



SACRAMENTO
STATE

Course Change Proposal Form A



Academic Group (College): Engineering & Computer Science	Academic Organization (Department): Electrical & Electronic Engineering	Date: 2/25/09
Type of Course Proposal: New ___ Change <input checked="" type="checkbox"/> Deletion ___	Department Chair: Suresh Vadhva	Submitted by: Perry L Heedley
Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes ___ No <input checked="" type="checkbox"/>	For Catalog Copy: Yes <input checked="" type="checkbox"/> No ___ CCE: Yes ___ No <input checked="" type="checkbox"/>	Semester Effective: Fall <input checked="" type="checkbox"/> Spring ___ 2009

This course replaces experimental course Subject Area (prefix) and Catalog Number (course number):	EEE 296Q
This Catalog Number (course number) is being replaced:	

Change from:

Subject Area (prefix) & Catalog No. (course no.): EEE 296Q	Title: Mixed-Signal IC Methodology Laboratory	Units: 1
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Change to:

Subject Area (prefix) & Catalog No. (course no.): EEE 235	Title: Mixed-Signal IC Design Laboratory	Units: 1
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JUSTIFICATION:

Students interested in circuit and layout design for mixed-signal integrated circuits (ICs) need a laboratory where they can learn and practice good mixed-signal methodology, as well as gain experience with standard computer-aided design (CAD) tools used for IC development. This laboratory will fill that need, providing each student with a significant amount of supervised, hands-on time designing and laying out their own individual circuits. Students will also be able to create their own ICs through the MOSIS educational program. The equipment and CAD software needed to support this lab are already available in EEE.

NEW COURSE DESCRIPTION: (Not to exceed 80 words, and language should conform to catalog copy. See <http://www.csus.edu/acaf/univmanual/crspsl.htm> - Guidelines for Catalog Course Description)

Methods to develop successful mixed-signal integrated circuits using an industrial design methodology and computer-aided design tools. Proven design techniques presented; hands-on experience gained through each student designing their own integrated circuit. Communication skills developed through periodic presentations, including reviews for the circuit architecture, design and layout.

Note:	
Prerequisite: EEE 230 or consent of the instructor.	
Corequisite:	
CAN (California Articulation Number):	
Graded: Letter <input checked="" type="checkbox"/> Credit/No Credit ___	Instructor Approval Required? Yes ___ No <input checked="" type="checkbox"/>
Course Classification (e.g., lecture, lab, seminar, discussion): C16 Laboratory	Title for SIS+/CMS (not more than 30 characters): Mixed-Signal IC Design Lab
Cross Listed? Yes ___ No <input checked="" type="checkbox"/>	If yes, do they meet together and fulfill the same requirement, and what is the other course.
How Many Times Can This Course be Taken for Credit? <u> 3 </u>	
Can the course be taken for Credit more than once during the same term? Yes ___ No <input checked="" type="checkbox"/>	

FOR NEW COURSE PROPOSALS OR SUBSTANTIVE CHANGES ONLY:

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."
See the example at <http://www.csus.edu/acaf/example.htm>

Students will be able to:

- 1) Use an industrial methodology to design and layout mixed-signal integrated circuits
- 2) Use industry standard computer-aided design tools to design and layout mixed-signal integrated circuits
- 3) Communicate their work effectively with others by giving professional reviews for the architecture, design and layout of their circuits

**Attach a list of the required/recommended course readings and activities [Note: it is understood that these are updated and modified as needed by the instructor(s).] This attachment should be forwarded only to your Dean's office, not Academic Affairs.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above:

Students will give periodic presentations of their work, including reviews for the architecture, design, and layout of their circuits. These will be graded against a checklist of expectations provided to the students in advance. A plan for testing the completed IC will also be submitted and graded.

For whom is this course being developed?

Majors in the Dept Majors of other Depts ___ Minors in the Dept ___ General Education ___ Other ___

Is this course required in a degree program (major, minor, graduate degree, certificate)? Yes ___ No

If yes, identify program(s):

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer facilities, faculty, etc.)? Yes ___ No

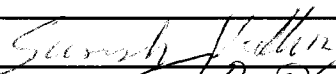

If yes, attach a description of resources needed and verify that resources are available.

Indicate which department or programs will be affected by the proposed course (if any). _____

The Department Chair's signature below indicates that affected programs have been sent a copy of this proposal form.

Approvals: If proposed change, new course or deletion is approved, sign and date below. If not approved, forward without signing to the next reviewing authority, and attach an explanatory memorandum to the original copy.

Signatures:

	Date
Department Chair: 	3/25/2009
College Dean or Associate Dean: 	2/25/09
CPSP (for school personnel courses ONLY)	
Associate Vice President and Dean for Academic Programs	

Distribution: Academic Affairs (original), Department Chair and College Dean. Dean's office to send original after approval to Academic Affairs, at mail zip 6016. An electronic copy must also be sent.