



**UNIVERSITY CURRICULUM COMMITTEE**

DATE OF OPEN HEARING (if necessary) 2/10/99 (College level only)

APPROVED

NOT APPROVED

COMMENTS:

Anneta Reeves 4/1/99  
SIGNATURE DATE

**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 [Signature]

**REGISTRAR**

DATE APPROVED COURSE DESCRIPTION RECEIVED \_\_\_\_\_

HEGIS TAXONOMY & COURSE NUMBER ASSIGNED 0910.443

DATE/SIGNATURE OF REGISTRAR Robert G. Kubat 4/28/99

**NOTIFICATION FORWARD:**

\_\_\_\_\_ SENATE CURRICULUM COMMITTEE CHAIRPERSON

\_\_\_\_\_ DEPARTMENT CHAIRPERSONS

\_\_\_\_\_ ACADEMIC DEAN(S)

\_\_\_\_\_ REGISTRAR

\_\_\_\_\_ SPONSOR(S)

## Course Proposal

### 1. Details

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

### 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 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.