UTTyler ENGINEERING

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MENG 5304 – Engineering Leadership and Professionalism
MSEL 5310 – Leading Complex Organization
Syllabus

Semester / Year	Fall I – 2025 (7-weeks semester)
Catalog Description	This course equips engineers with the essential competencies to enhance the impact of their technical expertise and prepares them for leadership roles as informed citizens within engineering teams, organizations, the profession, and society. A central focus is placed on developing advanced communication skills, particularly in technical communication, and cultivating the ability to engage in continuous improvement and independent research. These competencies are applied within a framework of engineering ethics and professionalism. Core topics include leadership development, professional responsibility, sustainability, legal and ethical considerations, human-centered engineering, globalization, societal and environmental impacts, and project management.
Prerequisites	Engineering Graduate Standing and Instructor's permission.
Section Number	TBD
Instructor Name	Nael Barakat
Contact Information	nbarakat@uttyler.edu, 903-566-7003
Class Type / Instruction Mode / Location	ONLINE **Method of instruction:** Recorded Lectures, reading material, discussions, case studies, active learning, assignments, exams, projects, and presentations. **Assignments / Homework:** Frequent assignments and homework will be assigned to reinforce lecture concepts and evaluate assigned learning activities. **Quizzes/Exams:** Quizzes and exams will be used at natural points in the course to assess student learning. **Semester Project:** Students will be required to work on a semester project that explores an advanced area of professional practice. The project report will emphasize the need for clear communication including a written paper and an oral presentation.
Class Time	TBD
Office Hours	TBD + Email to setup an appointment
No. of Credits	3
Required Textbook	Charles E. Harris, Jr./Michael S. Pritchard/Michael J. Rabins/Ray W. James, P.E./Elaine E. Englehardt, "Engineering Ethics: Concepts and Cases," 6th Edition, 2019, CENGAGE.

	ISBN: 9781337554503 https://www.cengage.com/c/engineering-ethics-concepts-and-cases-6e-harris-pritchard-rabins-james-englehardt/9781337554503/	
Optional References	Leedy P. and J Ormrod, "Practical Research, Planning and Design," 9th edition, Pearson, Upper Saddle River, NJ. USA, 2010.	
Additional Rules and Requirements	Required work should be submitted to allow the following modules and tasks to open. No late work will be credited, but it is still required to move forward. A second chance is only at the discretion of the instructor and based on a valid reason such as an excuse that is approved by the SAR office. It still requires instructor's approval for arrangement.	
Evaluation Method	Active Learning and Assignments	30 %
	Exams / Quizzes	30 %
	Projects	40 %
Grading Policy / Scale	Letter grades, scale: A: 90 – 100; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: < 60	
Important Events / Dates	Course start date: Per University Calendar Course last date: Per University Calendar Census date: Per University Calendar. Last date to withdraw: Per University Calendar. Exam date: TBA Final date: Per University calendar	
Attendance / Makeup policy / other rules	**Ground Rules:** 1. Students must earn a passing grade in each component of the course, separately, in order to receive a passing grade for the course. 2. Writing and reasoning constitute a major part of every course component and the grade for every component will reflect this accordingly. 3. No late work will be credited. 4. Watch the announcements on canvas or by direct email to you university email (Patriot). 5. Professionalism expectations: Since the mechanical engineering program is designed to prepare students for professional practice, all submitted work (e.g., homework, lab reports, projects, presentations) is expected to meet professional standards. Work that does not reflect professional quality may be subject to grade reductions, even if professionalism is not explicitly listed in the grading rubric.	

	6. AI tools: Artificial Intelligence tools such as Large Language Models (e.g. ChatGPT and Co-pilot) will be allowed for certain activities and restricted for others to support students' learning and productivity. Anytime AI is allowed and used their use should align with academic integrity standards and must be explicitly disclose by the student.
Course Learning Objectives	By the end of this course, students will be able to: 1. Define leadership comprehensively and distinguish it from management. 2. Communicate and reason technical and professional topics in engineering effectively with focus on writing. 3. Explain the professional dimensions of engineering leadership including moral leadership in society and globally by citizens with specialized knowledge. 4. Identify, analyze, and judge ethical and professional issues in the engineering profession according to a particular frame of ethical code and a clear understanding of professionalism. 5. Demonstrate life-long learning while conducting sound research to solve technical or professional engineering issues. 6. Make informed engineering decisions regarding contemporary and evolving issues and technologies.
Tentative Topics / Course Plans	**Each week of the semester includes one of the following modules:** 1. Introduction and Policies 2. Professional Communication 3. Engineering Leadership 4. Engineering Ethics 5. Engineering Professional Leadership 6. Continuous Professional development 7. Leading Technology for Humanity
University Policies	https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information-rev122025.pdf