

UNIVERSITY OF NORTH TEXAS
MEEN 3130 MACHINE ELEMENTS SYLLABUS - SUMMER 2018

Instructor: Dr. Mark Wasikowski

Course Time and Place: MW 10 – 11:50 F175 DP

Office and Hours: MW 8-9.30 am, or by appointment. F101L

Teaching Assistant: Mohit Patel Dipakkumar, D206

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.

Pre-requisite:

- 1) MEEN (ENGR) 2332 Mechanics III, Stress Analysis (implies 2301 statics)
- 2) ENGR 1304: Engineering Graphics

ABET Criteria: 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 process for machine design
- 2) Application of mechanics of materials into stable designs
- 3) Determine failure and deformation mode of a design
- 4) Apply principals of mechanics, materials, stress analysis, statics, and dynamics to machine sizing
- 5) Select appropriate dimensions and size of machine elements

Required Text: “Mechanical Engineering Design”, 10th, Budynas & Shigley, McGraw Hill

Calculators: The only calculators that are approved for this course are those permitted on the Fundamentals of Engineering (FE) exam toward Professional Engineer (PE) licensing:

- 1) Hewlett Packard—HP 33s and HP 35s models, but no others.
- 2) Casio: All fx-115/991. Any Casio must contain fx-115 or fx-991 in name
- 3) Texas Instruments: All TI-30X/36X models. Any TI must contain either TI-30X/36X

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

Participation	20% interactive lecture participation
Homework	10% due at beginning of every class
Quizzes	20% in-class problem solving, like home practice
Mid Term	20% reading comprehension / multiple choice / qualitative
Final Exam	30% reading comprehension / multiple choice / qualitative

TENTATIVE LECTURE SCHEDULE

Week	Dates	Chapter	Topic	Quiz
1	6/4-6		Introduction / Failure Prevention	
2	6/11-13	13	Gears	1
3	6/18-20	14,15	Gears	
4	6/25-27	11	Bearings	2
5	7/2-4		Midterm and holiday	
6	7/9-11	7,3	Drive Shafts	
7	7/16-18	5	Static Failure	3
8	7/23-25	6	Fatigue	
9	7/30-8/1	4	Vibration / Mis-Alignment	4
10	8/6-8	19	Finite element Analysis	

Mid Term: 2 July

Final Exam: 10 August

ATTENDANCE POLICY

Responsibility for class attendance rests with student. Attendance at all class meetings is expected. Moreover, you are responsible for helping me teach you, which is difficult to do if you are absent. The course continues whether you are present or not. You must catch up your own if you are absent. Material and discussions (in similar but not identical forms) presented in class is likely to appear on exams. Attendance is tracked via iClicker and supplemented with attendance sheets circulated at the beginning of every class. It is a student responsibility to ensure signing attendance roster during class. No roster changes will be made after each class. Per University policy 06.039, an absence may be excused for following reasons: religious holy day, including travel for that purpose; active military service, including travel for that purpose; participation in an official university function; illness or other extenuating circumstances; pregnancy and parenting under Title IX; and when University is officially closed. The student is responsible for requesting an excused absence in writing as early in semester as possible, and personally delivering to me satisfactory evidence to substantiate the excused absence.

ACADEMIC INTEGRITY STANDARDS AND SANCTIONS FOR VIOLATIONS

UNT core values of trust, honesty, and integrity are necessary for learning to occur. According to UNT Policy 06.003, Student Academic Integrity, 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 University. Academic dishonesty will not be tolerated and will result in score of zero on the assignment, including participation outside of lectures. The student will be reported to Office of Academic Integrity for appropriate disposition. No exceptions.

ACCESS TO INFORMATION – EAGLE CONNECT

Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication will be delivered to your Eagle Connect account. For more information, please visit website that explains Eagle Connect and how to forward e-mail: eagleconnect.unt.edu/. Canvas is used to post syllabus, homework, lecture slides, grades, etc. Instructor can only communicate through Canvas to your UNT eagle account

EMERGENCY NOTIFICATION & PROCEDURES

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In event of university closure, refer to Canvas for contingency plans for covering course materials.

ACCEPTABLE STUDENT 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. Students engaging in unacceptable behavior will be directed to leave the classroom and be referred to Dean of Students office to consider whether student's conduct violates Code of Student Conduct. University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at deanofstudents.unt.edu/conduct.

ADA STATEMENT

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with Office of Disability Accommodation (ODA) to verify eligibility. If a disability is verified, ODA will provide student with an accommodation letter to be delivered to faculty to begin a private discussion regarding specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible to avoid any delay in implementation. Note students must obtain 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 at disability.unt.edu.

RETENTION OF STUDENT RECORDS

Student records pertaining to course are maintained in a secure location by instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during duration of course are kept for one semester after course completion. Course work completed via BB, including grading information and comments, is also stored in a safe electronic environment for one year. Students have right to view their individual record; however, information about students' records will not be divulged to other individuals

without proper written consent. Students are encouraged to review Public Information Policy and Family Educational Rights and Privacy Act (FERPA) laws and University's policy.

STUDENT PERCEPTIONS OF TEACHING EFFECTIVENESS (SPOT)

Student feedback is important and essential part of participation. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13 and 14 of long semesters to provide students opportunity to evaluate how course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with survey link. in their UNT email. Click link and complete survey. Once students complete survey they will receive a confirmation email that survey has been submitted. For additional information, please visit spot website at www.spot.unt.edu or email spot@unt.edu. We will complete SPOT evaluations and ABET forms in class in this course.

SYLLABUS CHANGES

The Instructor reserves the right change the syllabus. Any changes will be announced in class and posted to BB with an accompanying email to the student's UNT email address.