CURRICULUM PROPOSAL FORM

PROPOSAL NUMBER: 99

*DEADLINES:

PROPOSAL TITLE: Design for X

SPONSOR/S: Jawaharlal Mariappan, Associate Professor

DEPARTMENT: Mechanical Engineering

CHECK ALL THAT APPLY:

□ UNDERGRADUATE     □ GRADUATE

COLLEGE:

If LAS: □ History/Humanities
         □ Math/Sciences
         □ Social/Behavioral Sciences

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TYPE OF PROPOSAL (Check ALL that Apply)

□ General Education
□ New Course in ________ Bank
□ Existing course, Add To ________ Bank
□ Multicultural/Global Designation
□ Writing Intensive Designation

□ New Minor/Concentration/Specialization
□ New Major/Degree Program
□ Short Term Course Proposal

□ New Course (NOT Gen. Ed.)
□ Name Change (Dept., School, Major)
□ Changes in Degree Requirements
□ Changes Involve Gen. Ed. requirements

□ Minor Changes to Existing Courses
□ Course is NOT General Education
□ Course IS General Education

DEPARTMENT (SIGNATURE INDICATES APPROVAL)

DEPT. CURRICULUM CHAIR / DATE: [Signature] / Oct 22, 2000

DEPT. CHAIRPERSON / DATE: [Signature] / 11/23/00

COLLEGE CURRICULUM COMMITTEE
DATE OF OPEN HEARING (if necessary) ____________

X APPROVED
□ NOT APPROVED

COMMENTS:

[Signature] / Date: 2/16/99

ACADEMIC DEAN (& GRADUATE DEAN, for New Graduate Programs Only)

□ APPROVED
□ NOT APPROVED

COMMENTS:

[Signature] (Academic Dean) / Date: 1/23/99

[Signature] (Graduate Dean) / Date: 1/23/99
UNIVERSITY CURRICULUM COMMITTEE

DATE OF OPEN HEARING (if necessary): 2/16/99 (College level only)

APPROVED

— NOT APPROVED

COMMENTS:

Signature: [Signature]
Date: 2/11/99

SENATE

Date announced at Senate: 2/23/99

Voted upon at Senate: Approved Not Approved Date:

EXECUTIVE VICE PRESIDENT/PROVOST

____ APPROVED

____ NOT APPROVED If no, reasons are as follows:

STUDENT CREDIT HOURS _____ FACULTY LOAD HOURS _____ EQUALIZED CREDIT HOURS _____

OFFICIAL COPY & APPROVAL SHEET FILED (DATE):

DATE/SIGNATURE EXECUTIVE VICE PRESIDENT/PROVOST

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED

HEGIS TAXONOMY & COURSE NUMBER ASSIGNED 0916.443

DATE/SIGNATURE OF REGISTRAR

NOTIFICATION FORWARD:

____ SENATE CURRICULUM COMMITTEE CHAIRPERSON

____ DEPARTMENT CHAIRPERSONS

____ ACADEMIC DEAN(S)

____ REGISTRAR

____ SPONSOR(S)
1. Details

<table>
<thead>
<tr>
<th>a) Course Title:</th>
<th>Design For X (0910-443)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Sponsor:</td>
<td>Dr. Jawaharlal Mariappan and School of Engineering Curriculum Committee</td>
</tr>
<tr>
<td>c) Credit Hours:</td>
<td>3 Credit Hours</td>
</tr>
<tr>
<td>d) Course Level:</td>
<td>Senior for Mechanical Engineering</td>
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<tr>
<td>e) Curricular Effect:</td>
<td>Elective course for mechanical engineering majors. Can also be taken by electrical, chemical and civil majors.</td>
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<tr>
<td>f) Prerequisites:</td>
<td>Junior Engineering Clinic II (0901.302)</td>
</tr>
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<td>g) Suggested Time:</td>
<td>Fall 1999</td>
</tr>
<tr>
<td>Scale of Implementation:</td>
<td>One section in Fall</td>
</tr>
<tr>
<td>h) Resources:</td>
<td>Faculty: Existing faculty can teach this course</td>
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<td></td>
<td>Library: No library acquisitions will be used</td>
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<td></td>
<td>Equipment: Laboratory equipment and apparatus will be required.</td>
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<tr>
<td></td>
<td>Computers: Computer laboratory access and additional software will be required.</td>
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2. Rationale:

The proposed course is part of the Engineering Curriculum Proposal approved by the College Senate in December 1994. The proposed course is consistent with the establishment of the School of Engineering approved by the Board of Trustees in February 1995. The proposed course is a core requirement for Mechanical Engineering disciplines. The proposed course meets the Engineering Topics requirement of the Accreditation Board for Engineering and Technology (ABET) for engineering programs.

Design for X is a design approach where X stands for functionality, manufacture, assembly, environment, customer, etc. The Design for X course teaches students on how to go deal with conflicting, and ever increasing number design requirements. In this course, students learn about all major areas such as design for manufacture, design for assembly, design for recyclability and environment. This course further teaches on how to identify and prioritize different objectives, and guide the design from conceptual design to prototype manufacture.

3. Essence of the Course:

a) Objectives

Upon completion of the course, students will be able to

1. Understand design theories such as design for manufacture, design for assembly, design for disassembly, design for recyclability, design for environment and other
Catalog Description:

Design For X (0910.443)

Prerequisites: Junior Engineering Clinic II (0901.302)

This course introduces the students to the design of systems from Design for X perspective. The Design for X course teaches how to deal with conflicting and ever increasing number of constraints in the design process. It teaches the students to adopt a systematic design approach that address issues related to manufacture, assembly, environment, reliability and other factors from concept design stage to product manufacture. Students also learn to customize CAD system with their own intelligent design assistants to help them in the design process.