

## MSE303 (Online) – Innovation/Invention & Technology (3 units)

CSUN – Spring 2025, Ticket # 16208

**This course is fully online; administered and delivered solely via CANVAS.**

**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.  
- Email & Webpage: [Gus.Elias@csun.edu](mailto:Gus.Elias@csun.edu) & <http://www.csun.edu/~ghe59995>  
- Office: JD-3308;  
- MSEM Department Office: JD-4510; (818) 677-2167; [msem@csun.edu](mailto:msem@csun.edu)

**TEXTBOOK:** No single suitable text has been identified for the course. A selected set of readings and power-point slides have been created and uploaded. **This course will require of students to perform ample online research and reading relevant periodicals and publications.** **This course is research-based.**  
*Supporting reading materials will also be available at the library reserves.*

### **C.S.U.N. CATALOG - COURSE DESCRIPTION:**

- ***Prerequisite:*** Completion of lower-division writing requirement.
- ***Material:*** Exploration of the history, processes, methods, and creators of technological innovations and inventions. Global contributions, creator diversity, and technological failures are addressed as well as critical assessments of technological innovation and invention.

### **COURSE LEARNING OBJECTIVES:**

This course is designed to improve the student’s ability to:

- Identify and describe the contributions to the modern world as each invention and innovation has effect on, science, engineering, and related areas.
- Identify and describe shortfalls as related to each area of study and how these potential roadblocks have changed the outcome of each invention.
- Describe and analyze the impacts of invention and innovation on our lives today.
- Describe and analyze the impacts on revenue and finance across the globe.
- Explain how innovation has impacted the way we do business and the relationship between company and customer.
- Explain how innovation has impacted the production of goods and how it plays a key role in modern-day inventions versus the past.

**\*\*\* 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 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.

**NOTE #2:** The last day to drop classes is 07-Feb-2025. Students must initiate this process; **not** faculty. Failure to formally drop a course will result in a “WU” grade which is equivalent to an “**F**” grade; affecting your cumulative GPA detrimentally.

## **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 submit **ORIGINAL WORK** only.
3. Students are expected to participate in **ALL discussion threads on CANVAS.**
4. Class members are **responsible** for the course material, reading assignments, presentations, discussions, and practice problems (if any).
5. ***Tardy/Late submissions are unacceptable.....NO EXCEPTIONS!***
6. Class members **will** always be **considerate & respectful** to their colleagues and to the instructor.

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## COURSE SCHEDULE/PLAN

This is a ***TENTATIVE*** syllabus. Depending on the progress of the course material, the syllabus (dates, topics, assignments & exams) ***may change*** if deemed necessary.

**Note #1:** In order to deter **PLAGIARISM**, the midterm and final exams time & date will be set and announced whereby **ALL class members will take them synchronously**. Once set, students will have to work out their schedules accordingly to take the exams.

**NO EXCEPTIONS will be made whatsoever!!!**

**These are the ONLY two (2) date/time slots that are preset and mandated (required) in the entire semester --- ALL students must adhere to the announcements that will be made timely. Ample time will be given to the class so that you prepare well for the 2 fully-online exams.**

**Note#2:** The weekly PowerPoint lecture presentations will be made available to all students via specific hyperlinks and postings on CANVAS.

Date	Topics	Tasks
Wk. 1	Course Introduction / Basics	<b>Update your CANVAS profile!!</b>
Wk. 2	Management of Technology	
Wk. 3	Technological Forecasting	<b>Groups Formation – Term Project Selection</b>
Wk. 4	Managerial Forecasting	
Wk. 5	Technological Strategy I & II	
Wk. 6	The Creativity Process	
Wk. 7	Entrepreneurship I & II , & Intrapreneurship	
Wk. 8.	<b>Midterm Exam (30%) – via CANVAS --- ALL material covered in Weeks 1-8. SPECIFIC Date/Time slot is to be announced -- ALL students will take the exam at the same time.</b>	
Wk. 9	<b>Spring Break Recess - NO CLASS INSTRUCTION (March 17-23)</b>	
Wk. 10	The Fundamentals of <b><u>Invention</u></b>	
Wk. 11	Invention Process - Business Innovation & Invention Timeline & Patent Definition	
Wk. 12	Invention Process – Patent Infringement & Search & Type, & Provisional Patents	
Wk. 13	Organizing Ventures & Intellectual Property	
Wk. 14	The Fundamentals of <b><u>Innovation</u></b>	
Wk. 15	Group Term Project	<b>Due by 11:59 pm on 27-Apr-2025</b> <i>Term Project PPT File <u>and</u> Self &amp; Peer Evaluation Form</i>
Wk. 16	Course Review & Wrap-up	
Wk. 17	<b>FINAL EXAM (35% - COMPREHENSIVE) – via CANVAS</b> <b>SPECIFIC Date/Time slot is to be announced -- ALL students will take the exam at the same time.</b>	

## COURSE EVALUATION / GRADE SCALE

(Refer to the last page of the syllabus for more information on grades)

(15 pts) - **Throughout the Semester** -- Mandatory Contribution to the Weekly Discussions on CANVAS.

**Important Note:** The weekly discussions are locked in a 1-week period -- If you miss it, you lose it!!

(20 pts) - Group Term Project: Research & PPT Presentation (**18%**) --- (**to be announced**).  
Research based projects requiring a PPT presentation -- assigned by the instructor).

- Submittal of the Self & Peer Evaluation Form (SPEF) is **MANDATORY** (**2%**).

You can download the SPEF via: <http://www.csun.edu/~ghe59995/courses.html#MSE303>

It will also be posted on the course page on CANVAS.

**Important Notes:** 1- **By not submitting the SPEF, the student will forfeit the +/- sign for the course grade.**

2- **By not contributing to the group term project, the student will then receive 0/20 points. NO EXCEPTIONS!**

(30 pts) - Midterm Exam (**selected material** - **TBA**) -- based on class discussions, research and reading assignments.

**Format:** True/False, Multiple Choice, & Essay Questions.

**Via CANVAS**

(35 pts) - Final Exam (**comprehensive**) – based on class discussions, research and reading assignments.

**Format:** True/False, Multiple Choice, Essay Questions.

**Via CANVAS**

**Letter-Grade Scale** (**Curving of grades will NOT be utilized!**):

$A \geq 90$	$88 \leq A- < 90$	$85 \leq B+ < 88$
$80 \leq B < 85$	$78 \leq B- < 80$	$75 \leq C+ < 78$
$70 \leq C < 75$	$68 \leq C- < 70$	$60 \leq D < 68$
		$F < 60$

## IMPORTANT NOTES

**Note #1:** Once the exams are set and announced, students will have to work out their schedules accordingly in order to take the exams in a timely manner and not to miss them. **The 2 term exams will be given on either Fridays or Saturdays** – for a 120-150 minutes duration. This will ensure that all students have finished their school day without the restriction of evening classes, Ample time will be given to the class so that you prepare well for the 2 fully-online exams.

These are the **ONLY two (2)** date/time slots that are pre-set and mandated (required) in the entire semester --- ALL students must adhere to the announcements that will be made timely. If you miss taking an exam, you simply lose it. Unless exigent circumstances (**that are documented and can be validated**) occur, no make-up exams shall be granted to anyone ---- **NO EXCEPTIONS WHATSOEVER**. Once the exam is announced on CANVAS, it is your obligation to mark your calendar to be available during the allotted date/time.

**Note#2:** The weekly lecture material will be made available to all students via specific hyperlinks and postings on CANVAS.

### **GROUP TERM PROJECT GUIDELINES:**

- Groups will be randomly assembled to consist of 4-6 members each.
- Topics for the group term project will be assigned by the instructor.
- The term project is worth **20%** of the course overall grade (**PPT=18%, SPEF=2%**).
- All class members **MUST** participate in the research task & creation of the PPT file.
- Physical or virtual presentations by the groups are **NOT** required -- Only the PPT file.
- The **mandatory** “Self & Peer Evaluation Form” (posted on CANVAS and the course website) is due on **27-Apr-2025 by 11:59 pm (PST)**. Submitting the SPEF (**2%**) is mandatory by all class members. **The form must be “typed” and not hand-written or scanned.** Students will individually and confidentially submit the form in as a PDF. **A special link will be made available in the course module.**
- The complete **Project PPT file (18%)** is due on **27-Apr-2025 by 11:59 pm (PST)**. **Each group leader/facilitator shall upload the PPT file via s special link to be made available in the course module on CANVAS (one file upload per group!).**
- **The PPT must contain 40 slides**, no more or less (not counting the cover page & the references page) and should be done professionally. The cover page must include the names and clear pictures of all group members. The presentation must be informative, creative, rich, insightful, credible and reader-friendly with nice graphics. **Additional information will be posted on CANVAS in reference to the desired PPT format.**
- It is a fundamental principle of academic integrity that the authorship of the intellectual content of works submitted as part of a class assignment must be fairly represented. Contributions of language and thought must be appropriately credited.

**Submissions that do not conform to the above format will not be accepted.**

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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](https://turnitin.com) for identifying papers containing unoriginal material.

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### **For Your Information: Grade Evaluation Criterion**

\* '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 (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.