduate/ms-internet.php)

## TO APPLY:

Office of Graduate Admissions,

(973) 596-3300, or apply on-line at

[www.njit.edu/admissions/graduate/howtoapply](http://www.njit.edu/admissions/graduate/howtoapply)