

Electrical Engineering (EL ENG)

EL ENG 20 Structure and Interpretation of Systems and Signals 4 Units

Department: Electrical Engineering

Course level: Undergraduate

Terms course may be offered: Fall and spring

Grading: Letter grade.

Hours and format: 3 hours of lecture and 3 hours of laboratory per week.

Prerequisites: Mathematics 1B.

Mathematical modeling of signals and systems. Continuous and discrete signals, with applications to audio, images, video, communications, and control. State-based models, beginning with automata and evolving to LTI systems. Frequency domain models for signals and frequency response for systems, and sampling of continuous-time signals. A Matlab-based laboratory is an integral part of the course.

Formerly known as Electrical Engineering 20N. Instructor: Ayazifar

EL ENG 24 Freshman Seminar 1 Unit

Department: Electrical Engineering

Course level: Undergraduate

Terms course may be offered: Fall and spring

Grading: The grading option will be decided by the instructor when the class is offered.

Hours and format: 1 hour of Seminar per week for 15 weeks.

The Freshman Seminar Program has been designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all campus departments, and topics may vary from department to department and semester to semester.

Course may be repeated for credit when topic changes.

EL ENG 25 What Electrical Engineers Do--Feedback from Recent Graduates 1 Unit

Department: Electrical Engineering

Course level: Undergraduate

Terms course may be offered: Fall and spring

Grading: Offered for pass/not pass grade only.

Hours and format: 1 hour of Lecture per week for 15 weeks.

A Berkeley Electrical Engineering and Computer Sciences degree opens the door to many opportunities, but what exactly are they? Graduation is only a few years away and it's not too early to find out. In this seminar students will hear from practicing engineers who recently graduated. What are they working on? Are they working in a team? What do they wish they had learned better? How did they find their jobs?

Instructor: Boser

EL ENG 40 Introduction to Microelectronic Circuits 4 Units

Department: Electrical Engineering

Course level: Undergraduate

Terms course may be offered: Fall, spring and summer

Grading: Letter grade.

Hours and format: 3 hours of Lecture, 3 hours of Laboratory, and 1 hour of Discussion per week for 15 weeks. 6 hours of Lecture, 2 hours of Discussion, and 6 hours of Laboratory per week for 8 weeks.

Prerequisites: Mathematics 1B.

Fundamental circuit concepts and analysis techniques in the context of digital electronic circuits. Transient analysis of CMOS logic gates; basic integrated-circuit technology and layout.

Students will receive one unit of credit for 40 taking 42 and no credit after taking 100.

EL ENG 42 Introduction to Digital Electronics 3 Units