



Academic Affairs - Course Proposal Form

CALIFORNIA STATE UNIVERSITY, SACRAMENTO

Academic Unit: Mechanical Engineering		Department Chair: Robin Bandy	
Type of Course Proposal: New <input checked="" type="checkbox"/> Change <input type="checkbox"/> Deletion <input type="checkbox"/>		Date: January 30, 2006	
		For Catalog Copy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	RCE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
		Semester Effective: Fall <input checked="" type="checkbox"/> Spring <input type="checkbox"/> 2006	
Prefix & No. ME 296H	Title: Computer Controlled Manufacturing Processes	Units: 3	

Change to:

Prefix & No. ME 236	Title: Computer Controlled Manufacturing Processes	Units: 3
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JUSTIFICATION:

The course was offered once as the experimental course number of ME 296H with 25 students. Manufacturing engineers must be able to produce products knowing the capabilities of modern computer controlled machines. In this course along with lectures, CNC milling machine, CNC lathe, robot, PLC and other computer controlled machines will be used to pursue this objective of the course. This course is a graduate extension of undergraduate classes with more theory and more sophisticated schemes.

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 of the Bluebook).

ME 236 Computer Controlled Manufacturing Processes: Applications of logic and motion controls in manufacturing. Computer controlled open and feedback systems. CNC machining processes, CNC programming. Applications of robots in manufacturing, programming for robots. PLC logic controls, sensors and output devices, creating ladder logic diagrams for PLCs. Design for Manufacturing (DFM) and Design for Assembly (DFA) of modern computer controlled machines.

Note: Lectures as well as some tutorial activities are covered in two 75-minute classes per week.

Prerequisite: ME 138, ME 175

Corequisite:

CAN (California Articulation Number):

Graded: Letter Credit/No Credit

Instructor Approval? Yes No

Course Classification: 05

Title for SIS+ (not more than 25 characters)
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Cross Listed?

Yes No

If yes, with what course:

How Many Times Can This Course be Taken for Credit? One

FOR NEW COURSE PROPOSALS OR SUBSTANTIVE CHANGES ONLY:

Description of the Expected Learning Outcomes: Here you should describe what students should know or be able to do after taking this course. See the example in <http://www.csus.edu/acaf/example.htm>

The students will be able to explain fundamental concepts of computer controlled machine processes with practical examples including logic/motion controls, open/closed controls, CNC machining, robot tasks, and PLC controls.

They will develop concepts of DFM and DFA knowing the capabilities of the computer controlled machines. They will be able to program and operate the computer controlled machines to process products.

****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:

Attendance
Homework assignments
Completions of tutorial projects
2 or 3 class exams and a final exam

For whom is this course being developed?

Majors in the Dept <input checked="" type="checkbox"/>	Majors of other Depts <input type="checkbox"/>	Minors in the Dept <input type="checkbox"/>	General Education <input type="checkbox"/>	Other <input type="checkbox"/>
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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:	
College Dean or Associate Dean:	
Associate Vice President for Academic Affairs:	

Distribution: Academic Affairs (original and two copies) Department Chair and College Dean. A copy of this form should be e-mailed, along with the hard copies, as an attachment to probertson@csus.edu by the Dean's office after it is approved at that level.