Wireless and Network Engineering, MS (Boston)

Overview

The Master of Science in Wireless and Network Engineering is administered by the Institute for the Wireless Internet of Things and the Department of Electrical and Computer Engineering. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the future of our hyperconnected society. The program will provide students with the necessary knowledge and skills to understand, design, and implement present and future wireless and wired communication networks through a combination of coursework, master's thesis research, and/or industry experience.

Program Requirements

Fundamental Requirements

Code	Title	Hours
Complete two of the following:		8
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
EECE 7374	Fundamentals of Computer Networks	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 24 semester hours from the concentration course list below. (p. 1)		24

THESIS OPTION

Code	Title	Hours
EECE 7945	Master's Project	4
EECE 7990	Thesis	4
Complete 16 semester hours from the concentration course list below. (p. 1)		16
In addition to completing the thesis course, students must successfully complete the thesis submission process, including securing committee and Graduate School of Engineering signatures and submission of an electronic copy of their MS thesis to ProQuest.		

Optional Co-op Experience

Code	Title	Hours
Complete the following (students must complete ENCP 6100 to qualify for co-op experience):		
ENCP 6100	Introduction to Cooperative Education	1
ENCP 6964	Co-op Work Experience	0
or ENCP 6954	Co-op Work Experience - Half-Time	
or ENCP 6955	Co-op Work Experience Abroad - Half-Time	
or ENCP 6965	Co-op Work Experience Abroad	

Program Credit/GPA Requirements

32 total semester hours required (33 with optional co-op)
Minimum 3.000 GPA required

Elective Course List

Any course in the following list will serve as an elective course, provided the student satisfies prerequisites and program requirements. Students can take electives outside this list with prior approval from the program director.

Code	Title	Hours
Electrical and Computer Engineering		
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5360	Combinatorial Optimization	
EECE 5610	Digital Control Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5640	High-Performance Computing	

EECE 5641	Introduction to Software Security
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Spectrum Policy Issues for Wireless Communications Innovators)
EECE 5698	Special Topics in Electrical and Computer Engineering (Terahertz Communications for 6G)
EECE 5699	Computer Hardware and System Security
EECE 6400	Special Problems in Electrical and Computer Engineering
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7275	Antennas and Radiation
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7352	Computer Architecture
EECE 7393	Analysis and Design of Data Networks
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Communication Electronics)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Wireless Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning and Edge Computing in Wireless Networks)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scaled Learning Enabled Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Networks Systems and Applications)
EECE 7400	Advanced Special Problems in Electrical and Computer Engineering
Computer Science	
CS 5520	Mobile Application Development
CS 5610	Web Development
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 7610	Foundations of Distributed Systems
Cybersecurity	
CY 5001	Cybersecurity: Technologies, Threats, and Defenses
CY 5010	Cybersecurity Principles and Practices
CY 6740	Network Security