ELECTRICAL ENGINEERING (MS)

NYSED: 08822 **HEGIS:** 0909.00 **CIP:** 14.1001

Program Description

The headphones around your neck, the turn signal in your car, the webcam above your screen — each of these was made possible by an electrical engineer. In fact, all electronics devices receive the attention, the design, and the creative input of electrical engineers.

As a student in the master's in Electrical Engineering program, you'll use what you've already learned about physics, chemistry, and mathematics create the products of tomorrow. We support this kind of initiative by providing top-flight laboratories — home to developments in microwaves, VLSI design, and robotics — as well as a faculty dedicated to advanced research.

The program will prepare you for a professional career as an entrepreneur, a practicing engineer in industry, business or government at an advanced level, or to pursue a Ph.D. degree in electrical engineering. You can choose a concentration from a number of stimulating fields, including the following:

- Communications, Networking and Signal Processing
- Computer Engineering and VLSI
- Energy systems and power electronics
- Electromagnetics and analog/RF/Biomedical circuits
- Systems, control, and robotics

Admissions

Admission to graduate programs in the Tandon School of Engineering requires the following minimum components:

- Résumé/CV
- Statement of Purpose
- Letters of Recommendation
- Transcripts
- Proficiency in English

The NYU Tandon Graduate Admissions website (https://engineering.nyu.edu/admissions/graduate/apply/requirements/) has additional information on school-wide admission.

Some programs may require additional components for admissions.

See the program's How to Apply (https://engineering.nyu.edu/admissions/graduate/how-apply/) for department-specific admission requirements and instructions.

Entrance Requirements

Admission to the Master of Science in Electrical Engineering Program requires a Bachelor's in Electrical and/or Computer Engineering from an accredited institution, with a GPA of 3.0/4.0 or higher. The Graduate Record Exam (GRE) is required for all applicants. Students who do not have a prior BS degree in Electrical and/or Computer Engineering but have strong background in their chosen focus areas of study and sufficient mathematics preparation may be considered for admission.

Program Requirements

The program requires the completion of 30 credits, comprised of the following:

Course	Title	Credits
Core Requirements		
ECE-GY 6113	Digital Signal Processing I	3
ECE-GY 6253	Linear Systems	3
ECE-GY 6303	Probability and Stochastic Processes	3
ECE-GY 6713	Electromagnetic Theory and Applications	3
ECE-GY 6403	Fundamentals of Analog Integrated Circuit Design	3
Electives		
Other Elective Credits		15
Total Credits		**30**

Thesis, Project, Reading

Students are encouraged to participate in research by registering for a master's thesis (ECE-GY 997X, 6 credits, can be taken over two semesters), an advanced project (ECE-GY 9953 or ECE-GY 9963, 3 credits each, ECE-GY 9941, 1.5 credits) or a reading course (ECE-GY 9933, 3 credits). Students must secure a faculty member's commitment for advising such individual studies. Oral defense of the master's thesis with at least three professors (at least 2 ECE professors) in attendance is required. For the project and reading courses, a project report and an oral presentation is required. The total credits for thesis, projects, readings, and internships (see below) should not exceed 9 credits within the 30 credits required for the MS degree.

Internships

International students must register for an internship course (CP-GY 9911, CP-GY 9921, 1.5 credit each) to do an internship. Up to 3 credits of approved internships can be applied towards the 30 credits MS degree requirement. International students cannot do internship after they have completed the degree requirement. For an internship to be approved for credits, the internship job must provide industry and/or research experience relevant to the Electrical Engineering degree program. All internships must be approved and supervised by an ECE faculty member. Students must secure a faculty member's commitment for advising an internship. The internship supervisor should submit a midterm and a final term evaluation report to the advisor. The student must submit a project report to the faculty advisor upon completion of the internship for the evaluation and grading of the internship course. The total credits for independent studies including MS thesis, projects, reading, and internship cannot exceed 9 credits within the 30 credits towards the MS degree. Note that CP-GY 9911 and CP-GY 9921 can be counted towards the ECE-GY course requirement. However, if a student has already taken more than 7.5 credits of independent studies, he/she will not be approved for another CP course.

Sample Plan of Study

Course	Title	Credits
1st Semester/Term		
ECE-GY Core Course 1		3
ECE-GY Core Course 2		3
ECE-GY Elective		3
	Credits	**9**
2nd Semester/Term		
ECE-GY Elective		3

ECE-GY Elective	3
Non-ECE Elective 1	3
Credits	**9**
3rd Semester/Term	
ECE-GY Elective	3
ECE-GY Elective	3
Non-ECE Elective 2	3
Credits	**9**
4th Semester/Term	
ECE-GY Elective	3
Credits	**3**
Total Credits	**30**

Learning Outcomes

Upon successful completion of the program, graduates will:

1. Be prepared for a professional career as an entrepreneur, a practicing engineer in industry, business or government at an advanced level or to pursue the PhD degree in electrical engineering.
2. Have acquired breadth and depth across a number of electrical engineering subdisciplines. This is facilitated by requirements core courses, and electives, including suggested concentration areas.

Policies
GPA Requirements

An overall GPA of 3.0 or above in all graduate courses taken at NYU is required. In addition, an average of 3.0 is required among the two core courses.

NYU Policies

University-wide policies can be found on the New York University Policy pages (https://bulletins.nyu.edu/nyu/policies/).

Tandon Policies

Additional academic policies can be found on the Tandon academic policy page (https://bulletins.nyu.edu/undergraduate/engineering/academic-policies/).