

## COURSE MODIFICATION PROPOSAL

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

### 1. Current Catalog Entry Information:

Subject Abbreviation and Number: [ **ME 375** ]

Course Title: [ **Heat Transfer I** ]

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:** [ **Prerequisites: Math 250; Physics 220A/L** ]

**To:** [ **Prerequisites: ME 370; Math 280 or ME 280 or ECE 280; Phys 220A/L**

]

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 [1] times, or for a maximum of [1] units
- Multiple enrollments are allowed within a semester
- Crosslist this course with [       ]
- Other: [       ]

**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 ]
[ 8/7/2015 ]	[ MATH/CSM ]	[ R. Djellouli ]	[ 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, Mary Woodley**

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

**Date**

[       ]

## 12. Approvals:

Department Chair/Program Coordinator:	Date: [ 3/5/2015 ]
College (Dean or Associate Dean):	Date: [ 3/25/2015 ]
Educational Policies Committee:	Date: [       ]
Graduate Studies Committee:	Date: [       ]
Provost:	Date: [       ]

## 5. Justification and Clarification of the Request

Mechanical Engineering students are required to take a set of three thermal science courses (ME 370 Thermodynamics, ME 375 Heat Transfer I, ME 390 Fluid Mechanics) as part of their junior year requirements. The students in the major are advised to take ME 370 Thermodynamics prior to taking either ME 375 Heat Transfer I or ME 390 Fluid Mechanics because the latter courses use concepts learnt in ME 370. However, for a variety of reasons some students take ME 370 after taking ME 375 and ME 390. Therefore, students in the latter two courses are at different levels of preparation depending on whether they have or have not taken ME 370 previously. To overcome this difficulty and to ensure proper sequencing of the junior level thermal science courses, the Mechanical Engineering faculty voted in their January 24, 2014 department meeting to make ME 370 a prerequisite for ME 375.

This change could potentially affect Electrical Engineering students as well since the EE program requires either ME 370 or ME 375. However, a new course ME 376 has been created and is being proposed to specifically address the needs of electrical engineering students by combining concepts from the thermodynamics and heat transfer courses. Moreover, the examples in this new course are drawn primarily from electrical and electronic systems. The new course would have been offered as an experimental course twice in Spring 2015 and in Fall 2015. With this new course, the ME 375 prerequisites changes would not affect the Electrical Engineering students.

### Current Catalog Description

ME 375. Heat Transfer I (3)

Prerequisites: MATH 250; PHYS 220A/L. Basic principles of heat transfer and their application. Introduction to conductive, convective and radiative heat transfer. Applications to design.

### Proposed Catalog Description

ME 375. Heat Transfer I (3)

Prerequisites: ME 370; MATH 280; PHYS 220A/L. Basic principles of heat transfer and their application. Introduction to conductive, convective and radiative heat transfer. Applications to design.

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

This prerequisite change will only affect the order in which the related courses are taken for most engineering majors. Since some electrical engineering majors will elect to take ME 376 (rather than ME 375), there will be a drop in enrollment in ME 375, which will be offset by the enrollment in ME 376, so there will be no net enrollment impact on the mechanical engineering department. Also, the same faculty can teach ME 375 and ME 376, so there is no impact on faculty resources.

## **7. Impact on other Department's programs**

As explained above, a new course (ME 376) was created to eliminate the impact of the ME 375 prerequisite change on electrical engineering majors.