



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: October 17, 2006	
Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		For Catalog Copy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CCE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Conversion from ME196Q to a permanent course		Semester Effective: Fall <input type="checkbox"/> Spring <input checked="" type="checkbox"/> 2007 <input type="checkbox"/>	
Prefix & No. ME 196Q	Title: Product Design & 3D Parametric Solid Modeling	Units: 3	

Change to:

Prefix & No. ME 177	Title: Product Design & 3D Parametric Solid Modeling	Units: 3
-----------------------------------	---	-----------------

JUSTIFICATION:

Modern product design process uses many computerized tools and 3D parametric solid modeling CAD systems have become a center of the process. More and more companies require mechanical engineers be familiar with at least one 3D CAD system. The skill is now included in the basic job descriptions for the careers of mechanical engineers, and it is expected that the requirement for the skill will grow in the future. An experimental course, ME196Q, was offered twice, and the enrollments were high (27 in 2004 Fall, 22 in 2006 Spring) and the student's responses have been very positive. This course will help the students equip with the hands-on skills, make them more competitive in their future job market.

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

An introduction to Solid Modeling and its application to the mechanical product design. Digital product development using 3D Parametric Solid Modeling tools. The course also covers component and assembly design, basic drawing creation. Reverse design project engineering investigating the effects of variations in geometry, dimensions, and material selection. Lecture 2 hours, Lab 3 hours.

Note:

Prerequisite: ENGR 6, ENGR 115, ME 175 (or ENGR 6, MET 164, MET173 for MET)

Corequisite:

CAN (California Articulation Number):

Graded: Letter Credit/No Credit Instructor Approval? Yes No

Course Classification:	Title for SIS+ (not more than 25 characters) 3D SOLID MODELING
-------------------------------	--

Cross Listed? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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: 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. Understand the philosophy of 3D parametric design and apply the knowledge to product design.
2. Familiarize part modeling techniques in 3D parametric Solid modeling system.
3. Understand assembly modeling techniques
4. Create detailed drawings from part and assembly models for product documentation.
5. Utilize 3D Parametric Modeling tools to the product design process.
6. Use modeling techniques for various applications such as sheet metal and mold design.
7. Apply the techniques to various commercial 3D parametric solid modeling 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:

Laboratory and a Term Project

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:	
College Dean or Associate Dean:	
CPSP (for school personnel courses ONLY)	
Director of Curriculum, Assessment & Accreditation (for the 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 wylie@csus.edu by the Dean's office after it is approved at that level.