UNIVERSTY OF NORTH TEXAS – Mechanical Engineering
MEEN 3130 / MEET 3650 MACHINE ELEMENTS SYLLABUS
Summer 2021. 3 Credit hours

Instructor: Dr. Hassan Qandil (hassan.qandil@unt.edu)
Office Hours: By appointment via Zoom.
Lectures: MoWe 6:00 pm to 7:50 pm.
Location: Remote delivery via Zoom.
Teaching Assistant: Wang, Xuan <XuanWang@my.unt.edu>
TA Office Hours: By appointment via Zoom.

Prerequisite(s): Passing the following with a "C" or better:
1) ENGR 2332 Mechanics III, Stress Analysis (implies 2301 statics).
2) ENGR 1304 Engineering Graphics.

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 of machine elements. Students use the finite element technique for the analysis of machines and their counterparts.

Required Text:
"Shigley's Mechanical Engineering Design", 10th, Budynas, McGraw Hill.

Optional Resources:
1) "Machine Elements", 3rd Ed., Schmid, CRC Press.
2) "Mechanical Design of Machine Elements and Machines", 2nd, Collins, Wiley.
3) "Machine Design – An Integrated Approach", 5th Ed., Norton, Pearson.

ABET OUTCOMES: MEEN 3130 addresses several ABET program 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 principals of mechanics, materials, stress analysis, statics, and dynamics to machine sizing.
6) Select appropriate dimensions and size of machine elements.

CALCULATORS: While taking online exams and quizzes, only calculator approved for course are those permitted on (FE) exam. No graphing calculators.
1) Hewlett Packard—HP 33s and HP 35s models, but no others.
2) Casio—All fx-115 and fx-991 models. Any Casio calculator must contain fx-115 or fx-991 in its model name.
3) Texas Instruments: All TI-30X and TI-36X models. Any TI calculator must contain either TI-30X or TI-36X in its model name.

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** only exception being University excused absences with documentation provided.

Attendance	5% Taken via ZOOM (Extra credit for lecture participation)
Homework	20% Online PDF submissions, problem solving / critical thinking
Quizzes	20% Online, problem solving, like home practice
Mid Term	25% Online, reading comprehension / multiple choice / qualitative
Final Exam	30% Online, reading comprehension / multiple choice / qualitative

Extra Credit is available through Exams and Quizzes, and OPTIONAL FEA Project

TENTATIVE LECTURE SCHEDULE

Week	Dates	Chapter	Topic	Quiz
1	Jun. 1st – Jun. 5th	3	Intro/Loads and Stress	
2	Jun. 8th – Jun. 12th	4	Loads and Stress/Deflection	
3	Jun. 15th –Jun. 19th	5	Static Failures	1
4	Jun. 22nd – Jun. 26th	5/6	Static Failures/Fatigue Failures	
5	Jun. 29th – Jul. 3rd	6	Fatigue Failures	
6	Jul. 6th – Jul. 10th	Midterm (Wednesday July 7th, 6:00pm-7:30pm) (Ch: 3-6) (Online using Lockdown Browser & Respondus Monitor)		
7	Jul. 13th – Jul. 17th	7	Shaft Design	
8	Jul. 20th - Jul. 24th	11/12	Bearing Design	2
9	Jul. 27th - Jul. 31st	12/13	Bearing Design/Gear Design	
10	Aug. 3rd - Aug. 7th	13/14	Gear Design	3
Final (Friday August 6th, 6:00pm-7:30pm) (Ch: 7,11,12,13,14) (Online using Lockdown Browser & Respondus Monitor)				

ACCEPTABLE BEHAVIOR: I consider this class to be place where you will be treated with respect and fairness. All expected to contribute to respectful and inclusive environment. Students engaging in unacceptable behavior that may violate the Code of Student Conduct will be directed to leave the ZOOM session and the instructor may refer the student to the Dean of Students for investigation. We enforce student Code of Student Conduct at deanofstudents.unt.edu/conduct.

REMOTE COURSE DELIVERY

- All **course announcements, lecture notes, recorded lectures and assignments** will be posted on the MEEN 3130 Canvas site. ***Students are expected to have access to the textbook on their own***. I will try to provide recommendations for alternative educational resources that are available online, whenever possible.

- We will mostly have synchronous **(live) Zoom meetings during the regular class meeting times**. All Zoom meeting invitations along with references to Zoom resources will be posted on the MEEN 3130 Canvas site. We will **use Zoom chat in lieu of in-class discussions**.
- **It will be the student responsibility to log in to Zoom and join the virtual lecture using the details provided on ZOOM tab in CANVAS.**
- I will hold **virtual office hours** via live Zoom sessions, a student can schedule a meeting by emailing me (hassan.qandil@unt.edu).
- All **assignments** will be posted online via CANVAS. Submissions are also online through CANVAS and in a **PDF format**. **NO LATE SUBMISSIONS ALLOWED** except for students with university-approved excuse.
- All **quizzes and exams** will be conducted via CANVAS using a LockDown browser and Respondus Monitor, which required that the student have access to a webcam and a microphone. For more details, please refer to the following link: https://clear.unt.edu/supported-technologies/respondus-lockdown-browser (Links to an external site.)
- Your **attendance/class participation** will be evaluated based on your participation in Zoom sessions.

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 STATEMENT: UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify eligibility. If a disability verified, ODA will provide student with accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. For additional information see the ODA website at disability.unt.edu

STUDENT PERCEPTIONS OF TEACHING EFFECTIVENESS (SPOT) Course participates 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.