

MEEG 304 – Mechanical Design Elements

Department of Mechanical Engineering

University of Delaware – Spring 2009

Instructor	Dr. David Burris Office: 210 Spencer Lab, phone: 831-2006 Email: dlburris@udel.edu Course website: http://research.me.udel.edu/~dlburris/courses.html
Class Time	MWF, 9:05-9:55 AM Willard Hall, rm 319
Office Hours	MWF, 7:45-8:45 AM
Text	Shigley's Mechanical Engineering Design, 8 th Edition Authors: Budynas & Nisbett, ISBN- 0073121932
Description	This course presents basic tools and approaches to mechanical systems design. Thematically, instruction will cover 1) the design process, 2) the characteristics of engineering materials, parts and assemblies, 3) failure analysis and prevention and 4) the essential elements of mechanical systems. The students will have opportunities to apply the course content to engineering analysis problems and open-ended design challenges.
Content	<p style="text-align: center;">Topics Covered</p> <hr/> <p style="text-align: center;">Introduction to Design Materials: Processing, Properties and Statistics Parts: Manufacturing, Tolerances, Assemblies, Uncertainties Stress, Strains, Loads, Deflections Bulk Static Failure Dynamic Failure Intro to Mechanical Systems Bearings Shafts Power transmission Springs Joints</p> <hr/>
Coursework	Four homework assignments, two examinations and two projects will be completed. The second project will be completed in groups selected randomly by the instructor.

Critical Dates	Homework 1	Friday March, 6
	Project 1	Friday March, 13
	Homework 2	Friday March, 27
	Project 2a	Friday March, 27
	Exam 1	Friday March, 27
	Project 2b	Friday April, 17
	Homework 3	Friday May, 1
	Project 2	Wednesday May, 13
	Presentations	Wednesday May, 13
	Homework 4	Wednesday May, 20
	Exam 2	Wednesday May, 20

Grading	Homework (4)	10%
	Exams (2)	40%
	Project 1	10%
	Project 2 (group)	35%
	Participation	5%

Late assignments will not be accepted. If you require special accommodations, please contact the UD office of the ADA: 831-4643.

Honesty All students must be honest and forthright in their academic studies. To falsify the results of one's research, to steal the words or ideas of another, to cheat on an assignment, or to allow or assist another to commit these acts corrupts the educational process. Students are expected to do their own work and neither give nor receive unauthorized assistance. Any violations of this standard must be reported to the Office of Judicial Affairs.