MSE504 - Engineering Management
Summer 2016, Ticket 10239, Wednesday 6:30-9:40 p.m., Room: JD-3510

Instructor ***Ghassan "Gus" H. Elias***
- **BS & MS**, Industrial/Manufacturing Systems Engineering
- **Expertise:** Engineering Consulting, Decision-Making/Risk Analysis and Facility Planning. Industrial Safety & Material Control - Global Certification Programs for Commissioning Electronic & Pneumatic Devices in General (Non-Hazardous) Locations, Hazardous 'Classified' Areas & Potentially Explosive Atmospheres.

- Faculty Email Address: ***Gus.Elias@csun.edu*** , Website: http://www.csun.edu/~ghe59995/
- Faculty Office: **JD-3308**
- Office hours: Tuesday 6:00 p.m. – 6:50 p.m. and **by appointment**
- MSEM Department Office: JD-4510; (818) 677-2167; email: msem@csun.edu

Text Book Lucy C. Morse & Daniel L. Babcock - **Managing Engineering and Technology**, **Sixth Edition** - Prentice-Hall, 2009.

ISBN-13: 978-0-13-348510-3 & ISBN-10: 0-13-348510-2

Catalog Description Prerequisite: Consent of instructor. An introduction to management of engineering and technology. Principles and applications to effectively manage technical projects, people, budgets and schedules. Organizing and motivating people, and controlling activities. Managing research, development, design and production activities. Directing projects, improving quality, and engineering ethics.

COURSE OBJECTIVES

This course will contribute to ***your***:

- knowledge of engineering and technology management concepts and tools, particularly as they pertain to issues of engineering planning, strategy, and control
- ability to facilitate the implementation of solutions to engineering problems
- ability to design and implement the complex human systems and processes essential to meeting engineering objectives
- ability to lead and function effectively on multidisciplinary and multicultural teams
- understanding of engineering professional and ethical responsibilities
- ability to communicate effectively, both orally and in writing
- knowledge of contemporary issues / ability to understand the global/societal context of engineering
- recognition of the need for, and the ability to engage in, independent learning
- ability to use word processing and to conduct literature and web searches

STANDARD OPERATING PROCEDURES

1. Class members are expected to maintain personal and professional standards consistent with the Code of Ethics of the national Society of Professional Engineers, the Preamble and Fundamental Canons of which are as follows:

Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct. Engineers, in the fulfillment of their professional duties, shall:

- ***Hold paramount the safety, health and welfare of the public.***
- ***Perform services only in areas of their competence.***
- ***Issue public statements only in an objective and truthful manner.***
- ***Act for each employer or client as faithful agents or trustees.***
- ***Avoid deceptive acts.***
- ***Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.***

2. Students must take **ORIGINAL NOTES** and submit **ONLY ORIGINAL WORK**. Notes from previous semesters taken by others are **NOT** allowed.
3. Class members are expected to attend ALL class sessions, promptly & entirely.
4. Class members are responsible for the course material, reading assignments, class presentations, discussions, and practice problems.
5. Tardy/Late submissions are unacceptable…..NO EXCEPTIONS!
6. Class members will always be considerate & respectful to their colleagues.
7. Pagers, Cellular Phones, Alarms, etc…***MUST BE TURNED OFF*** during class.
8. **IMPORTANT NOTICE:** Using PC Laptops (unless authorized), cameras and/or mobile phones during the midterm and/or final exams is prohibited. Violation of this rule will result in issuance of an "F" grade for the course.

NO EXCEPTIONS!

COURSE PLAN

(Tentative guidelines -- may change if deemed necessary)

This is a hybrid class (OH) whereby six (6) class meetings on campus shall be conducted on-campus to attend review lectures, solve problems and take the midterm and final exams.

The subject material will be covered mostly online via MOODLE.
Note: Weekly group homework assignments will be given in class.
Also, special research projects will be given as a group assignment.

Meeting dates: Will be confirmed in class !

Online Class ..... 05/31/2016 - 08/23/2016 (Throughout the summer semester)

06/01/2016, 06/15/2016, 06/29/2016, 07/13/2016, 07/27/2016, 08/10/2016

Week	Topic		Task
1.	**Welcome! – Class Outline & Syllabus Overview**		Groups: Purpose & Formation
	- Introduction to Engineering Management		Lecture: **Chapters 1**
	- Historical Development Of Engineering Management		Lecture: **Chapters 2**
2.	Managerial Functions:		Syllabus Revisited – Group Confirmation
	- Leading Technical People		Lecture: **Chapter 3**
3.	Managerial Functions:		
	- Planning & Forecasting		Lecture: **Chapter 4**
4.	Managerial Functions:		
	- Decision-Making		Lecture: **Chapter 5**
	- Organizing		Lecture: **Chapter 6**
5.	Managerial Functions:		
	- Some Human Aspects of Organizing		Lecture: **Chapter 7**
6.	Managerial Functions:		
	- Controlling		Lecture: **Chapter 8**
7.	**MIDTERM Exam (35%)**	**Chapters 1 through 8**	**Full session.** Use Engineering (light green) paper
8.	**Midterm graded, returned and solution reviewed**		
	Managing Technology:		
	- Managing Research & Development (R&D)		Lecture: **Chapter 9**
9.	- Managing Engineering Design		Lecture: **Chapter 10**
	- Planning Production Activity		Lecture: **Chapter 11**
10.	- Managing Production Operations		Lecture: **Chapter 12**
	Managing Projects:		
	- Project Planning & Acquisition		Lecture: **Chapter 14**
11.	- Project Organization, Leadership & Control		Lecture: **Chapter 15**
	Course Wrap-up & Review		
12.	**FINAL EXAM (45%)**	**COMPREHENSIVE**	Time: **6:30 – 8:30 p.m.** Use Engineering (light green) paper

---

COURSE EVALUATION

Attendance/class & online participation are a MUST !

20 points **Homework & Special Research Assignments**
Late submittals will NOT be accepted. NO EXCEPTIONS!

35 points **Midterm Exam – Chapters 1 through 8, class lectures & discussion, homework & reading assignments.**

Format: True/False, Multiple Choice, Essay Questions, Analytical Problems.

"May be" Open Book & Open Notes or Closed Book/Closed Notes:

ONLY ORIGINAL WORK/NOTES ARE ALLOWED & EXPECTED!

45 points **Final Exam – Comprehensive (all of the discussed material in the semester)**

Format: True/False, Multiple Choice, Essay Questions, Analytical Problems.

"May be" Open Book & Open Notes or Closed Book/Closed Notes:

ONLY ORIGINAL WORK/NOTES ARE ALLOWED & EXPECTED!

Letter Grade Scale:

(Refer to the next page for more information on grading)

$A \geq 92$	$89 \leq A- < 92$	$85 \leq B+ < 89$
$80 \leq B < 85$	$78 \leq B- < 80$	$75 \leq C+ < 78$
$70 \leq C < 75$	$60 \leq D < 70$	$F < 60$

This syllabus is your course contract with the instructor, and the MSEM department. All students must fully adhere to the stated terms and guidelines.

****

For Your Information

- **'A' grade range (A to A-) is reserved for work that is exceptional. This means that it (1) is professional and reflects the writer's/s' careful consideration of audience and purpose; (2) shows perfect to near-perfect understanding of the necessary concepts and analytical tasks; (3) where appropriate, it shows the capacity to think creatively or to see implications beyond the immediate scope of the question; (4) contains all necessary information (invention); (5) is arranged in a logical manner (6), is memorable; (7) delivery is visually appealing; and (7) is free of mechanical errors and is formatted as specified. Work must be flawless to attain an A/A-. Work with minor flaws that is nonetheless excellent in other ways will earn an A-.**

- **A grade in the B range means that the work is acceptable at the graduate level (B- range) to very good (B/B+). This work satisfies all (B+) or most (B/B-) of the requirements of the question/research task, shows the capability to think beyond the task by relating it to other areas of knowledge in or outside of the course; is neatly presented and shows above-average use of academic English. If the work is decently written, is formatted basically correctly, and covers most of the required content, but has several minor flaws or one major flaw, the grade will be B-.**

- **A grade in the C range means that the work, while covering much of the required ground, does not show graduate-level analytic and expressive ability. That is, major and minor items may be missing or incorrect; and while the language may communicate most points adequately, it does not qualify as above-average academic work.**

- **A grade in the D range shows that the work does not, overall, achieve an acceptable level of coverage of the requirements AND/OR the language is insufficient to make the writer's points understandable to the reader. The content may be either incorrect to an unacceptable degree, or very incomplete.**

- **A grade of F indicates that so little of the required content is covered that grading the paper is an exercise in futility. It may mean that very major points have clearly not been grasped or have been misunderstood by the student. An F may also indicate that the ideas are expressed in such a way that they are not at all understandable to the reader. A grade of F is also awarded when assigned work is not handed in, or not handed in by the set deadline.**

****

Oral Presentations Scoring Rubric

Weak (1)	The presentation does not respond to many of the requirements of the assignment, and/or is poorly tailored for the intended audience	The depth of analysis and evaluation of the presented material is not sufficient, and discussion contains unnecessary or trivial material	The presentation is poorly structured; organizational flaws undermine its effectiveness and clarity	Visual aids are not designed to effectively to convey the information intended by the speaker	Speaker is not prepared and has to read from visual aids or cue cards, does not use voice or body language effectively to engage audience in topic	Speaker is not dressed appropriately for the audience, does not present him/her self in a serious and professional manner	The presentation just seems to end abruptly without any summation for the audience
Adequate (2)	The presentation responds to the assignment and addresses the topic, but has significant weaknesses with respect to some of the requirements and/or appropriate technical level	Presented material is analyzed and evaluated at a reasonable level but is not used effectively to support many of the main points	The presentation has a defined structure, but the organization is not optimal for supporting the presentation's content	The visual aids are generally supportive of the presentation, but some of them are difficult to read, too busy, and/or not necessary for the intent of the talk	Speaker is reasonably prepared but tends to look at visual aids for prompting, and is not able to communicate all of the intended content	Speaker is reasonably dressed, but some lapses in decorum detract from the presentation's impact	The presentation has a brief conclusion but is not substantial in content
Good (3)	The presentation responds to the assignment and addresses the topic, but has minor weaknesses with respect to some of the requirements and/or appropriate technical level	Presented material is analyzed and evaluated and appropriate reasons, discussion of alternatives, explanations, and examples are given for most of the main points	The presentation is generally well-structured, with only a few flaws in overall organization	The visual aids are informative and generally supportive of the presentation, but could be improved to more effectively complement the speaker's content	Speaker is prepared and familiar with the content of the visual aids, but may occasionally stray from topic and/or have other deficiencies in speaking style	Speaker is appropriately dressed, generally acts professionally, but exhibits some minor lapses in decorum	The presentation has a conclusion but some of the key points are not highlighted effectively
Excellent (4)	The presentation responds to the assignment and addresses the topic and all requirements, at an appropriate technical level for the intended audience	Presented material is completely analyzed and evaluated, providing support for main points with reasons, discussion of alternatives, explanations, and examples as appropriate	The presentation is well-structured; its organization contributes to its purpose. The problem is clearly stated and technical content is well ordered for clarity	The visual aids (e.g. PowerPoint slides) are informative, well designed, easy to read, and complement the speaker's content. The number of slides is consistent with the time limit of the presentation	Speaker is well prepared, establishes effective eye contact with the audience, speaks clearly and audibly, stays on topic and finishes the presentation on time	Speaker is appropriately dressed, avoids distracting body language during presentation, comports him/her self professionally throughout the presentation	Key points are clearly re-stated at the end of the talk so that the audience clearly understands the purpose of the technical work
	RESPONSE TO ASSIGNMENT: Oral presentations are expected to completely address the topic and requirements set forth in the assignment, appropriate for the intended audience.	**ANALYSIS AND DISCUSSION:** Oral presentations are expected to provide an appropriate level of analysis, discussion and evaluation as required by the assignment.	**ORGANIZATION:** Oral presentations are expected to be well-organized in overall structure, beginning with a clear statement of the problem and ending with a clear conclusion.	**STYLE/FORM AND FORMAT;** Presentations are expected to be stylistically effective – that is, to consist of visual aids with well-chosen words and graphics which complement the speaker, and consistent with the time limit of the presentation.	**SPEAKING SKILLS:** Presenters are expected to use an effective speaking style which exhibits enthusiasm, generates interest in the audience, and communicates the intended information.	**PROFESSIONALISM:** Presenters are expected to dress appropriately for the audience and act in a manner expected in a professional setting	**CONCLUSIONS:** Presentations are expected to draw appropriate conclusions and recommendations based on its content