MSE401 – Introduction to Engineering & Technology Management
CSUN – Fall 2024, Ticket 16327, Mon/Wed 10:00-11:15 am, Room: JD-1126

Instructor Ghassan "Gus" H. Elias: BS/MS; Industrial/Manufacturing Systems Engineering.
- Expertise: Engineering Consulting, Decision-Making, Facility Planning, Risk & Cost Analysis. Industrial Safety and Material Control: global certification programs for commissioning electronic & pneumatic devices in General (Non-Hazardous) Locations, Hazardous 'Classified' Areas and Potentially Explosive Atmospheres.
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Text Book L. Morse / W. Schell / D. Babcock - **Managing Engineering and Technology**, 7th Edition - Pearson, 2006. **ISBN-13: 978-0-13-487565-1 /// ISBN-10: 0-13-487565-6**

Catalog Description Recommended Preparatory: MSE304 for Manufacturing Systems Engineering (MSE) and Engineering Management (EM) majors; MSE300 for Engineering Management Technology (EMT) majors. An introduction to the roles of the engineer in managing engineering and technology activities. Responsibilities of engineering and technology managers, and transitioning into these roles. Challenges and risks in engineering and technology management. Available for graduate credit.

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.

This course syllabus is your contract with the CECS, MSEM and the instructor. Students must read the syllabus thoroughly and adhere fully to ALL of the stated terms and listed guidelines. No Exceptions!

NOTE #1: Activate **and** use **solely** your CSUN email address for ALL academic correspondences. Do not use your personal email address to communicate with the instructor. Messages from non-CSUN email addresses will **NOT** be acknowledged. Instructor will only utilize SOLAR's email database to communicate with class members.

NOTE #2: Failure to formally drop a course within the allotted time frame by CSUN will result in the issuance of a **"WU"** grade which is equivalent to **"F"**, thus detrimentally affecting your GPA.

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 **ORIGINAL WORK** only.

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: The use of PC laptops, mobile phones, video recorders, cameras and/or internet-ready devices during the exams, quizzes and class lecture sessions is strictly prohibited. The exchange of notes, calculators and/or textbooks during the exams and quizzes is also prohibited. Violation of this policy will result in the student's dismissal from the class and the issuance of an "F" grade for the course. No EXCEPTIONS !!**

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COURSE PLAN

(Tentative guidelines – the schedule may change if deemed necessary)

Week	Topic	Textbook	Task
1.	Engineering & Management	Ch. 1	Class Initiation
2.	Historical Development of Engineering	Ch. 2	
3.	Managerial Functions – Leading Technical; People	Ch. 3	Groups Formation
4.	Managerial Functions – Planning & Forecasting	Ch. 4	
5.	Managerial Functions - Decision Making	Ch. 5	Term Project Assignments
6.	Managerial Functions – Organizing	Ch. 6 & 7	
7.	Managerial Functions – Controlling	Ch. 8	
8.	Managing Technology – R & D	Ch. 9	**Project Status Report Due**
9.	**Midterm Exam (30 points)**	**Chapters 1-8**	**& assigned lecture modules**
10.	Managing Technology – Engineering Design // Planning Production Activity	Ch. 10 & 11	**Return Graded Midterm**
11.	Managing Technology – Managing Quality & Production Systems // Engineers in Marketing / Service Activities	Ch. 12 & 13	
12.	Managing Projects – Project Planning & Acquisition /// Project Organization, Leadership, and Control	Ch. 14 & 15	
13.	Engineers Ethics	Ch. 16	
14.	Achieving Effectiveness as an Engineer Globalization and Challenges for the Future	Ch. 17 & 18	
15.	**Term Project Presentations**		
16.	**Term Project Presentations** ***Course Wrap-up & Review***.		PPT & SPEF due
17.	**Final Exam (40 points)** Format: True/False, Multiple Choice, Essay Questions & Analytical Problems	**Comprehensive**	**Monday 16-Dec-2024** **10:15 am - 12:15 pm** Open book/Open notes Use Engineering paper

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COURSE EVALUATION / GRADE SCALE

(10 pts) **Homework & discussion topics (to be announced via CANVAS). *Late submission is not allowed!* Class participation & prompt attendance are mandatory.**

(30 pts) **Mid Term Exam (assigned chapters) -- based on class discussions, homework & reading assignments.**

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

Open Book/Open Notes: ONLY ORIGINAL WORK/NOTES ALLOWED!

(20 pts) **Team presentation on project topic addressing an aspect of Engineering and Technology Management. Submittal of Self/Peer Evaluation Form is mandatory.**

(40 pts) **Final Exam (comprehensive) – based on class discussion, handouts, homework & reading assignments.**

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

Open Book/Open Notes: ONLY ORIGINAL WORK/NOTES ALLOWED!

Letter-Grade Scale (*NO CURVING!*):
((Refer to the last page for more information on the grading criteria.))

A ≥ 92	**88 ≤ A- < 92**		**85 ≤ B+ < 88**
80 ≤ B < 85	**78 ≤ B- < 80**		**75 ≤ C+ < 78**
70 ≤ C < 75	**68 ≤ C- < 70**	**60 ≤ D < 68**	**F < 60**

***** Course grades are due by 22-Dec-2023 *****

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Note:

By the third-fourth week into the semester, groups consisting of 4-to-6 members will be formed on a random basis. Group research assignments will be given throughout the semester along with a final term project.
Class presentations should be expected.
Attend ALL lectures promptly --- Be motivated.

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Academic Dishonesty:

Academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form at California State University, Northridge. All students involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension and/or expulsion from the University.

"Cheating or plagiarism in connection with an academic program at a CSU campus is listed in Section 41301, Title 5, California Code of Regulations as an offense for which a student may be expelled, suspended or given a less severe disciplinary sanction.

Academic dishonesty is an especially serious offense and diminishes the quality of scholarship and defrauds those who depend on the integrity of the University's programs." Please consult university policy regarding plagiarism and the consequences.

https://catalog.csun.edu/policies/academic-dishonesty/

Any student caught cheating or plagiarizing in this class will receive a zero for the assignment and may be referred to the dean's office for additional consequences.

Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person. The instructor reserves the right to submit your papers to turnitin.com for identifying papers containing unoriginal material.

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** **IMPORTANT NOTE:** **Plagiarism will NOT be tolerated whatsoever!** **

For Your Information: Grade Evaluation Criterion

* A grade range of 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 (8) 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 tasks, 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 is 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.