This document contains interactive form fields.

ELECTRICAL ENGINEERING DEPARTMENT

The Henry Samueli School of Engineering and Applied Science
University of California, Los Angeles

Course Objectives and Outcomes Form

(for undergraduate courses only)

This form must be completed for every undergraduate course proposal (new or revision)
For examples of completed forms, visit http://www.eeweb.ee.ucla.edu/course_objectives_table.php

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Course Information:

Month and Year this form is being filled (e.g., April 2003):_____

Name(s) of instructor(s)-in-charge filling the form (e.g., A. H. Sayed):_____

Course number (e.g., EE113): _____

Course title (e.g., Digital Signal Processing): _____

Instructor(s)-in-Charge (e.g., A. Alwan and A. H. Sayed):_____

Credit (e.g., 4 units): _____

Course type: ☐ lecture ☐ laboratory ☐ design ☐ seminar ☐ tutorial

Required or elective:

☐ Required course ☐ Pathway lecture course
☐ Pathway design course ☐ Pathway laboratory course

Course pre-requisites (e.g., EE102, EE110):_____

Course Schedule:

Lecture (e.g., 3hrs/week. Meets twice weekly):_____

Discussion (e.g., 1hr/discussion section. Multiple discussion sections offered per quarter):___

_____

Outside study (e.g., 9hrs/week; check catalog):_____

Office hours (e.g., 2hrs/week by instructor. 2 hrs/week by each TA):_____

_____

Course Assessment:

Exams (e.g., 1 midterm and 1 final):_____

Homework (e.g., 7 assignments):_____

Lab reports (e.g., 4 reports):_____

Design reports (e.g., 1 design report):_____

Quizzes (e.g., 5 quizzes):_____

Grading (e.g., Typically, 10% design, 15% homework, 30% midterm, 45% final):_____

_____

Course References and Objectives:

Textbook and related course material (to be used by course. Provide full citation information):

1.
2.
3.

Catalog description (include here the catalog description of the course):

Course Objectives: This is a broad description of the course objectives. For example, the goal of the course is to introduce students to the fundamentals of digital signal processing and to expose them to examples of applications.

Topics covered in the Course and Level of Coverage: List up to 10 topics and the corresponding approximate hours.

e.g., Fourier transform	5 hrs
e.g., z transform	5 hrs
e.g., convolution	3 hrs
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Course Outcomes and their Relation to Program Outcomes. Upon completion of this course, students will have had an opportunity to learn about the following (list between 10 and 20 outcomes and select the corresponding letter code from the **attachment**):

e.g., Solve difference equations.	a m
e.g., Design a low-pass filter.	c
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19. Several homework assignments delving on core concepts and reinforcing analytical skills learned in class. **[this outcome is standard to all courses]**	a, i
20. Opportunities to interact weekly with the instructor and the teaching assistant(s) during office hours and discussion sections in order to further their learning experience and their interest in the material. **[this outcome is standard to all courses]**	i

Level of Contribution of Course Outcomes to Relevant Program Outcomes (Choose from **ST**rong, **AV**erage, **SO**me, **NA** Not Applicable):

a	b	c	d	e	f	g	h	i	j	k	l	m	n

Expected Level of Proficiency in Mathematics, Basic Sciences, Technical Writing Skills, and Computer Programming Skills from Students Entering the Course (Choose from **ST**rong, **AV**erage, **SO**me, **NA** Not applicable):

Mathematics	Physics	Chemistry	Technical Writing	Computer Programming

Contribution of Course to Professional Component (indicate in percentages; most EE courses contribute 100% to Engineering topics):

Engineering Topics	General Education	Mathematics and Basic Sciences

Does this course involve computer projects? Yes or No

Does this course involve design projects? Yes or No

Will this course have teaching assistant(s) when it is offered? Yes or No

Attachment (Program Outcomes)

a. Ability to apply knowledge of mathematics, Science, and Engineering.
b. Ability to design and conduct experiments, as well as analyze and interpret data.
c. 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. Ability to function on multi-disciplinary teams.
e. Ability to identify, formulate, and solve engineering problems.
f. Understanding of professional and ethical responsibilities.
g. Ability to communicate effectively.
h. Broad education necessary to understand the impact of engineering solutions in a global and societal context.
i. Recognition of the need for, and an ability to engage in life-long learning.
j. Knowledge of contemporary issues.
k. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
l. Knowledge of probability and statistics, including applications to electrical engineering.
m. Knowledge of mathematics through differential and integral calculus, and basic and engineering sciences, necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components, as appropriate to electrical engineering.
n. Knowledge of advanced mathematics, including differential equations, linear algebra, and complex variables.