

COURSE MODIFICATION PROPOSAL

College: [**Engineering and Computer Science**] Department: [**Mechanical Engineering**]

1. Current Catalog Entry Information:

Subject Abbreviation and Number: [**ME 531**]
Course Title: [**Mechanical Design With Composites**]
Units: [**3**] units
General Education Section [] (if applicable)

2. Date of Proposed Implementation: (Semester/Year): [**Fall**] / [**2016**] *Comments*

3. Course Level:

Undergraduate Only Graduate Only Graduate/Undergraduate

4. Nature of Request:

- Delete Course (*Note: Record of course will remain in inactive course file*)
- Change unit value from [] units to [] units
- Change course type (classification) such as lecture-discussion, laboratory, activity, etc.:
- From:** [] units @ [] to [] units @ []
- From:** [] units @ [] to [] units @ []
- Change course title to: []
- Change course abbreviation "Short title" (Maximum of 17 characters and spaces) to
- NEW Short Title: [.....]

Change current catalog course description (*Attach current and proposed catalog course description*)

Notes: If grading is NC/CR only, please state in course description. If a course numbered less than 500 is available for graduate credit, please state "Available for graduate credit in the catalog description."

Change subject abbreviation number to: (*Example: HSCI 100 to PT 105*) []

Change requisites (*Prerequisites, Corequisites, Preparatory, Recommended Corequisites*)

From: [**Prerequisite: ME 330. Recommended Preparatory Course: ME 386/L**]

To: [**Prerequisites: ME 330 or equivalent; enrollment for graduate students only.**]

Change Current Basis of Grading

From: Credit/No Credit Only Letter Grade Only CR/NC or Letter Grade

To: Credit/No Credit Only Letter Grade Only CR/NC or Letter Grade

Add course to GE Section []

Remove course from GE Section []

- Change course from GE section [] to GE section []
- Change course to a Community Service Learning course (CS)
- Allow multiple enrollments within a semester.
- Change number of times this course may be taken:
May be taken for credit for a total of [] times, or for a maximum of [] units
- Multiple enrollments are allowed within a semester
- Crosslist this course with []
- Other: [**Change course level from Graduate/Undergraduate to Graduate only**]

5. **Justification and Clarification of Request** (*Attach*)

6. **Estimated Impact on Resources within the Department, for other Departments and the University.**(*Attach*)

(See Resource List)

7. **Impact on other Departments' programs** (*Attach*)

8. **Indicate which of the Program's Measurable Student Learning Outcomes are addressed in this course.** (*Attach*)

(see Course Alignment Matrix and the Course Objectives Chart)

9. **If this is a General Education course, indicate how the General Education Measurable Student Learning Outcomes (from the appropriate section) are addressed in this course.** (*Attach*)

10. **Methods of Assessment for Measurable Student Learning Outcomes** (*Attach*)

A. Assessment tools

B. Describe the procedure dept/program will use to ensure the faculty teaching the course will be involved in the assessment process (refer to the university's policy on assessment.)

11. **Record of Consultation:** (*Normally all consultation should be with a department chair or program coordinator.*) *If more space is needed attach statement and supporting memoranda.*

Date:	Dept/College:	Department Chair/Program Coordinator	Concur (Y/N)
[3/5/2015]	[CECM/ECS]	[N. Dermendjian]	[Y]
[3/5/2015]	[CS/ECS]	[R. Covington]	[Y]
[3/5/2015]	[ECE/ECS]	[A. Amini]	[Y]
[3/5/2015]	[ME/ECS]	[H. Johari]	[Y]
[3/5/2015]	[MSEM/ECs]	[K. Chang]	[Y]
[]	[]	[]	[]

Consultation with the Oviatt Library is **recommended** for course modifications to ensure the availability of appropriate resources to support proposed course curriculum.

Collection Development Coordinator

Please send an email to: collection.development@csun.edu

Date

[]

12. Approvals:

Department Chair/Program Coordinator:	Hamid Johari	Date:	[3/5/2015]
College (Dean or Associate Dean):	Robert Ryan	Date:	[4/15/2015]
Educational Policies Committee:		Date:	[]
Graduate Studies Committee:		Date:	[]
Provost:		Date:	[]

5. Justification and Clarification of the Request

The ME department is proposing a new undergraduate level course ME 436/L, which is geared specifically for students interested in learning about the practical aspects of design with composite materials. ME 531 focuses on the fundamentals of mechanics of composite lamina and laminate with emphasis on the analysis of orthotropic composite fiber-reinforced composite laminates. Restricting the ME 531 enrollment to graduate students only will allow the instructor to provide a more in-depth coverage of advanced topics. The companion course at the undergraduate level will be tailored for applications and will be better suited for our undergraduate students.

Existing Course Description

ME 531 Mechanical Design With Composites

Prerequisite: ME330. Recommended Preparatory Courses: ME 386/L.

Introduction to various types of composite materials, their classifications and properties. Mechanics of composite materials with a focus on macromechanics of lamina and laminate. Stress, stiffness and failure analysis of laminate. Design and analysis of symmetric and non-symmetric laminated beams. Shaft design under torsional and bending loading scenarios. Design and analysis of walled-cylinders. Integration of numerical design and analysis software suites. Available for Undergraduate Credit.

Proposed Course Description

ME 531 Mechanical Design With Composites

Prerequisites: ME330 or equivalent; enrollment for graduate students only.

Introduction to various types of composite materials, their classifications and properties. Mechanics of composite materials with a focus on macromechanics of lamina and laminate. Stress, stiffness and failure analysis of laminate. Design and

analysis of symmetric and non-symmetric laminated beams. Shaft design under torsional and bending loading scenarios. Design and analysis of walled-cylinders. Integration of numerical design and analysis software suites.

6. Estimated Impact on Resources within the Department, for other Departments and the University

This change will cause a decrease in enrollment in ME 531, since undergraduate students will no longer be able to enroll. However, there is sufficient demand from our graduate student population to run this course on an annual basis.

7. Impact on other Department's programs

There is none. The only undergraduates who have been taking this course are from the Mechanical Engineering department.