UTTyler ENGINEERING

Department of Mechanical Engineering
Phone: +1.903.566.7003
Fax: +1.903.566.7148
Uttyler.edu/engineering

MENG 4216 – Senior Capstone Design II
Course Syllabus

Semester / Year	Spring 2026
Catalog Description	The second of a sequence of two senior courses including a capstone engineering project that entails the theoretical or experimental investigation of design problems. The nature and scope of the project are determined by the student in consultation with the instructor and depend upon the facilities available. A written technical report is required as part of the course's outcomes. All seniors meet weekly to discuss their projects as teams and with their supervisor. Two sessions of 3 hours laboratory.
Prerequisites	Corequisite: MENG 4326 and CMST 1315. Prerequisites: MENG 4215, MATH 3203 or MATH 3315, and MENG 4312.
Section Number	001L, 002L, 003L, 004L, 030L, 031L, 032L, 033L
Instructor Name	Dr. Nael Barakat, Dr. Shih Feng Chou, Dr. Mohammad A Biswas, Dr. Hayder Abdul-Razzak, Dr. Ermias Koricho, Dr. Hussain Rizvi, Dr. Tahsin Khajah, Dr. Andrew Robbins, Dr. Chung Goh
Contact Information	Contact the following course coordinator if you cannot find the contact info for your specific team advisor: Dr. N. Barakat (Senior Project Board chair) Dr. Shih Feng Chou (TYL coordinator) Dr. Mohammad A Biswas (HEC coordinator)
Class Type / Instruction Mode / Location	face-to-face lab/studio – Both TYL and HEC Campuses – Location TBD on Canvas
Class Time	001L, 002L, 003L, 004L, 030L, 031L, 032L, 033L: WeFr 8:00 AM – 10:45 AM
Office Hours	TBD
No. of Credits	2
Required Textbook	None. A handbook will be provided electronically. The equivalent of the price of a typical engineering textbook will be required as a contribution from each student for material needed to execute the assigned project.
Optional References	TBD
Additional Rules and Requirements	This course involves dealing with multiple non-traditional aspects such as, but not limited to, external entities, financial aspects, and non-disclosure agreements. Therefore, students are required to agree to, sign on, and comply with all related Senior Capstone Design policies.

	I encourage you to explore using artificial intelligence (AI) tools, such as Copilot and ChatGPT, for all assignments and assessments. Any such use must be appropriately acknowledged and cited including the specific version of the tool used. The submitted work should include the exact prompt you used to generate the content and the AI's complete response as an appendix. Because AI-generate content is not necessarily accurate or appropriate, you must assess the validity and applicability of any submitted AI output. You will not earn full credit if inaccurate, invalid, or inappropriate information is found in your work.
Evaluation Method	Meetings, discussions, assignments, as well as projects' design, build and testing, in a team environment as appropriate. Grading in this course will be based on input from the advisors and sponsors, as well as other involved faculty as appropriate. Consistent progress and professional behavior during the course/project are expected. A minimum score of 70% in each element of the following list is MANDATORY to succeed and pass the course. • Attendance and participation in all team activities (e.g. meetings, building, etc.) 10% • Assignments, Surveys, Participation at external events, and other course requirements 10% • Project performance, quality, and results at delivery 25% • Documentation, Reports, Presentations, Posters 35% • Individual evaluation 20% (Faculty advisor 15%, peer 5%, etc.)
Grading Policy / Scale	Letter grades, scale: A: 90 – 100; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: < 60
Important Events / Dates	01/26/2026 (Mo): Census date 03/30/2026 (Mo): Last day to withdraw from one or more classes Assignments: Refer to the course calendar on Canvas
Attendance / Makeup policy / other rules	Regular attendance is imperative if you want to do well in this course. Therefore, any student who incurs three unexcused absences or more during the 15-week semester from any lecture or team event will receive an instant F grade for the course. In case you have an excused absence from a class or event, it is your responsibility to keep up with the class work or assigned tasks and be informed of all announcements made in the class on homework, tests etc. No makeup!
Course Learning Objectives / ABET & PEOs Relation	By the end of this course, students will be able to: 1. Implement and manage an engineering project using knowledge and skills acquired from the engineering curriculum in the form of open-ended design and build project and deliver a final outcome considering various real constraints. SO6 2. Utilize various oral and written communication skills to reach a wide audience throughout an engineering career. SO3

	3. Carry out an engineering project to define and solve a complex engineering problem, as part of an interdisciplinary team. SO7 4. Collect, analyze and interpret engineering data by implementing appropriate methods such as experiments or test with metrics to draw reliable conclusions. SO6 5. Manage resources, engage in continuous learning and development, and organize operations, to achieve set project goals and deliver outcomes at a professional level as expected. SO7
Tentative Topics / Course Plans	1. Creativity and design methodologies 2. Teambuilding 3. Leadership 4. Economic justification 5. Codes and standards 6. Project management 7. Conflict resolution 8. Enhanced communication techniques
University Policies	https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information-rev122025.pdf