

Mechanical Engineering – Verification of Senior Design Objectives through Enterprise Experience

The Verification of Senior Design Objectives through Enterprise Experience form must be completed by each BSME – Enterprise concentration student prior to registering for ENT4950. The purpose is to ensure that the student's participation in the Enterprise program represents an equivalent design experience as required by ABET. The basic template to be followed by ME students is provided below.

Students should consult with their Enterprise team advisor when defining the capstone-equivalent project they will be participating in. The completed form must be approved by the Enterprise team advisor and the ME-EM Associate Chair for Undergraduate Studies. After the Enterprise team advisor has signed the form, the student must submit the form to the ME Advising Center for verification of pre-requisites. The advisor will submit the form to the ME-EM Associate Chair for Undergraduate Studies for review.

The following are required prior to enrollment in ENT4950.

- 1. Approved Verification of Senior Design Objectives through Enterprise Experience form**
- 2. Instructor permission to enroll in ENT4950 (if applicable)**
- 3. Satisfy pre-requisite requirements: MEEM3900, MEEM3000 (concurrent pre-requisite), MEEM3502 (concurrent pre-requisite)**

After the above items have been completed, the ME academic advisor will enroll the student in ENT4950. A copy of the approved form will be retained in the ME Advising Center and the original will be submitted to the Enterprise program office. It is recommended that this form be completed during the semester prior to taking ENT4950 in order to facilitate the registration process. The latest the form can be submitted is the end of the first week of classes of the semester in which ENT4950 is to be completed.

Recognizing that it may not be possible to fully identify the intended design project in this timeframe, or that design project scope and/or deliverables may change over the course of the semester, amended Verification of Senior Design Objectives through Enterprise Experience forms must be prepared and submitted to the ME-EM department. The final form on file with the Enterprise program office at the conclusion of the Enterprise project course sequence must represent the project and deliverables as completed by the student.

Questions can be directed to the ME Advising Center in 204/205 ME-EM.



Verification of Senior Design Objectives through Enterprise Experience

Major: _____

Date: _____

Part A: To be completed by student. List completed and planned project work semesters, and if applicable, approved modules for senior design credit:

Course:	Semester/Year:
ENT _____	_____
ENT _____	_____
ENT 3950	_____
ENT 3960	_____
ENT 4950	_____
ENT 4960	_____

Student: _____
 ID#: M _____
 Primary major: _____ 2nd major/deg: _____
 e-mail: _____@mtu.edu

Enterprise Team: _____
 Enterprise Advisor: _____
 Check if applicable:
 ENT concentration Enterprise Minor

Part B. To be completed by student and enterprise advisor. Return signed form to the IIS Enterprise Office (722 M&M)

Project Title: _____

Abstract: Outline the project scope and deliverables assigned to this student (attach additional pages as needed).

ABET Criteria Check whether student will:

- 3 (a) Apply knowledge of mathematics, science and engineering.
- 3 (b) Design and conduct experiments, as well as to analyze and interpret data.
- 3 (c) Design a system, component, or process to meet desired needs.
- 3 (d) Function on multi-disciplinary team(s) as demonstrated by the execution of a team project that is too large, complex, or diverse for a single person. Partition a project into tasks and lay out a project plan. Execute the project and produce the required deliverables.
- 3 (e) Identify, formulate and solve engineering problems.
- 3 (f) Demonstrate understanding of professional and ethical responsibility.
- 3 (g) Communicate effectively.
- 3 (h) Gain understanding of the impact of engineering solutions in a global, economic, environmental and societal context.
- 3 (i) Recognize the need for, and an ability to engage in life-long learning.
- 3 (j) Gain knowledge of contemporary issues.
- 3 (k) Use the techniques, skills and modern engineering tools necessary for the practice of engineering.
- Program specific criteria (please describe on back of this form)

Approved by: _____
Enterprise Faculty Advisor Date

Approved by: _____ Senior Design Ready _____
Academic Department Date (Initial)

Approved by: _____
2nd Major/Deg Academic Department Date

Return completed form to Enterprise Program Director, IIS, 722 M&M.

Enterprise Design Verification, Rev 2
Feb-09

Abstract Template for Verification of Senior Design Objectives Form

Topic

Project Topic Here

Objective:

One sentence project objective

Background

concise background of problem domain ...

What is driving the need...?

Include photo

Project Scope

basic project scope here, maybe bullets of goals, specifics, etc.

rough definition of design space...

desired skill sets on team – curricula involved, grad student support needed?..

describe focus of team

Project Goals

- bullet 1 with sub-bullets:
 - desired outcome
 - design for X
 - performance goals
 - etc...
- some analysis deliverables along with design prototype, etc....
- goal 3
- goal 4
- etc.....
-

Sponsor Can Provide:

- any special information, background, hardware, specialized testing eqpmt. etc.
- anything in existence that may support project goals
- bullet 2
- bullet 3
- etc....

Timing

Project Start: Thursday of Week 1 (Semester I)

Project Completion: Finals of Week (Semester II)

Preliminary project milestones for ENT4950	
Week 1	Begin semester
Week 2	Initial contact with advisor and sponsor
Week 6	Draft project plan complete
Week 7	Project plan approved
Week 11	Mid-semester design review, concepts review
Week 12	Concept selection complete
Exam week	Panel Review

Preliminary project milestones for ENT4960	
Week 1 - Monday	Begin semester
Week 4	Alpha proto near completion, begin evaluation
Week 8	Alpha proto complete, some testing and revision
Week 14	Final documentation and presentation