



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

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| Semester / Year | Fall I – 2025, Spring II – 2026, Summer I - 2026 (7-weeks each 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 | OPEN during the semester – ONLINE |
| Office Hours | Email to setup an appointment |
| No. of Credits | 3 |



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| Required Textbook | <p>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.</p> <p>ISBN: 9781337554503</p> <p>https://www.cengage.com/c/engineering-ethics-concepts-and-cases-6e-harris-pritchard-rabins-james-englehardt/9781337554503/</p> | |
| Optional References | <p>Leedy P. and J Ormrod, "Practical Research, Planning and Design," 9th edition, Pearson, Upper Saddle River, NJ. USA, 2010.</p> | |
| Additional Rules and Requirements | <p>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.</p> <p>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.</p> | |
| Evaluation Method | Active Learning and Assignments | 30 % |
| | Exams / Quizzes | 30 % |
| | Projects | 40 % |
| Grading Policy / Scale | <p>Letter grades, scale: A: 90 – 100; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: < 60</p> | |
| Important Events / Dates | <p>See The Academic Calendar for the selected semester.</p> | |
| Attendance / Makeup policy / other rules | <p>Ground Rules:</p> <ol style="list-style-type: none"> 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. | |
| Course Learning Objectives | <p>By the end of this course, students will be able to:</p> <ol style="list-style-type: none"> 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. | |



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| | <ol style="list-style-type: none"> 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. |
| <p>Tentative Topics / Course Plans</p> | <p><u>Each week of the semester includes one of the following modules:</u></p> <ol style="list-style-type: none"> 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 |
| <p>University Policies</p> | <p>https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information.pdf</p> |