MEEN 3130.002 – Machine Elements  3 hours  Spring 2016

Instructor:
Dr. Mark Wasikowski  Mark.Wasikowski@unt.edu  TuTh 5:30-6:50 PM, Room: NTDP B140
Office: TBD  Office Hours: by appointment

Required Text:  Pre-requisite: MEEN 1000 Discover MEE
Shigley’s Mechanical Engineering Design, 10th ed
Budynas and Nisbett; McGraw Hill  Pre-requisite: ENGR 2332 Mechanics of Materials

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.

Course Objectives: Upon successful completion of this course, students will be able to:

• State the fundamental principles used in the study of elements for machine design
• Apply principals of mechanics, materials, stress analysis, statics, and dynamics to machine sizing
• Define, evaluate, and select appropriate materials for design.
• Determine loads applied.
• Determine failure and deformation mode of a design.
• Apply static failure theories in design analysis.
• Apply dynamic failure theories in design analysis.
• Select appropriate dimensions and size of machine elements.

ABET Criteria: MEEN 3130 addresses the following ABET program outcomes: a) Apply knowledge of mathematics, engineering and science and e) Identify, formulate and solve engineering problems

Topics to be Covered (topics may or may not be covered depending on time available): Materials, loads, stress, deflection and stiffness, static failure theories, fatigue failure theories, rolling contact bearings, gears, drive trains, fasteners.

Course Format: Mainly ppt, with both individual and group discussion and problem solving

Grade Evaluation:
Homework: 10%  A – 90-100%  No curve. A final average of 90.00 or higher is an A; 89.8 is a B. Exam/quiz re-grade requests must be made day returned. Once class dismissed requests not accepted.
Quizzes 20%  B – 80-89%  It should be noted that entire quiz/exam will be re-graded, which may result in a lower score than originally assigned. Make-ups only for University-excused absences, given at semester end. Documentation required.
Exam 1; 2/16  20%  C – 70-79%  Final; 5/5 (early) 30%  D – 60-69%  Score of zero if you are absent. Exam/quiz re-grade requests not accepted.
Exam 2; 4/5  20%  D – 60-69%  F - < 60%  Semester end. Documentation required.

Assignments/Quizzes:
Homework problems assigned often and due the following week. Late homework not accepted. Homework turned in to office not accepted. There will be several quizzes. Lowest one is dropped. Make-up quizzes are NOT allowed.

Disability Policy: Reasonable accommodation will be made to facilitate special needs. If special accommodations are required, student must meet with Office of Disability Accommodation (ODA), (940) 565-4323. After that meeting, please contact me to discuss what accommodations will be necessary. For more information, see http://www.unt.edu/oda.

Academic Dishonesty:
Each student is expected to complete his/her own work. Cheating of any kind on the quizzes and exams will not be tolerated and will result in a score of zero for that assignment.