

The University Senate of Michigan Technological University

PROPOSAL 26-04

MINOR IN PRODUCT DESIGN

Department of Mechanical Engineering-Engineering Mechanics

Introduction

This proposal recommends establishing a formal 'Minor in Product Design'. The purpose of the minor in Product Design is to meet demands for engineers equipped with the advanced tools of product design: solid modeling, advanced computational methods, design of experiments, and design for manufacturability in both thermal and mechanical systems.

I. Title of Minor

Minor in Product Design

II. Catalog Description

This ME-EM department minor focuses on course work that will increase the breadth of a student's background in product design. Student's selecting this minor will receive exposure to computer-aided design techniques and issues of product quality assurance in both thermal and mechanical systems. This minor is most suitable for students in the ME-EM department.

III. Rationale

The Product Design minor is designed to provide the advanced tools required for modern product design. These will include solid modeling, advanced computational methods in mechanical and fluid thermo systems, design of experiments, and design for manufacturability.

IV. List of Courses

Required Courses (15-16 credits):

EC3400 Economic Decision Analysis	3
MEEM4403 Computer Aided Design Methods	4 or
MEEM4403D Computer Aided Design Methods	3
MEEM4405 Intro to Finite Element Method	3
MEEM4650 Quality Engineering	3
MEEM4990 Designed Experiments	3

NOTE: Courses with a 'D' designation are available only to Distance Learning students participating in the BSE or Certification programs at our participating Partners.

Elective Courses (Choose 3 Credits):

MEEM4200 Principles of Energy Conversion	3
MEEM4210 Computation Methods in Thermal Sciences	3

Total Requirements 18-19 credits

The courses listed in this Minor have the following prerequisites (in parenthesis):

EC3400 (UN2002)

MEEM4200 (MEEM3230)

MEEM4210 (MEEM3230)

MEEM4403 and MEEM4403D (ENG1102)

MEEM4405 [MEEM3502 and (MA2320 or MA2321 or MA2330 or MA2990) and (MA3520 or MA3521 or MA3530 or MA3560 or MA 4990)]

MEEM4650 (MA3710)

V. Estimated Costs

There is no additional cost in introducing the Minor in Product Design. All courses identified above are either required or elective courses available to all students who satisfy course prerequisites. All courses are offered on a regular basis.

Adopted by Senate: 10 March 2004

Approved by President: 30 March 2004