

# BS ELECTRICAL ENGINEERING + MS ELECTRICAL ENGINEERING AP

## Program Overview

Program Coordinator	Damodaran Radhakrishnan, (845) 257-3772, <a href="mailto:damu@newpaltz.edu">damu@newpaltz.edu</a>
Program ID	BS Electrical Engineering AP (267), MS Electrical Engineering AP (269)
Credits	120 UG + 30 GR
Program Length	The MS can be completed in one additional year of study if enrolled full-time, but students must complete the degree within 7 years.
Modality	In-person
Full-time/Part-time	Full-time or Part-time
Transfer Credits	6 graduate credits taken while an undergraduate is shared between both degrees.
GR Capstone	Project or Thesis

## Program Description

This accelerated plan of study provides a pathway to earning a master's degree in Electrical Engineering along with a bachelor's degree in either Computer Engineering or Electrical Engineering. Students enrolled in the BS/MS program complete 6 graduate-level credits during their senior year. These credits are offered at the reduced undergraduate tuition rate and fulfill both undergraduate and graduate program requirements.

## How does it work?

Get started as an undergraduate by declaring the Electrical Engineering AP (267):

- **Meet** with AP advisor, [Damodaran Radhakrishnan](#), to declare the Electrical Engineering AP major.
- **Work** with your AP advisor to select two graduate courses to take during your senior year.
- **Apply** for the MS Electrical Engineering AP program in your senior year.
- **Transfer** 6 credits of graduate courses taken as an undergraduate into your graduate program.

## Graduate Admission Requirements

Graduate admission requires submission of:

- Graduate application - select major 269.
- One set of official transcripts for all undergraduate and graduate course work indicating at least a 3.0 cumulative GPA.
- Grades of B or higher in MS courses taken as a senior.
- 1 letter of recommendation.

## Admission Deadlines

July 15	Fall Admission
November 30	Spring Admission

Accepting on a rolling basis until the program is full. However, applications must at least be started by the deadline or they will not be considered.

## Curriculum Requirements

### BS Electrical Engineering AP (267)

Code	Title	Credits
<b>Math/Science Foundation Courses (33 Credits)</b>		
	Mathematics	21
	Sciences	12
<b>Core Engineering Courses (52 Credits)</b>		
By advisement, students may enroll in 6 credits of graduate electives that will fulfill their BS and MS degree programs.		
<b>Technical Electives (15 Credits)</b>		
Fifteen credits of technical electives are required, which must include at least one upper-division electrical (EGE), computer (EGC), and/or mechanical (EGM) engineering lecture course.		
<b>Total Credits</b>		<b>100</b>

### MS Electrical Engineering AP (269)

Code	Title	Credits
<b>Transfer Credit</b>	GR courses taken as an undergrad	6
<b>Engineering Coursework</b>		
Working with your advisor, select five Engineering Courses		
<b>Select the Project Option or Thesis Option</b>		9
Project Option:		
EGE532	Computer Arithmetic	
EGE533	Introduction to Parallel Computing	
EGE534	Fault-Tolerant Design of Digital Systems	
EGE535	Low Power VLSI Design	
EGE536	Computer Architecture	
EGE537	VLSI Design	
EGE543	Antennas and Wave Propagation	
EGE544	Microwave Circuits	
Thesis:		
EGE590	Thesis in Electrical Engineering	
EGE593	Engineering Selected Topic	
<b>Total Credits</b>		<b>30</b>

## Program Requirements

Once admitted to the BS/MS program, students must maintain a 3.0 cumulative GPA in all courses through the senior year. In addition, students must earn a B or better in each of the two graduate courses that they take as undergraduates. Students not satisfying these requirements will be re-evaluated for continuation in the program.

## Academic Standing Requirements for Accelerated Pathway Students

A cumulative GPA of less than 3.0 in graduate-level courses taken in the undergraduate portion of an accelerated pathway program precludes the student's good standing. Students with a cumulative GPA between 2.75 to 2.99 are strongly advised to reconsider continuing into the graduate program. Students with a cumulative GPA below 2.75 may not continue and will be de-matriculated from GR program.

### Graduate Checklist

- Apply for graduation via [my.newpaltz.edu](http://my.newpaltz.edu) under "Graduation" tab according to the schedule in the [academic calendar](#).
- Resolve any pending admission conditions (outlined in your acceptance letter) and/or missing documents if applicable.
- Review your progress report via [my.newpaltz.edu](http://my.newpaltz.edu) to ensure that you have completed all program requirements.
- Remember that only two grades below a B- may be applied to your [plan of study](#)
- Contact your advisor if you need to amend your plan or process [transfer credit](#).
- Ensure that you are in [good academic standing](#) with a GPA (Grade Point Average) of 3.0 or higher.
- Pass your capstone or culminating assessment.
- Complete your degree within the [specified time limit](#) outlined in the Program Overview.

### Undergraduate Program Learning Objectives

#### Electrical Engineering (BS)

The Electrical Engineering Program has continued to adopt ABET Criterion 3 (a) - (k) as its guiding outcomes, as specified below.

- A)** an ability to apply knowledge of mathematics, science, and engineering
- B)** an ability to design and conduct experiments, as well as to analyze and interpret data
- C)** an 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
- D)** an ability to function on multi-disciplinary teams
- E)** an ability to identify, formulate, and solve engineering problems
- F)** an understanding of professional and ethical responsibility
- G)** an ability to communicate effectively
- H)** the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

**I)** a recognition of the need for, and an ability to engage in life-long learning

**J)** a knowledge of contemporary issues

**K)** an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

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### Graduate Program Learning Outcomes

#### Electrical Engineering (MS)

- Demonstrate a high level of expertise and competence in an area of concentration in electrical engineering.
- Play a meaningful role in research or technical development leading to significant contributions to engineering and technology.
- Demonstrate leadership skills in the workplace, function professionally in a globally competitive world, and communicate engineering results effectively.
- Demonstrate strong interpersonal and teamwork skills.