**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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECE-GY 6113</td>
<td>Digital Signal Processing I</td>
<td>3</td>
</tr>
<tr>
<td>ECE-GY 6253</td>
<td>Linear Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECE-GY 6303</td>
<td>Probability and Stochastic Processes</td>
<td>3</td>
</tr>
<tr>
<td>ECE-GY 6713</td>
<td>Electromagnetic Theory and Applications</td>
<td>3</td>
</tr>
<tr>
<td>ECE-GY 6403</td>
<td>Fundamentals of Analog Integrated Circuit Design</td>
<td>3</td>
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**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**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECE-GY Core Course 1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ECE-GY Core Course 2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ECE-GY Elective</td>
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<td>3</td>
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</tbody>
</table>

**Credits** | 9 |

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<tr>
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<tbody>
<tr>
<td>ECE-GY Elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
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/).