# Course Change Proposal

## Form A

<table>
<thead>
<tr>
<th>Academic Group (College):</th>
<th>Academic Organization (Department):</th>
<th>Date: Sept. 1, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECS</td>
<td>Mechanical Engineering</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Course Proposal:</th>
<th>Department Chair:</th>
<th>Submitted by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>New ___ Change <em>X</em> Deletion ___</td>
<td>Susan L. Holl</td>
<td>Dongmei Zhou</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes ___ No <em>X</em></th>
<th>For Catalog Copy:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CCE (Extension): Yes ___ No <em>X</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester Effective:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall ___ Spring <em>X</em> , 2011</td>
<td></td>
</tr>
</tbody>
</table>

This course replaces experimental course Subject Area (prefix) and Catalog Nbr (course number): Yes ___ No ___

If changing an existing course, should new version be considered a repeat of the original version? If so, the same Course ID will be maintained. If not, a new Course ID will be assigned. Note: In PeopleSoft terminology, the Course ID is the unique system identifier, not the Catalog Nbr.

### Change from:

<table>
<thead>
<tr>
<th>Subject Area (prefix) &amp; Catalog Nbr (course no.):</th>
<th>Title:</th>
<th>Units:</th>
</tr>
</thead>
</table>

### Change to:

<table>
<thead>
<tr>
<th>Subject Area (prefix) &amp; Catalog Nbr (course no.):</th>
<th>Title: Heat Transfer</th>
<th>Units: 3</th>
</tr>
</thead>
</table>

### JUSTIFICATION:

Changing pre-requisites to align them with what is required for success in ME 126.

### NEW COURSE DESCRIPTION: (Not to exceed 80 words, and language should conform to catalog copy. See http://www.csus.edu/umanual/acad.htm - Guidelines for Catalog Course Description)

No change

Note:

- Prerequisite: Engr 124, Engr 132
- Enforced at Registration: Yes _X_ No ___
- Corequisite: Enforced at Registration: Yes ___ No _X_
- Graded: Letter _X_ Credit/No Credit ___
- Instructor Approval Required? Yes ___ No _X_

**Course Classification (e.g., lecture, lab, seminar, discussion):**

- Title for CMS (not more than 30 characters)
- Heat Transfer

**Lecture (C4):**

**Cross Listed?**

- Yes ___ No _X_

If yes, do they meet together and fulfill the same requirement, and what is the other course?

**How Many Times Can This Course be Taken for Credit?** _1_

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

**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:

**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): Mechanical Engineering

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.*

**Accessibility:** Following course approval, and prior to the start of the semester in which the new or revised course will be taught for the first time, an accessibility checklist [available at http://www.csus.edu/accessibility/checklist.html] shall be completed and submitted to the appropriate Dean’s office. An accessible syllabus shall also be made available online, preferably prior to the start of that semester’s open registration period.

**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.

<table>
<thead>
<tr>
<th>Signatures:</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair: Susan L. Holl</td>
<td>Sept. 9, 2010</td>
</tr>
<tr>
<td>College Dean or Associate Dean:</td>
<td>9/24/10</td>
</tr>
<tr>
<td>CPSP (for school personnel courses ONLY)</td>
<td></td>
</tr>
<tr>
<td>Associate Vice President and Dean for Academic Programs</td>
<td></td>
</tr>
</tbody>
</table>

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.

5/20/2010
COURSE TITLE: ME 126 Heat Transfer

CATALOG DESCRIPTION:
Basic principles of heat transfer, including processes of conduction, convection, radiation, evaporation and condensation. Lecture three hours.

PREREQUISITES:
ENGR 124, ENGR 132

TEXT:
Required:
Optional: None

GOALS:
Understanding of the art and science of engineering thermodynamics and having the basic tools and skills necessary to obtain quantitative solutions to common engineering applications involving energy and its conversion, conservation, and transfer.

OBJECTIVES:
By the end of the semester, the student will be able to

1. Describe the three-element structure of thermodynamics,
   a. The Principles that govern all energy transactions
   b. The Properties that describe the thermodynamic states of material
      a. The Processes that are carried out by thermodynamic systems
2. Use the terminology of thermodynamics appropriately;
3. Write the working equations that express the Principles for various types of problems;
4. Determine the Properties of ideal gases, water, and common refrigerants;
5. Write the equations that describe common thermodynamic Processes;
6. Use the equations and property data to study common thermodynamic processes, devices, and systems;
7. Demonstrate effective problem-solving skills, especially those relevant to engineering thermodynamics.

TOPICS COVERED:

Basic Modes of Heat Transfer
Conduction
Numerical Analysis of Heat Conduction
Analysis of Convection Heat Transfer
Forced Convection
Heat Exchangers
Heat Transfer by Radiation
CLASS SCHEDULE:

Class Meetings          Laboratory          Exams/Tests
Two 75-min or three 50-min lectures/week  None

PROFESSIONAL COMPONENT:

This is a technical course

RELATIONSHIP TO ME PROGRAM OUTCOMES:

This course is related primarily to the following outcomes:

1. Demonstrate a knowledge of the engineering principles that are fundamental to the following areas of the mechanical engineering practice; machine design, thermodynamics and fluid mechanics, and manufacturing;

e. Identify, analyze, and solve technical problems in the areas of machine design, thermodynamics and fluid mechanics, and manufacturing, using the principles of calculus, engineering science, and the appropriate use of computer technology;

   It is slightly related to the following outcomes;

g. Communicate effectively through speaking, writing, and graphics, including the appropriate use of computer technology;

COORDINATOR: Dongmei Zhou