

## B.S. ELECTRICAL ENGINEERING



COLLEGE OF ENGINEERING AND COMPUTER SCIENCE  
DEPARTMENT OF ELECTRICAL ENGINEERING

## ACADEMIC LEARNING COMPACT

For graduation, students must obtain a grade of "C" or better in each calculus course, each physics course, and each Electrical Engineering core course, and students must obtain a 2.0 GPA in all Electrical Engineering courses attempted.

The department maintains for each student a portfolio of assignments that receive a failing grade in the courses identified below. A performance evaluation of each student's portfolio will be conducted in a timely manner by the Undergraduate Advisors and Chair. Failure to attain a passing grade on the student's performance evaluation for any of the key courses will initiate an academic review by the Academic Affairs Committee. Possible outcomes of these evaluations involve repeating the same, or equivalent, coursework; tutoring; referral to the University Center for Excellence in Writing; or course failure.

Industry supervisors in the Cooperative Education Program will evaluate students on content knowledge, communication skills, and critical thinking skills. Possible outcomes for a student who receives an unsatisfactory evaluation include repeating an industrial placement or portion of the placement, tutoring, additional coursework, or removal from the Cooperative Education Program.

**CONTENT KNOWLEDGE (Declarative Knowledge): Students will recognize and apply concepts, principles, and theories in core Electrical Engineering topics: basic circuit analysis, electronics, electromagnetics, and linear systems.**

Student portfolios will include failing grades on in-class tests, research projects, and in-class projects for the following courses:

EEL 3111: Circuits 1

EEL 4656: Linear Systems Analysis

EEL 3470: Electromagnetic Fields & Waves

EEL 4361: Electronics 2

**COMMUNICATION (Written Communication, Oral Communication, Team/Collaborative Communication): Students will:**

- Describe the interrelatedness of contemporary issues in a global and society context with Electrical Engineering solutions.
- Communicate effectively in writing.
- Convey technical material through oral presentations.
- Function effectively in multidisciplinary teams.

Student portfolios will include failing grades on individual paper assignments, individual oral presentations, group papers and presentations evaluated by peer group and faculty/industry team for the following courses.

EGN 1002: Fundamentals of Engineering      EGN 4410: Engineering Design 1

EEL 3012: Electrical Engineering Practice      EGN 4411: Engineering Design 2

**CRITICAL THINKING (Analytical Skills, Creative Skills, Practical Skills):** Students will:

- Use modern engineering techniques, skills, and tools, including computer-based tools for analysis and design.
- Identify, formulate and solve novel electrical engineering problems.
- Design and conduct scientific and engineering experiments including analysis and interpretation of data.
- Deliver engineering results that meet performance standards for cost, safety, and quality.
- Describe the ethical and professional responsibilities of the electrical engineer.
- Make and defend ethical judgments in keeping with professional standards.

Student portfolios will include failing grades on laboratory reports, evidence of synthesis of current knowledge into new designs or products, and in-class projects and case study analyses for the following courses.

EEL 3012: Electrical Engineering Practice      ELR 4309L: Laboratory 2

EEL 3111: Circuits 1      EGN 4410: Engineering Design 1

EEL 4361: Electronics 2      EGN4411: Engineering Design 2

ELR 3308L: Laboratory 1