Rowan University

ELECTRICAL & COMPUTER ENGINEERING

MINOR IN ELECTRICAL & COMPUTER ENGINEERING PROGRAM GUIDE

The **Minor in Electrical and Computer Engineering** (ECE) offers students majoring in disciplines other than ECE the opportunity to become familiar with principles and design practices used to meet the multidisciplinary needs of modern technology. The ECE minor provides undergraduate students from mathematics, the physical/chemical/biological/computer sciences, and the other engineering disciplines the required background to broaden their scientific and engineering knowledge in ECE, as well as for pursuing graduate work in ECE at Rowan or elsewhere.

Minor in ECE is a restricted program, available only to qualified students (typically with a GPA higher than 3.0) through an admission process. The Minor in ECE is offered by the faculty of the ECE program and is designed to serve students from other engineering disciplines as well as those students with majors outside of engineering. It is assumed that students who pursue the ECE minor already have or will obtain a mathematics background that is comparable to that required for a major in engineering.

Students interested in ECE minor should speak to their faculty advisor as well as ECE Minor advisor, Dr. John Schmalzel for additional information.

Applications are accepted as follows: Sept 1 - Nov 1 for Fall admission; and Jan 20 - Apr 1 for Spring admission. Any exceptions must be approved by the Dean's Office.

The online application is available at this **Application for Minor in ECE** but should only be used during the admission windows described above.

Minor in ECE Graduation Requirements

The ECE minor includes **11** semester credit hours of required courses that provide a fundamental grounding in ECE knowledge and design. In addition to these fundamental courses, 3 elective courses assure the students an opportunity to emphasize a particular area of interest.

Required Courses[1]

1. **ECE 09.101** ECE: Solving Tomorrow's Problems*
2. **ECE 09.241** Introduction to Digital Systems*
3. **ECE 09.203** Principles of Electric Circuit Analysis
4. **ECE 09.311** Electronics I

*** ECE 09.250 Digital Foundations of ECE** can be substituted instead of ECE 09.101 + ECE 09.241

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Elective Courses[1] Choose any three of the following courses. The courses below are grouped in tracks. If you are interested in focusing on any specific area of ECE, you are encouraged to take more than one class in the related track. However, the three elective courses need not be from the same track, and any three of the following 10 courses can be taken to satisfy the elective requirements of the ECE Minor.

Circuits & Electronics Track
ECE 09.303 Electromagnetics
ECE 09.312 Very Large Scale Integration (VLSI) Design

Digital Systems / Computer Engineering Track
ECE 09.243 Computer Architecture
ECE 09.342 Embedded Systems

Signals, Systems and Communications Track
ECE 09.341 Signals and Systems
ECE 09.321 Systems and Control
ECE 09.351 Digital Signal Processing
ECE 09.433 Electrical Communications

Electives and Clinics (subject to restrictions)
ECE 09.4XX[2] An approved ECE elective. Every semester, ECE offers a diverse array of electives that cover all three above-mentioned tracks, as well as cross-cutting courses in emerging areas.
ENGR 09.403[3] An approved Senior Engineering Clinic (must be approved ahead of time – see below)

(1) Students must ensure that they have the appropriate prerequisites for any of these classes. Prerequisites for each class can be found on Banner Course Catalog. Find the catalog entry for the course that you are interested in taking, scroll to the bottom of the page.

(2) Please see ECE Minor coordinator or ECE Department Head for determining which ECE electives offered in any given semester are approved for Minor. Only one ECE elective may be used towards the ECE Minor, and **this must be in addition to** any electives the student's major may require.

(3) Senior Engineering Clinic may be used as one of the ECE electives. To count, the clinic must be strictly an ECE project, with an ECE faculty member serving as the project manager. Only one semester of clinic experience may be used as an elective. Senior clinic must be approved before the students works on that project to count towards an ECE elective for ECE Minor purposes.

Mechanical Engineering Majors: If you are admitted to the Minor in ECE program, and complete ***ECE 09.203*** *Principles of Electric Circuit Analysis* and ***ECE 09.311*** *Electronics I*, you are not required to take ***ECE 09.205*** *Principles and Applications of ECE for Nonmajors* that is normally required by your B.S. in Mechanical Engineering degree.