

SYLLABUS AND GENERAL COURSE INFORMATION

ISE 254

SENIOR PROJECT, Fall 2017

Instructor: Dr. Emory W. Zimmers, Jr., Professor of Industrial & Systems Engineering; Director, Enterprise Systems Center / email: ewz0@lehigh.edu

Student Services Coordination and Project Logistics: Mythreyi Sekar

Consultants/Mentors: Gus Gustafson, Doug Sunday, Tom Brinker, Charalambos Marangos, Joe Feskanin, et. al

Electronic Submissions: Will vary depending on the nature of the project and mentor assigned. The submission will be one or more of the following: Email address of the mentor, Course Site or email to ise254submissions@gmail.com. At the beginning of the project the method(s) of electronic submission will be communicated to the student by the project mentor assigned.

Course Description: The use of industrial and systems engineering techniques to solve a major problem in either a manufacturing or service environment. Problems are sufficiently broad to require the design of a system. Human factors are considered in system design. Laboratory. (Typically, the Senior Industrial Engineer is given the opportunity to put to use appropriate techniques to analyze a real-world problem, design a new or improved system, and in some cases carry out solutions. Traditional industrial and systems engineering techniques as well as newer approaches will be utilized. The end result will be a formal project report that may be forwarded to the company or partner client by the project mentor or instructor. This includes time and effort reporting forms.)

Course Objectives: Upon completion of this course, students will:

- Be able to develop an approach for solving unstructured problems in a real-world setting.
- Understand the ethical implications of decisions. (Reference National Society of Professional Engineers, Code of Ethics for Engineers)
- Know how to select and apply design tools as well as justify and document the tools that were employed.
- Design a new or improved system as appropriate to the project.
- Develop and present a comprehensive final report articulating the design process that was followed as well as the final design itself.
- When appropriate, be able to use collaborative technologies such as interactive conferencing to conduct project meetings or present results.
- Know the terms and reasons for consideration of human factors in the design of workplaces, equipment and systems.

Attendance Policy: Attendance is required. The student is responsible for all material covered in class, including any announcements about quizzes as well as course topic material, short quizzes, and *missed opportunities to answer class questions when absent* (e.g. for class participation part of grade).

Formal Class Meetings: Please check Course Site for formal class meeting times. In order to optimize the time available for project work with the company, class may not be held at every one of the registrar assigned times. Individual team meetings with mentors and company personnel may be scheduled at various times. (At the convenience of all participants)

Quiz Policy: A formal excuse is required for any missed quiz. Any make-up quizzes which may be given will be scheduled by agreement of those concerned. If a student also misses the make-up quiz, a grade of zero will be recorded. No make-up will be offered for short-quizzes.

Text:

1. **Required Text:** *Fundamentals of Project Management*. 5th Edition, Joseph Heagney, AMACOM.
Reference Text: *Work Systems and the Methods, Measurement, and Management of Work*, Mikell P. Groover, Pearson Prentice-Hall. (Purchase NOT required for this course.)

Also, note that additional reading may be assigned during the course. If a student is absent when the reading is assigned and distributed, it is his or her responsibility to obtain a copy or access online information (e.g. from another student).

Accommodations for Students with Disabilities: If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center C212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

Policy on video and audio devices: Any student voice or video recording device may be used only with the approval of the instructor and all participants of the course.

Grade Distribution and Deductions

Grade Distribution

In Class Hour Tests (2) at mid semester and at end of semester (Tests are announced two weeks prior)	40%
Project	40%
1. Final Report and Project Poster	
2. Final Class Presentation (Required to get ANY Design Project Credit)	
3. Final Video Presentation (Required to get ANY Design Project Credit)	
4. Progress Reports (2)	
5. Design Project Definition (incl. Gantt Chart (1%))(Gantt Chart is required to get ANY Design Project Credit)	
6. Work logs (10)	5%
7. Weekly Reports (10)	5%
8. Class Participation, Mentor evaluation and Short Quizzes	10%

Progress Reports, Work Logs and Weekly Reports should be submitted as specified by your project mentor: Failure to hand in will result in a value of zero for that specific submission. (For example, one missed work log is 1/10th of 5 %.) (Work Logs (usually 10) and Weekly Reports (usually 10) also must be submitted in the Appendix of the final project report or no grade will be given for the Project.) If you did not visit the office or work place, please note this in your weekly report explaining the reasons. 10% of the value of the Final Report will be deducted for every day late.

Notes:

- The final project report must be submitted electronically to both your mentor and Course Site.
- The poster does not need to be printed out on full size paper. It should be submitted electronically as part of the final report. Selected posters will be displayed at the Enterprise Systems Center and used on the Enterprise Systems Center website.