

Graduate Programs in Wireless Communications and Computer Networks

ARMOUR COLLEGE OF ENGINEERING AT ILLINOIS TECH

Department of Electrical and Computer Engineering

(<https://engineering.iit.edu/ece/about>) offers the **Master of Wireless Communications and Computer Networks**. The program curriculum is taught by the world renowned and distinguished faculty members in the ECE Department. Wireless communications and computer networks are part of a rapid-growing field that requires state-of-the-art engineering skills, including wireless network protocols and standards, energy-efficient networking, modeling, and performance analysis of distributed and mobile network computing.

Illinois Tech's Master of Engineering in Wireless Communications and Computer Networks program is designed to prepare students to become exceptional network and communication engineers in designing next-generation wireless technology solutions. Graduate students will be exposed to the core of network communications and the latest applied computer network techniques, including data security and privacy, the ability to design embedded systems architecture for wireless communication systems and applications, and the fundamentals of wireless radio communication and signal analysis.

Our Chicago location provides students access to a range of opportunities to conduct research and explore professional and cultural pursuits.

Degrees Offered

Master of Engineering in Wireless Communications and Computer Networks (M.A.S.)

Research Focus and Strengths

The ECE Department has two research centers and 13 research laboratories. These research laboratories support work in Internet of Things, cyber-physical systems, embedded computing, cyber security, cloud computing, data mining, automation and robotics, machine vision and image processing, artificial intelligence and deep learning, computer-aided design, VLSI (very large-scale integration), SoC (system-on-chip) design, communications, computer networking, wireless networks, network security, medical imaging, signal processing, ultrasonic imaging and communications, microwave electronics, power systems, smart micro grids, power electronics, and electrification.

The Galvin Center for Electricity Innovation boasts Illinois Tech's microgrid technology, cyber-secured power distribution system, and sustainable energy. The Medical Imaging Research Center builds devices, software tools, and research algorithms for medical imaging application.

Degree Program Curricula

The Master of Engineering in Wireless Communications and Computer Networks requires a minimum of 30 credit hours.

This degree requires a minimum of 10 courses:

- Three core courses.
- Elective courses may be selected with advisor approval.
- No thesis required.

Core Courses

- ECE 403 Digital and Data Communication Systems, or ECE 513 Communication Engineering Fundamentals
- ECE 517 Modern Wireless Network Protocols and Standards, or ECE 544 Wireless and Mobile Networks
- ECE 401 Communication Electronics, or ECE 525 RF Integrated Circuit Design

Elective Courses

- **Communication Courses (minimum 1 course):**
ECE 406, ECE 421/423, ECE 504, ECE 511, ECE 513, ECE 514, ECE 515, ECE 516, ECE 519, ECE 520.
- **Computer Networks Courses (minimum 1 course):**
ECE 407/408, ECE 517, ECE 541, ECE 543, ECE 544, ECE 545.
- **Communications Electronics Courses (minimum 1 course):**
ECE 401, ECE 412, ECE 425, ECE 525, ECE 570, ECE 576, ECE 578, ECE 589.
- **Computer and Embedded Computing Courses (minimum 1 course):**
ECE 441, ECE 442, ECE 518, ECE 528, ECE 584, ECE 585, ECE 587.

For additional information contact Ms. Joannette Catino: catino@iit.edu

Admission Requirements

Admission to the graduate program normally requires a Bachelor of Science degree in electrical, or computer engineering from an institution accredited by the Accreditation Board of Engineering and Technology (ABET). Students with a Bachelor of Science degree in engineering or science may apply for this program. Deficiency courses will be required for students who have not taken prerequisite or equivalent courses of the following: ECE 242 (Digital Computers and Computing), ECE 308 (Signal and Systems), and MATH 374 (Probability and Statistics). A student may demonstrate proficiency by successfully completing the courses or by demonstrating satisfactory performance in one or more special examination administered by the department.

- Cumulative undergraduate GPA 3.0/4.0
- International students may require GRE and TOEFL.
Please see the following link for more information:
<https://admissions.iit.edu/graduate/apply/gre-requirements>

Contact

If you have questions regarding admission to Illinois Tech, contact Graduate Admissions at grad.admission@iit.edu.

Learn more about application fee waivers, and how to schedule a campus tour and meet with faculty, at <https://admissions.iit.edu/graduate/visit>.

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