ENGR 2033 Statics – revised 10-Dec-2004
Fall 2004
Department of Physics and Engineering
University of Central Oklahoma

Location	Howell Hall 163
Time	MWF 10:00 a.m. - 10:50 a.m.
Instructor	Evan Lemley, Ph.D.; Assoc. Prof., Department of Physics and Engineering
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Office Hours	TR 10:00 a.m. - 11:00 a.m. & F 9:00 a.m – 10:00 a.m. or by appointment.
Final	F December 17, 2004 from 9:00 a.m. - 10:50 a.m.

Course Description
This course provides an introduction to basic engineering mechanics and examines the laws which describe the response of objects to applied forces and torques.

Prerequisites
PHY 2014, MATH 2333 or concurrent enrollment in MATH 2333.

Textbook
Engineering Mechanics; Statics, 10th Edition, Russell Hibbeler, Prentice Hall, 2004. Please bring your textbook to class for each meeting.

Calculator
You must own a scientific calculator – see the list of allowed calculators for exams in the Department of Physics and Engineering. Please bring your calculator to class for each meeting.

Engineering Paper
Engineering Paper -- available from Thompson's Bookstore or Triangle A&E at Broadway Ext. and 63rd. Please use engineering paper for all homework assignments.

Internet & E-mail
Access to the Internet and ability to send and receive E-mail. If you do not have a computer at home you can use machines on the UCO campus: Look at
http://technology.ucok.edu/support/microcomplab.htm
for a full list of available general use computers on campus.

Portable Electronic Devices (including cell phones)
Please turn off any portable electronic devices (esp. cell phones) during class. You may not access any portable electronic device during exams except calculators that are on the approved list for Physics and Engineering courses.

Objectives
Upon completion of this course, the student will be able to

1. Use force vectors to calculate resultant forces acting on a rigid body.
2. Determine resultant moments due to a force acting on a rigid body.
3. Apply equilibrium principles to general problems involving two-dimensional and three-dimensional bodies.
4. Apply equilibrium to determine conditions for impending motion for problems involving friction.
5. Use the Method of Joints or the Method of Sections in truss and frame analysis.
6. Determine the center of gravity and centroid of a three-dimensional rigid body.
7. Determine the moment of inertia for a general three-dimensional body.

Instruction Techniques
Lecture will be used predominantly although sometimes recitation periods will be employed.

Class Polices
Attendance is not required, but you will responsible for any announcements or notes from class (and quizzes).

Attendance is mandatory for all exams or other graded activities (e.g. project competitions or presentations).

Cheating or academic dishonesty of any kind will not be tolerated.

Homework
Working HW problems in a timely manner is the best way to do well on exams and in the class as a whole. Homework is due at the beginning of the class period on the due-date or due-day. Homework should be neatly written on only one side of your paper, folded length-wise with your name written on the outside of the folded pages before turning it in. Each problem should fit all of the following criteria: clearly labeled, **one problem per sheet of paper**, legible and organized. HW papers that do not fit these criteria will be penalized accordingly. See the attached HW Format section for details on the presentation of HW problems. You may also visit the following site for an electronic version of the homework format requirements:
http://engrphys.lemley.org/courses/hwk_format.php

Each HW problem you turn in is worth ten points. Some problems will be graded on detailed solutions and others will be graded on effort. I will **not** tell you ahead of time which or how many problems will be graded relative to a detailed solution, but on the returned and graded HW paper a check mark next to the problem number will indicate full effort (or ten points) and a numerical score (e.g. 8/10) next to the problem number will be used on those problems under more scrutiny.

Project (cancelled)
There will be a Team Design Project in the last third of the semester. This project will constitute 15% of your grade (the equivalent of one exam). You will receive a hand-out describing your project roughly midway through the semester.

Grading Policies
The following table shows the breakdown of credit for the course.

HW and misc.	10%
Highest Exam	25%
2nd Highest Exam	20%
Lowest Exam	15%
Final	30%
Total	**100%**

Tentative Grading Scale
90-100% -- A, 80-90% -- B, 70-80% -- C, 60-70% -- D, <60% -- F

STUDENT INFORMATION SHEET / SYLLABUS ATTACHMENT
See separate handout or go to:
http://www.busn.ucok.edu/academicaffairs/FORMS/StudentINFOFall04.pdf

Tentative Class Schedule for Statics Fall 2004

Week #	Day	Date	Topics and Activities	Text Sections	Covered
1	M	23Aug2004	Syllabus and General Principles	1.1 – 1.5	
	W	25Aug2004	Force Vectors	2.1 – 2.4	
	F	27Aug2004	Force Vectors	2.5 – 2.7	
2	M	30Aug2004	Force Vectors	2.8 – 2.9	
	W	01Sep2004	Equilibrium of a Particle	3.1 – 3.2	
	F	03Sep2004	Equilibrium of a Particle	3.3 – 3.4	
3	M	06Sep2004	LABOR DAY – NO CLASS		
	W	08Sep2004	Force System Resultants	4.1 – 4.3	
	F	10Sep2004	Force System Resultants	4.4	
4	M	13Sep2004	Force System Resultants	4.5	
	W	15Sep2004	Force System Resultants	4.6	
	F	17Sep2004	Force System Resultants	4.7 – 4.9	
5	M	20Sep2004	Center of Gravity	9.1 – 9.2	
	W	22Sep2004	Center of Gravity	9.3	
	F	24Sep2004	EXAM 1		
6	M	27Sep2004	Distributed Forces	9.5 – 9.6	
	W	29Sep2004	Distributed Forces	4.10	
	F	01Oct2004	Equilibrium of a Rigid Body	5.1 – 5.2	
7	M	04Oct2004	Equilibrium of a Rigid Body	5.3 – 5.4	
	W	06Oct2004	Equilibrium of a Rigid Body	5.5	
	F	08Oct2004	Equilibrium of a Rigid Body	5.6 – 5.7	
8	M	11Oct2004	Structural Analysis	6.1 – 6.3	
	W	13Oct2004	Structural Analysis	6.4	
	F	15Oct2004	Structural Analysis	6.5	
9	M	18Oct2004	Structural Analysis	6.6	
	W	20Oct2004	Structural Analysis	6.6	
	F	22Oct2004	FALL BREAK – NO CLASS		
10	M	25Oct2004	Internal Forces	7.1	
	W	27Oct2004	EXAM 2		
	F	29Oct2004	Internal Forces	7.2	
11	M	01Nov2004	Internal Forces	7.2	
	W	03Nov2004	Internal Forces	7.3 – 7.4	
	F	05Nov2004	Friction	8.1 – 8.3	
12	M	08Nov2004	Friction	8.4 – 8.8	
	W	10Nov2004	Moments of Inertia	10.1 – 10.3	
	F	12Nov2004	Moments of Inertia	10.4	
13	M	15Nov2004	Moments of Inertia	10.4 – 10.5	
	W	17Nov2004	Moments of Inertia	10.6 – 10.7	
	F	19Nov2004	Moments of Inertia	10.7	
14	M	22Nov2004	Moments of Inertia	10.8	
	W	24Nov2004	THANKSGIVING BREAK – NO CLASS		
	F	26Nov2004	THANKSGIVING BREAK – NO CLASS		
15	M	29Nov2004	Moments of Inertia	10.9	
	W	01Dec2004	Virtual Work	11.1 – 11.2	
	F	03Dec2004	EXAM 3		
16	M	06Dec2004	Virtual Work	11.2 – 11.3	
	W	08Dec2004	Project Presentations		
	F	10Dec2004	Project Presentations and Class Wrap-Up		
17	F	17Dec2004	F December 17, 2004 from 9:00 a.m. - 10:50 a.m.		