

DEPARTMENT OF SCIENCE

EG 1300 ENGINEERING MECHANICS 4.0(3 0 2) UT(4)

Lectures:	M W F	11:00 - 11:50 a.m.	J229
Laboratory:	M	3:00 - 4:50 p.m.	J203

INSTRUCTOR: Dr. Robert Hunt, P. Eng.

OFFICE: C414

PHONE: 539-2008/532-1338 (GPRC/home)

E-MAIL: hunt@gprc.ab.ca

TEXT: Hibbler, R. C. - Engineering Mechanics, Statics and Dynamics,
8th Edition. Prentice Hall

COURSE CONTENT:

Equilibrium of planar systems, analysis of statically determinate trusses and frames, friction, shear forces and bending moments in beams, centroids, centres of gravity, moments of inertia.

COREQUISITE: MA 1000

MARK DISTRIBUTION:

Assignments:	12.5%
Laboratories:	12.5%
Mid-Term Test	25%
Final Examination	50%

EXAMINATION:

Midterm examination: 3:00 - 4:50 on Wednesday, October 14/98.
Material covered: To end of week 6.
Final common examination: TBA the Registrar's Office.

LECTURE SCHEDULE:

Notes: The work is presented in the order covered in the text. All of Chapters 2, 5, 6, 7, 8 and 10 are not covered in this course.

EngG 130 Engineering Mechanics - Statics

Course Outline and Assignments 1st Term (Sept. to Dec., 1998)

Week No.	Date	Topics	Text Articles	Assignment questions	Due Date, TR lect.	Due Date, MWF lect.
1	Sept. 3-9	general principles, scalars and vectors, vector addition, Cartesian vector notation	Chap. 1 & 2.1 to 2.5	1.16, 2.7, 2.20, 2.38, 2.57	Sept. 16	Sept. 17
2	Sept. 10-16	addition of Cartesian vectors, position vectors, force directed along a line, dot product	2.6 to 2.9	2.65, 2.76, 2.85, 2.104, 2.117	Sept. 23	Sept. 24
3	Sept. 17-23	particle equilibrium, free body diagrams, co-planar and three dimensional, force systems	3.1 to 3.4	3.2, 3.6, 3.17, 3.52, 3.68	Sept. 30	Oct. 1
4	Sept. 24-30	moment of a force, vector cross product	4.1 to 4.5	4.7, 4.27, 4.34, 4.49, 4.56	Oct. 7	Oct. 8
5	Oct. 1-7	moment of a couple, reduction of force and couple systems,	4.6 to 4.9	4.70, 4.95, 4.105, 4.134, 4.138	Oct. 14	Oct. 15
6	Oct. 8-14	reduction of a simple distributed loading, equilibrium in two dimensions	4.10 and 5.1 to 5.4	4.143, 5.30, 5.37, 5.51, 5.55	Oct. 21	Oct. 22
7	Oct. 15-21	plane trusses, method of joints, method of sections	6.1 to 6.4	6.6, 6.11, 6.12, 6.33, 6.50	Oct. 28	Oct. 29
<p>NOTICE: A 2-hour long consolidated Mid-term Examination is scheduled for Saturday, October 24, 1998 at 2pm. (The examination will cover the material up to the end of Week No. 6)</p>						
8	Oct. 22-28	frames and machines, internal forces in members	6.6 & 7.1	6.89, 6.101, 6.111, 7.3, 7.11	Nov. 4	Nov. 5
9	Oct. 29-Nov. 4	shear force and bending moment equations and diagrams, relationship between distributed load, shear force, and bending moment	7.2 and 7.3	7.14, 7.48, 7.53, 7.73, 7.81	Nov. 12	Nov. 12
10	Nov. 5-11	dry friction, wedges	8.1 to 8.3	8.7, 8.34, 8.37, 8.46, 8.51	Nov. 18	Nov. 19
11	Nov. 12-18	center of gravity, centroid, locating centroids by integration, composite bodies	9.1 to 9.3	9.6, 9.9, 9.34, 9.48, 9.62	Nov. 25	Nov. 26
12	Nov. 19-25	moments of inertia for area, product of inertia, parallel axis theorem, moments of inertia by integration	10.1 to 10.4	10.4, 10.5, 10.22, 10.57, 10.61	Dec. 2	Dec. 3
13	Nov. 26-Dec. 2	moments of inertia for composite areas, change of axes, Mohr's circle for moments of inertia, Review	10.5 to 10.8	10.33, 10.36, 10.51, 10.72, 10.80	This assignment will not be handed in. However, a solution will be posted.	

Last day of classes is Wednesday, December 3, 1998

EngG 130, Engineering Mechanics - Statics

1st Term: September - December 1998

Course Description: □4.0 (either term, 3-0-2) Equilibrium of planar systems. Analysis of statically determinate trusses and frames. Friction. Centroids and centres of gravity. Forces and moments in beams. Second moments of area. Note: students in all sections of this course will write a common final examination. Corequisites: Math 100.

Instructors: K. Biggar, A. Dorey, F. E. Hicks S. Sitter and A. E. Peterson.

(E-mail addresses for the instructors can be found at the website address below).

Help Desk: Teaching Assistant help will be available in Room CEB 241 (hours are posted on the door and also indicated on the website)

Required Text: R.C. Hibbeler, 1998. *Engineering Mechanics, Statics and Dynamics, Eighth Edition, Prentice Hall.*

This book is also used as the text in EnPh 131

Required: Computer Based Learning Modules (CBLs)

These modules are particularly useful for self study and review. These will be available on the computers in rooms CEB 104 & 110. A CD-ROM and/or Internet access will be provided to enable download of the modules for use on your home computer

Recommended WorkBook: R.C. Hibbeler. *Study Guide and Problems Supplement, Engineering Mechanics, Statics. (Any recent edition), Prentice Hall.*

Web Site: The website address for this course is,

<http://www.civil.ualberta.ca/courses/engg130/>

In addition to general course information, e-mail addresses, announcements, access to old examinations etc., you will find other useful links.

Mark Distribution: Assignments 10%; Laboratories 10%; Mid-term examination 30%; Final examination 50%.

Examinations: A consolidated mid-term examination will be given 2:00 - 4:00 PM, Saturday, October 24, 1998 (locations to be announced). The mid-term exam will cover the material to the end of week 6. The final examination is tentatively scheduled for 2-4 PM, on Monday, December 7, 1998. Students must check the posted examination timetable in the weeks prior to the final examination period to determine the location and to confirm the date and time.

Assignment & Lab Solutions: The solutions for assignments and labs will be posted in the display case opposite Room CEB 220. They will be left posted for two weeks only

Assignment Drop Boxes: Your assignments must be deposited in the drop boxes prior to 11pm on the due date. The boxes are located in the Civil Engineering Building opposite room CEB 204. Use the drop box marked for your section and instructor.