Department of Mechanical Engineering Technology

Course number/name:

MECH 4860: Project Management

Credits/contact hours:

3 credits, 2 class hours, 2 lab hours

Instructor/coordinator:

Sidi Berri, Professor of Mechanical Engineering Technology

Text book/title/author/year

Project Management, Harold Kerzner, Wiley 2005, ISBN 0471741876

Specific course information

Catalog description:

This course will introduce the student to basic project management concepts. It will provide students with the knowledge and skills necessary to plan organize and control an information systems project. Topics include project lifecycle management, cost management, risk management and schedule management.

Pre/Corequisites:

MECH 3500

Required/elective/selected elective:

Required for Mechanical Engineering Technology and Industrial Design Technology

Course learning objectives:

1. Understand the basic elements of project management.
2. Demonstrate knowledge of project management terms and techniques, such as cost estimates, Earned value management, leadership, motivation theory and team building.
3. Use appropriate software packages to help plan and manage a small project.
4. Apply project management concepts by working in a team project as a project manager or active team member.

Course addresses ABET student outcomes: SO1, SO2, and SO4

Brief list of topics to be covered:

- Introduction to Project management. Basic purpose of project management, potential benefits, project management software tools.

- Project management planning cycle. Establishing project objectives, prerequisites of good planning, time/cost, planning and control phase, applications/case studies.

- Project management organization. Project management/functional management matrix, assigning responsibilities and delegating authority, organizational conflicts in project management, applications/case studies.

- Developing the project plan. Creating a task list, defining resources and constraints, project time-vs-calendar time, plan for change, applications/case studies

- Critical path analysis. Network analysis, developing the schedule and critical path analysis, forward and backward planning, refining the schedules to meet project objectives, applications/case studies.

- Defining resources and costs. Developing the project budget and critical resources analysis, the resource (cost) budget, estimating cost techniques, managing under uncertainty, the benefits of having a good total plan, applications/case studies.

- Implementing the project plan. Approving the plan, distribution of the approved plan, assigning plan resources to the plan, arranging for reproduction and distribution of reports, the go-ahead, applications/case studies.

- Managing the project plan. The approved project plan as the baseline plan, recording and posting requested baseline changes, managing the baseline change process, importance of the good communication in the change process, applications/case studies.

- Project management problem resolution. Problem solving concepts, progress status information, measuring schedule status against the baseline plan, applications/case studies.

- Computer tools in project management. Working with multiple projects, data sharing concepts, project workgroups, applications/case studies.