

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRICAL ENGINEERING
ABET COURSE SYLLABI

IEE2913 PROJECT IN ELECTRONICS (CAPSTONE)

Credits and contact hours:	10 UC credits /10 hours (10 hours are distributed: independent learning, assisted by the Instructor and TA's. Instructor and TA's available during office hours)
Instructor's name:	Vladimir Marianov / Ricardo Tepper
Course coordinator's name	Vladimir Marianov
Textbook:	None. Students perform an information search, related to their individual project.
Course Catalog Description:	This course provides all the necessary tools required by the students to solve a circuit design problem from theory to complete building of the prototype. A design is assigned to the student, who has to address the problem as creating an electronic prototype or device, analog or digital (or both), until the last details, satisfying specifications. The work includes designing the test protocols for the device.
Prerequisite Courses:	IEE2183 Electrical Machines More. At least 420 UC credits approved by the student.
Co-requisite Courses:	To be defined
Status in the Curriculum:	Required
Course Learning Outcomes:	By the end of this course, students should be able to: <ol style="list-style-type: none">1. To design and build a prototype of an electronic device, until the last details.2. To design the test protocol to be used to check that the device has a proper functioning and meets the specifications.3. Do the necessary planning to meet deadlines and resource availability, when designing and building an electronic prototype or any other project.
Relation of Course to ABET Criteria:	<ol style="list-style-type: none">b. Design and conduct experiments: analyze and interpret datac. Design a system, component, or processd. Multidisciplinary teamse. Identify, formulate, and solve engineering problemsf. Professional and ethical responsibilityg. Effective communicationh. Broad education necessary for global, economic, environmental and

societal context

- i. Recognition of the need for, and an ability to engage in life-long learning
- j. Knowledge of contemporary issues
- k. Techniques, skills, and modern tools for engineering practice.

Topics covered:

- i. Choice of the prototype and project.

Students must propose a prototype to be developed, as well as design the test protocol and specifications. The proposal must contain the timeline of the project. The difficulty must be in relation to the hours the group of students will have to dedicate (10 hours a week.)

- ii. Review of the literature and web.
- iii. Theoretical design and possibly simulation.
- iv. Construction and testing of separate building blocks.
- v. Connection of the different building blocks.
- vi. Final adjustments and tests.