

ISYE 4106 SENIOR DESIGN

Credit: 0-12-4

Required

Prepared Prof. Hackman, Fall 2007

Prerequisite(s): ISYE 3025 and ISYE 3133 and ISYE 3232 and ISYE 3044

Catalog Description

Senior design project requiring student groups to formulate a project plan with a business enterprise. Includes specific milestones, targets, and evaluation criteria.

Text

No textbooks. Readings on communications, technical writings, team work, project management, and leaderships are often recommended by advisors.

Objectives

Senior design provides a design experience similar to ISyE professional practice, and an opportunity to learn about the business world. The experience includes team work and the management of people, project and time. The management of the project is organized in a hierarchy including student, supervisor, project manager and client representative.

Topical Outline (Milestones)

1. Before semester begins: team formation, client and project selection under senior design coordinator
2. 2nd and 3rd week: Proposal and presentation to faculty and client.
3. 7th and 8th week: Interim report and presentation to faculty and client
4. 14th and 15th week: Final report and presentation to faculty and client

Outcomes

The senior design or capstone course covers all the program objectives. At the end of this course, the students will exhibit the ability to:

- Work effectively in a team project that includes managing the project, time and people, including team members and other stake holders.
- Define a problem properly considering the responsibilities, capabilities and constraints in time, budget, information, and other resources.
- Identify relevant factors and collect the related data and information via communication, computer systems and direct observations.
- Apply methodologies studied in the curriculum in a cumulative and comprehensive manner to model and to solve the problems, both analytically and computationally.
- Use library, on-line and other resources to acquire knowledge not covered in the curriculum.

- Define sound evaluation criteria and to apply them to the solutions and to present value of the project.
- Communicate to the various stake holders, including client, supervisor and evaluator in one-on-one, group discussions, formal presentations, e-mails, formal correspondence and report.

Course outcome \ Program Outcomes	a. apply math	b. data	c. IE method	d. team	e. problem solving	f. prof/ and ethical responsibilities	g. communication	h. global, eco, envi and soc context	i. continue to improve	j. current issues	k. participate in an organization
Work effectively in team project				H			H				H
Define problem			H	H	H	H	H	H			
Identify factors, collect data		H	H	M		M	M			M	
Apply method	H		H	M	H			M		M	
Use library, on-line and other resources									H	H	
Evaluation	M				M	M		H		M	M
Deliver effective presentations oral		L	M	M		L	H				H
Prepare effective written report	L		L	M	M	M	H	L	L	M	M

- H, M and L denote high, moderate and low relationships.

The evaluation of these outcomes are based on presentations, reports, peer evaluations, feedback from clients, and advisor assessment.