ELECTRICAL ENGINEERING (DISTANCE FORMAT), MS

Program Director

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Description

The curriculum is built around current industry innovations and trend; the program pushes engineers to the forefront of their field with an immersive and concentrated educational experience.

Explore scientific principles and applications of electrical engineering such as:

- Digital Communication and Circuits
- Electromagnetic Fields
- Signal Processing and System Design
- Power Engineering

Accreditation

Accredited by Middle States Association of Colleges and Schools.

Admission

Candidates are required to hold a Bachelor of Science degree and have acquired at least three years of industry experience in one of the following or a related field:

- Electrical
- Electronics
- Communication
- Computer
- Software engineering
- Electrical Power

GRE Verbal score of 150 or better (using New GRE Score System); GRE Quantitative score of 155 or better (using New GRE Score System); GRE Analytical (multiple choice) score of 650 or better, or a score of 3.5 or better in the new Analytical Writing; for international students: TOEFL computer-based score of 223 (Internet-based score 85; paper-based score 563) or better; grade point average (GPA) of 3.0/4.0 or better.

Financial Support

Syracuse University has a variety of financial aid programs to support graduate study, including scholarships, assistantships, and fellowships. These programs are administered within each of the University's academic departments, so the fastest and easiest way to determine what aid you may be eligible for is to connect with specific school or college staff. Federal Unsubsidized Loans for masters, professional and doctoral students are available for up to $20,500, (see eligibility requirements).

Federal financial aid, including loans, requires that you file the Free Application for Federal Student Aid (FAFSA).

Facilities

Classes are taught entirely online. Classrooms are equipped with at least two cameras, microphones (for the instructor and students) smart boards and/or tablet monitors and each class session will be webcast live.

Online students have the option to attend the live class session through an online web conferencing platform or view the recording after the class has ended. The web conferencing platform provides interface includes three pods:

1. Camera view of the instructor,
2. Display of the smart board or tablet monitor and
3. Chat tool through which students can pose questions to the instructor and other students.

The audio feed will include the instructor and students in the classroom.

Software-based labs are completed using various applications that are downloaded or accessed remotely by the student. These labs are supported by live and recorded explanations and demonstrations by faculty and teaching assistants. In some classes, live support sessions are held online to assist students while they are completing the labs in their locations.

Labs that require tactile manipulation of instruments may be completed locally if the student has access to appropriate equipment (oscilloscope, function generator, multi-meter, etc.). Students record their experiment results and report back to the instructor. In some cases student may be asked to capture their work on video or still images.

Learning Outcomes

1. Ability to apply advanced electrical engineering theory and methods to identify, formulate and solve advanced engineering problems.
2. Ability to analyze and design an electrical system with constraints and specifications that consider other design factors such as societal, economic, and environmental influences.
3. Proficiency in modern engineering tools to simulate and/or conduct experiments on complex electrical systems.
4. Ability to present advanced technical contents effectively through various media.
5. Ability to apply the deeper understanding gained from electives into focus area.

Skill Outcomes

- Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Ability to identify, formulate, and solve Electrical Engineering problems.
- Ability to function in multidisciplinary teams.
- Capability to use state-of-art engineering/computer tools necessary for engineering practice.
- Skill to find and use available technical information.
- Ability to communicate effectively orally.
- Ability to communicate effectively in written reports.
- Skills to organize and synthesize information.

- Ability to design and conduct experiments, tests, or simulations, as well as analyze and interpret data to validate his/her assumptions and hypotheses.
- Ability to evaluate current electrical engineering techniques.

Attitude Outcomes

- Recognition of the need and ability to engage in lifelong learning.
- Understanding of their professional and ethical responsibilities.
- An understanding of responsibility and accountability.
- A desire to be a flexible and adaptable team player.
- Recognition of the significance to be a self-grower.
- Showing mental robustness and accepting increasing challenges.

Degree

The M.S. in Electrical Engineering requires students to complete 30 total credits including 12 credits of core courses and 18 credits of electives.

Transfer Credit

A maximum of 9 transfer credits for students admitted to the online programs. Transfer credits are certified after the students complete their course work requirements. Upon completion of course work, the College forwards the necessary paperwork to the Graduate School, which certifies any transfer credits (as well as the credits completed with us) prior to graduation.

Part-Time Study

The online MSCS program can be completed part-time.

Satisfactory Progress

The student must maintain a cumulative total GPA of at least a 3.0 in those courses to be credited towards the M.S. degree, and a minimum cumulative total GPA of 2.8 in all graduate courses taken at Syracuse University.

Total Credits: 30

The Master of Science in Electrical Engineering program consists of 30 credit hours to be earned over the course of 20 months. The curriculum will include 10 courses total comprising of 4 core courses, 3 700 or upper level courses and a choice of 3 electives.