

UNIVERSITY OF FLORIDA
Department of Industrial and Systems Engineering

EIN 4335

Fall 2011

Senior Design

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Homepage: Posted on UF E-Learning System
Class Hours: M, W, F 4:05 to 4:55 p.m. in WEIM 1084
Office Hours: After class or by appointment

Faculty Coaches

A professor will serve as your faculty coach.

Catalog Description

Integration of industrial and systems engineering methodologies with emphasis on methods of successful implementation. A project and case-study oriented course.

Objective

The purpose of this course is to give students skills in carrying out a project for a designated client, just as practicing engineers. This course brings together many of the tools presented in previous courses to solve the problems defined in the project. Students also acquire additional experience in giving presentations and technical writing.

Pre-requisites EIN 3314C, EIN 4365, ESI 4221C and ESI 4523; Coreq: EIN 4333.

Course Objectives

Students solve a client-driven problem and present their answer for review.
To give students exposure to ISE as a profession.
To illustrate ISE in practice.
To give students some background in professionalism, including business etiquette, ethics and teamwork.
To allow students to integrate a variety of ISE tools and illustrate their use in problem solving.
To hone writing and presentation skills.

Contribution of course to meeting the professional component

The course will help students function on multidisciplinary teams; identify, formulate and solve engineering problems; understand professional and ethical responsibilities; communicate effectively; understand the impact of engineering solutions in a global and societal context; and understand contemporary engineering issues.

Relationship of course to program outcomes

The course will help students prepare for professional careers in ISE. After completing the course, students should understand their professional and ethical responsibilities, be aware of contemporary engineering issues, and recognize the need for life-long learning.

<u>Grading</u>	Weekly update memos.....	5%
	Proposal report.....	10%
	Proposal presentation.....	7.5%
	Midterm project report.....	10%
	Midterm project presentation.....	7.5%
	Final project report.....	20%
	Final project presentation	15%
	Final project poster.....	2.5%
	Course improvement report.....	2.5%
	Individual evaluation (coach).....	10%
	Individual evaluation (team).....	5%
	Sponsor evaluation.....	5%

Scale Grading is based on a straight scale: A: 92 – 100; A-: 90 – 91.9; B+: 88 – 89.9; B: 82 – 87.9; B-: 80 – 81.9; C+: 78 – 79.9; C: 72 – 77.9; C-: 70 – 71.9; etc.

After final grades are computed (on a basis of 100), 0.5 points will be deducted for each unexcused absence from a lecture. Excused absences must be requested (via email) at least 24 hours in advance.

A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Evaluation Note that the grading here is not as straightforward as traditional tests and quizzes because the required output consists of reports and presentations. The following gives further guidance on grading:
A: outstanding grade--must demonstrate initiative, be self-motivated and go beyond what is asked for in the program
B: above-average grade--requires that all required assignments are completed on time, done with care and are correct
C: average grade--awarded for work that is on time, but demonstrates a lack of initiative
D: below-average grade--awarded for work that is late, only partly fulfills the requirements and demonstrates no initiative

F: failing grade--given for work that is missed and does not fulfill the requirements of the assignment

Format Student teams will meet weekly with their faculty coach to move the project forward. Class lectures will be held on scheduled days (see attached schedule). Teams will travel to client at least twice (pre-proposal and for mid term review), although multiple visits may be necessary.

Essentials Students are expected to spend at least 12 hours per week on the project. Student teams must meet with their faculty coach at least once a week. During the course of your project, team members may be privy to sensitive company information. Maintain confidentiality as required. Remember that when you are working on-site at the company you are representatives of the University of Florida. Dress and act appropriately.

Lecture Topics

Project Management
Dealing with Clients
Technical Writing: Memos, Summaries, Reports
Presentation Skills
Teamwork
Ethics

Deliverables **Weekly Memos:** Due every Monday by 4 p.m. on e-Learning starting August 29 and finishing on November 28. The memo should detail what the team accomplished during the last week, what the team plans to accomplish during the next week, and describe any issues or problems that the team is experiencing. (Document your process as if you were billing!) You may want to share these with the client. *All off campus travel must be documented before departure.*

Proposal: Due September 19 by 4 p.m. on e-Learning and hardcopy in class. A project proposal broadly describing the problem and probable method of approach should be submitted. Indicate in the proposal the company background, problem statement, probable method of analysis, and project deliverables. To supplement the report, include a work breakdown structure (WBS) detailing all work packages, a project network diagram, a Gantt chart detailing all major steps in the project, and a linear responsibility chart (LRC) showing who is responsible for what.

Mid-term Report: Due October 24 by 4 p.m. on e-Learning and hardcopy in class. Format lies between that of the final report and the proposal as it reviews what has been completed and what remains to be completed. An assessment of where the project stands in relation to the proposed schedule is required with necessary discussion of any deviation.

Draft Final Report: Due November 28 by 4 p.m. on e-Learning and hardcopy in class. See final report below for contents.

Final Report: Due December 9 by 8 a.m. on e-Learning and hardcopy in class. Report must contain an executive summary, introduction, assumptions, synopsis of analyses, additional factors, conclusions, recommendations, and appendix (if necessary).

Poster: Due December 7 by 4 p.m. on e-Learning. Single PPT slide summarizing the project for distribution during final presentation.

Improvement Report: Due December 5 by 4 p.m. on e-Learning. Report must contain a review of the course, including client-student team relations and any suggestions for improvement. More importantly, three future projects identified during the current project are to be proposed and described in detail.

- Honesty All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.
- Disabilities Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.
- Counseling Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
- UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
 - Career Resource Center, Reitz Union, 392-1601, career and job search services.
- Software All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Course Calendar (Specific Dates Subject to Change)

Aug 22	Course overview.
Aug 24	Lecture Topic: Client and Team Management.
Aug 26	Team Meeting
Aug 29	Lecture Topic: Project Management.
Aug 31	<u>No class:</u> Travel to sponsors for introductory meeting (must schedule).
Sept 2	Team Meeting
Sept 5	<u>No class:</u> Labor Day.
Sept 7	Team meetings
Sept 9	Team Meetings
Sept 12	Lecture Topic: Project Management.
Sept 14	Team meetings
Sept 16	Team meetings
Sept 19	Proposal presentation delivered in class. <i>Written proposal due.</i>
Sept 21	Proposal presentations continued (if necessary).
Sept 23	Team Meetings
Sept 26	Lecture Topic: Writing Technical Reports
Sept 28	Team Meetings
Sept 30	Team Meetings
Oct 3	Lecture Topic: Presentations
Oct 5	Team Meetings
Oct 7	Team Meetings
Oct 10	Lecture Topic: Presentations
Oct 12	Team Meetings
Oct 14	Team Meetings
Oct 17	Lecture Topic: Summaries
Oct 19	Team Meetings
Oct 21	Team Meetings
Oct 24	Project update delivered in class. <i>Mid-term report due.</i>
Oct 26	Project updates continued (if necessary).
Oct 28	Team Meetings
Oct 31	<u>No class:</u> Travel to sponsor for update meeting.
Nov 2	Team Meetings
Nov 4	Team Meetings

Nov 7	Lecture Topic: Ethics
Nov 9	Team Meetings
Nov 11	Team Meetings
Nov 14	Lecture Topic: Ethics
Nov 16	Team Meetings
Nov 18	Team Meetings
Nov 21	Lecture Topic: Ethics
Nov 23	<u>No Class: Thanksgiving</u>
Nov 25	<u>No Class: Thanksgiving</u>
Nov 28	Lecture Topic: Final Issues. <i>Draft final report due.</i>
Nov 30	Team Meetings
Dec 2	Team Meetings
Dec 5	Final review, evaluations and wrap-up. <i>Course improvement report due.</i>
Dec 7	Team Meetings. <i>Poster due.</i>
Dec 9	Final presentations with sponsors at UF. <i>Final report due.</i>