

MEEN 4030 / MEEN 5030	Product Design and Development	
SYLLABUS	Fall 2026	3 Credit hours

Instructor: Dr. Hassan Qandil (hassan.qandil@unt.edu)
Office Hours: By appointment (Email to schedule)
Lecture & Location: TuTh 05:00PM - 06:20PM - NTDP F187
Teaching Assistant: TBD
TA Office Hours: By appointment (Email to schedule)

MEEN 4030 Prerequisite(s): Passing MEEN 3100 and MEEN 3130 with a “C” or better.

Catalog Course Description: Design planning and strategies, reverse engineering, integration of product and manufacturing development, materials selection, and design for manufacturing assembly.

Required Text: “Engineering Design”, George Dieter, Linda Schmidt. McGraw Hill (ISBN: 1260113299), 2021.

ABET OUTCOMES: MEEN 4030 / MEEN 5030 addresses several ABET outcomes. The course aims to meet several standard criteria, primarily focused on applying engineering principles to design solutions (Outcome 2) and solving complex problems (Outcome 1). Students are expected to demonstrate effective teamwork (Outcome 5), communicate results (Outcome 3), and uphold professional and ethical responsibilities (Outcome 4).

GRADES: Standard grading scale used: 90/80/70/60.

Attendance & Participation: 5%
Homework Assignments: 15%
Quizzes: 10%
Project Proposal: 5%
Design Reviews (PDR/CDR): 10%
CAD Models & Drawings: 10%
Engineering Analysis & Simulation: 10%
Functional 3D Printed Prototype: 15%
Final Report: 10%
Final Presentation: 10%

SEMESTER DESIGN PROJECT: Students will be randomly assigned into teams of three to four on Canvas. Each team will identify a product opportunity, define customer needs, generate and select concepts, develop embodiment and detail designs, perform engineering calculations and basic FEA/motion simulation, fabricate a functional 3D-printed prototype, test the prototype, and present a final engineering report and demonstration.

TENTATIVE LECTURE SCHEDULE

Week	Dates	Chapter	Deliverable
1	Aug. 17 th – Aug. 21 st	Introduction to Engineering Design	Reverse Engineering (No Class Aug. 17 th)
2	Aug. 24 th – Aug. 28 th	Product Development Process / Team Formation	Team Poll & Product Selection
3	Aug. 31 st – Sept. 4 th	Team Behavior & Information Gathering	Project Proposal
4	Sept. 7 th –Sept. 11 th	Need Identification & Engineering Specs	Needs Report (No Class Sept. 7 th)
5	Sept. 14 th – Sept. 18 th	Concept Generation	Concept Sketches
6	Sept. 21 st – Sep. 25 th	Concept Selection	PDR (+Quiz-1)
7	Sep. 28 th – Oct. 2 nd	Embodiment Design	Initial CAD
8	Oct. 5 th – Oct. 9 th	Detail Design	CAD Assembly
9	Oct. 12 th – Oct. 16 th	Materials Selection	Material Report
10	Oct. 19 th - Oct 23 rd	Design for Manufacturing & 3D Printing	Prototype Plan
11	Oct. 26 th - Oct. 30 th	Engineering Calculations	Analysis Report (+Quiz-2)
12	Nov. 2 nd - Nov. 6 th	Simulation Validation	Simulation Report + + CDR
13	Nov. 9 th - Nov. 13 th	Cost, Risk, Sustainability	BOM/FMEA
14	Nov. 16 th - Nov. 20 th	Prototype Fabrication	Functional Prototype + Final Presentation
15	Nov. 23 rd - Nov. 27 th	Thanksgiving Break (No Classes)	
16	Nov. 30 th - Dec. 4 th	Testing, Validation & Reporting	Final Report

COURSE POLICY: **Course delivery method is in-person.** All course announcements, lecture notes, recorded material and assignments will be posted on the MEEN 4030 / MEEN 5030 Canvas courses. *Students are expected to have access to the textbook on their own.*

ASSIGNMENTS: All **assignment and report submissions are online** through CANVAS and in a PDF format. **NO LATE SUBMISSIONS ALLOWED** except for students with UNT-approved excuse (please follow UNT Policy 06.039).

EXAMS: All **quizzes will be in-class.** If you have an emergency and need an authorized absence as per UNT Policy 06.039, please connect with the Dean of Students' office requesting an excused absence in writing (studentaffairs.unt.edu/dean-of-students).

ATTENDANCE: Refer to [UNT's 06.039 Student Attendance & Authorized Absences Policy](#):

- The student is responsible for regular and punctual attendance and is expected to participate in all courses in which the student is enrolled.
- Communicate with the professor prior to being absent, so you can discuss and mitigate the impact of the absence on your attainment of course learning goals.
- *If a student accumulates more than two weeks of unexcused absences (four lectures), the student will be ineligible to sit for the 3rd exam until a formal meeting with the instructor occurs to review the reasons for the absences and written approval to proceed is granted.*
- *Only University Excused Absences indicated in Policy 06.039 are acceptable.*

ACADEMIC INTEGRITY STANDARDS AND SANCTIONS FOR VIOLATIONS: According to UNT Policy 06.003, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University. Academic dishonesty will not be tolerated and will result in zero assignment score and reported to Office of Academic Integrity. No exceptions. Having any calculator not on the approved list is a violation of Academic Integrity.

ADA Policy: UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodation at any time; however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website (<https://disability.unt.edu/>).

ACCEPTABLE BEHAVIOR: Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. To learn more, visit UNT's Code of Student Conduct (<https://deanofstudents.unt.edu/conduct>).

STUDENT PERCEPTIONS OF TEACHING EFFECTIVENESS (SPOT) Course participate in SPOT evaluations (<http://spot.unt.edu/> or email spot@unt.edu).

RETENTION OF STUDENT RECORDS Course follows Family Educational Rights and Privacy Act (FERPA) laws and UNT Policy 10.10, Records Management and Retention.

SYLLABUS CHANGES Instructor reserves right change syllabus. Any changes announced in class and posted to CANVAS with an accompanying email to student's UNT email address.

ACCESS TO INFORMATION - EAGLE CONNECT: Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail Eagle Connect (<https://it.unt.edu/eagleconnect>).