

UNIVERSITY OF NORTH TEXAS – Department of Mechanical Engineering
MEEN 3130 / MEET 3650 Machine Elements/Design of Mechanical Components
SYLLABUS Summer 2026 3 Credit hours

Instructor: Dr. Hassan Qandil (hassan.qandil@unt.edu)
Office Hours: By appointment (Email to schedule)
Lecture & Location: MoWe 12:00PM - 1:50PM - NTDP F175
Teaching Assistant: TBD
TA Office Hours: By appointment (Email to schedule)

Prerequisite(s): Passing the following with a “C” or better:

- 1) **MEEN:** MEEN 2332 and ENGR 1304. (Check your catalogue)
- 2) **MEET:** ENGR 2332 (Check your catalogue)

Catalog Course Description: Applications of the principles of mechanics and mechanics of materials to machine design. The elements of machines are analyzed in terms of their dynamic behavior. Selection and sizing machine elements. Students use finite element technique for the analysis of machines and their counterparts.

Required Text: “Shigley's Mechanical Engineering Design”, **2024 Release**, Budynas, McGraw Hill. ISBN13: 9781260922424

ABET OUTCOMES: MEEN 3130/ MEET 3650 addresses several ABET outcomes, including applying knowledge of mathematics, engineering and science as well as identifying, formulating and solving engineering problems. Upon successful course completion:

- 1) Learn the process for machine design.
- 2) Application of mechanics of materials into stable designs.
- 3) Determine failure and deformation mode of a design.
- 4) Apply static and dynamic failure theories in design analysis
- 5) Apply principles of mechanics, materials, stress analysis, statics, and dynamics to machine sizing.
- 6) Select appropriate dimensions and size of machine elements.

CALCULATORS: Only those permitted on (FE) exam. No graphing calculators.

GRADES: Standard grading scale used: 90/80/70/60. Re-grade request must be made in class the day returned. **No re-grade requests after class dismissed.** Entire exam will be re-graded, which may result in lower score than originally assigned. **Make-ups are NOT allowed,** with the exception being UNT-excused absences with proper documentation.

Attendance	5% Taken In-class (Extra credit for lecture participation)
Homework	20% Online PDF submissions , problem solving / critical thinking
Quizzes	10% In-class , problem solving, like home practice
Exams	65% In-class , reading comprehension / multiple choice / qualitative

Extra Credit is available in class, and through exams and quizzes

TENTATIVE LECTURE SCHEDULE

Week	Dates	Chapter	Topic	Exam
1	May. 18 th – May 22 nd	3	Intro/Loads and Stress (No class May 18th)	
2	May 25 th – May 29 th	3/4	Loads and Stress/Deflection (Memorial Day - No Classes - May 25th)	
3	Jun. 1 st – Jun. 5 th	4/5	Deflection/Static Failures	Exam-1
4	Jun. 8 th – Jun. 12 th	5	Static Failures	
5	Jun. 15 th – Jun. 19 th	6	Fatigue Failures	
6	Jun. 22 nd – Jun. 26 th	6	Fatigue Failures	
7	Jun. 29 th – Jul. 3 rd	7	Shaft Design	Exam-2
8	Jul. 6 th – Jul. 10 th	11/12	Bearing Design	
9	Jul. 13 th – Jul. 17 th	12/13	Bearing Design/Gear Design	
10	Jul. 20 th – Jul. 24 th	13	Gear Design	Exam-3

COURSE POLICY: **Course delivery method is in-person.** All course announcements, lecture notes, recorded material and assignments will be posted on the MEEN 3130 / MEET 3650 Canvas courses. *Students are expected to have access to the textbook on their own.*

HOMEWORK: All **Homework 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 and exams 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 one and a half week of unexcused absences (three 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>).