



SACRAMENTO
STATE

Course Change Proposal Form A



Academic Group (College): ECS	Academic Organization (Department): Computer Engineering	Date: 11/2/07
Type of Course Proposal: New ___ Change <u>X</u> Deletion ___	Department Chair: Dr. Suresh Vadhva	Submitted by: Dr. Jing Pang
Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes ___ No <u>X</u>	For Catalog Copy: Yes <u>X</u> No ___ CCE: Yes ___ No <u>X</u>	Semester Effective: Fall ___ Spring <u>X</u> , 20_08_

This course replaces experimental course Subject Area (prefix) and Catalog Number (course number):	CpE 2960
This Catalog Number (course number) is being replaced:	

Change from:

Subject Area (prefix) & Catalog No. (course no.): CpE 2960	Title: Advanced Timing Analysis	Units: 3
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Change to:

Subject Area (prefix) & Catalog No. (course no.): CpE 274	Title: Advanced Timing Analysis	Units: 3
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JUSTIFICATION:

This graduate course in the Computer Architecture and Digital Design area of the curriculum will cover advanced topics in Application Specific Integrated Circuit (ASIC) design, which are not covered in other courses in the curriculum. ASIC design has become a fundamental technology in the electronics industry, and the topics presented in this course will prepare M.S. students for professional opportunities in that area of the industry.

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)

Timing analysis of Application Specific Integrated Circuit (ASIC) designs: Topics include ASIC design methodology, static timing analysis, timing design constraints, design reports, clock timing issues, timing exceptions, operating conditions, hierarchical analysis, analyzing designs with asynchronous logic, performance measurement and power issues.

Note:

Prerequisite: EEE/CsC/CpE 273 or consent of the instructor.

Corequisite:

CAN (California Articulation Number):

Graded: Letter X Credit/No Credit ___ **Instructor Approval Required? Yes ___ No X**

Course Classification (e.g., lecture, lab, seminar, discussion):
C5 Lecture **Title for SIS+/CMS (not more than 30 characters):**
Advanced Timing Analysis

Cross Listed?
Yes X No ___ **If yes, do they meet together and fulfill the same requirement, and what is the other course. Yes, they meet together with EEE 274**

How Many Times Can This Course be Taken for Credit? ___ Once ___

Can the course be taken for Credit more than once during the same term? Yes ___ No X

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 understand the differences between the traditional IC verification methodologies and static timing analysis.
- Students will appreciate the role of timing analysis in the ASIC design flow.
- Students will acquire static timing analysis skills and experience in the use of tools for such analysis.
- Students will understand the important technology factors which affect the power and the performance of ASIC designs.

**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:

- Midterm Exam – 30%
- Final Exam – 30%
- Quizzes – 15%
- Projects – 25%

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: <i>Suresh Goobbur</i>	11/2/2007
College Dean or Associate Dean: <i>John Blalock</i>	11/16/07
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.