COURSE OUTLINE AND GRADING

Instructor: Dr. Wei Will Zhao **Office**: 1607G **Phone**: (403) 356-4870 **E-mail** Wei.Zhao@rdc.ab.ca
Office Hours: 11:30 am – 12:20 pm T, W, R
Lectures: 3 hours, MTR 1:00-1:50pm in Room 1408; **or** MTR 2:00-2:50pm in Room 1408.
Seminar: 1 hour, M 10:00-10:50am Room 1505, M 11:00-11:50am Room 1203 **or** R 3:00-3:50 Room 1203
Lab Hours: 2 hours, M 3:00-4:50pm Room 1602, W 2:00-3:50pm Room 1602 **or** F 11:00-12:50 Room 1602
Co-requisite: Math 212

GENERAL INFORMATION

Engineering Statics is fundamental to all branches of the engineering profession. The course consists of three lecture hours, one seminar hour and a two-hour problem solving lab.

A list of topics covered in lectures is provided. You are expected to read the material before you come to the class. The non-evaluative self-practice assignments will be given after the appropriate class lectures. Working on assignments helps you understand concepts and theory, as well as practice with the problem solving procedure. Additional bonus marks may be earned by completing and submitting self-practice assignments before deadline (For details, please see page 2). Seminar time is used for problem solving practice and short quizzes. Labs consist of solving sets of problems and hands-on mini design project(s). There are two mid-term tests and one final exam.

You need a scientific calculator, 2H or H pencils, an eraser, a stapler and an Engineering Pad paper (Available in RDC bookstore). All problems must be solved and written on Engineering Paper in accordance with the attached format (see page 5). Write your name, lab/seminar number and date etc. in the top boxes of each page. Your writing and drawings should be neat and well presented. All margins remain clear except for indenting the answers as shown in the format. All sheets are stapled at the top left corner of the paper. All marked work is returned as soon as possible.

Regular attendance in all classes is compulsory. If you must be absent, assume responsibility for the missed material. Missed tests, and labs must be written by prior arrangements. The key is to make these arrangements before you miss the class. The University of Alberta Faculty Calculator Policy is strictly enforced in all examinations including seminar/lab quizzes, mid-terms and final examination. In accordance with U. of A. ENGG130 course outline, only non-programmable calculators will be permitted. Please refer to the U. of A. website http://www.engineering.ualberta.ca/en/CurrentStudents/StudentResources/CalculatorSpecs.aspx for the approved non-programmable calculators such as HP 30S, Sharp EL-520V or EL-520VB, TI-30X IIB or TI-30X IIS, etc. Use of cell phones is not permitted during lectures, quizzes, tests, and exam. Please turn off your cell phone before you enter the classroom.

A constructive and active atmosphere is vital to your learning process. Orderly discussions are encouraged during the lecture. You are encouraged to stop in during my office hours to talk about your concerns about the course. If you find the problem sessions/office hours to be inconvenient, please schedule an appointment.

COURSE OBJECTIVES

You will learn to manipulate forces and moments acting on or within bodies of equilibrium. To achieve this you will learn to isolate an appropriate "particle" or "body" and then identify all the forces and moments acting on it. This process is greatly assisted by drawing of "free body diagrams," and these will receive considerable emphasis during the course. Some specific types of problems considered involve beams, trusses, frames, machines, center of gravity, internal forces, friction, and moment of inertia.

MAJOR TOPICS AND TENTATIVE TIMELINE

1. Review of basics and general principles (Week 1)
2. Force vectors (Week 2 – 3)
3. Equilibrium of a particle (Week 4)
4. Force system resultants (Week 5 – 6)
5. Equilibrium of a rigid body (Week 6 – 7)
6. Structural analysis (Week 7 – 9)
7. Internal forces (Week 9 – 10)
8. Friction (Week 10 – 11)
9. Center of gravity and centroid (Week 12 – 13)
10. Moments of inertia (Week 13 – 14)

TEXTBOOK

R. C. Hibbeler, 2013. Engineering Mechanics: Statics and Dynamics, 13th Edition, Prentice Hall. Web site: http://www.prenhall.com/hibbeler

GRADING

Seminar quizzes	10%
Labs (including mini project)	20%
Mid-term Tests	25%
Final Exam	45%
Bonus Work	2% * (See BONUS)

Grade Descriptions:

A+, A, A- Excellent Performance. Solid mastery of and excellent control over ideas

B+, B, B- Good Performance. General competence, with the student highly likely to succeed at the next higher level

C+, C, C- Satisfactory Performance. Reasonable grasp of the material with a few gaps which can be dealt with at the next higher level

D+, D Pass. Poor understanding of ideas and lack of technical proficiency. Student should not proceed to the next higher level

F Fail

Mark to grade conversion is based on the above descriptors. Any changes to the above scheme are always to learners' advantage. Different instructors may use different conversion systems. The conversions for the same instructor and different courses may also be different. If you have concerns about your marks, please come and see me in my office.

BONUS

The purpose of the Bonus Work is to encourage students working on the non-evaluative self-practice assignments. Bonus mark may be earned by submitting completed assignments before deadlines. Completed assignment means all problems of the assignment have been solved with legible steps. Individual efforts in solving problems are critical for performance in quizzes, tests and final exam, therefore highly encouraged. 1% bonus mark

may be earned for finishing 7 out of 9 completed assignments; 1.5% bonus mark may be earned for finishing 8 out of 9 completed assignments; 2% bonus mark may be rewarded for finishing all assignments completely. Bonus mark cannot be earned by submitting 6 or fewer completed assignments.

BLACKBOARD COURSE MATERIALS

Course materials including marks, notes, assignments, and announcements may be posted on the Blackboard. Please log in regularly to acquire the necessary information. To log in Blackboard,

- Open up a browser, such as Internet Explorer, and go to www.rdc.ab.ca;
- Click on the "The Loop" link on the College web page;
- Type in your User Name and Password in Secure Access Login zone.
- After your initial log in, you can change your password if you wish.
- If you had a Blackboard user name and password before, they should still be the same this term.
- Click on the course name to enter your course.

For any technical problems regarding Blackboard, please contact:

helpdesk@rdc.ab.ca
Phone: 342-3580

IMPORTANT NOTES AND STATEMENTS

It is the student's responsibility to be familiar with the information contained in the Course Outline and to clarify any areas of concern with the instructor.

Students should refer to the Formal and Informal Student Appeal Policies and Standard Practice should they have questions or concerns about the Course Outline that cannot be resolved with the instructor.

Please be familiar with what constitutes academic misconduct, as well as the consequences. Plagiarism involves submitting work in a course as if it were the student's own work. Plagiarism may involve the act of submitting work in which some or all of the phrasing, ideas, or line of reasoning are alleged to be the submitter's own but in fact were created by someone else.

The Final Examinations Policy and Practice will be followed with respect to final exams. Please review these documents to ensure you understand the contents and implications of the policy.

Attendance may take many forms. Lack of attendance may impact the students' ability to successfully complete the course.

This course may be eligible for Prior Learning Assessment. Students should refer to the RDC College Calendar for a list of excluded courses.

Classroom Learning Resources may be available to students in alternate formats.

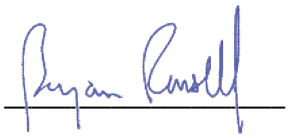
Students should be aware that Personal Counseling, Career, Learning and Disability Services are provided by RDC. Inquire about locations at Information Desk. It is the student's responsibility to discuss their specific learning needs with the appropriate service provider.

IMPORTANT DATES (<u>please confirm with the RDC Calendar)</u>

03 Sep	First Day of Classes for Fall Term 2014
05 Sep	Last Day to apply for Fall Term 2014
11 Sep	Last day to register or add/drop Fall Term courses
11 Sep	Last day to have tuition refunded for Fall Term courses
01 Oct	First day to apply for Fall 2015
07 Oct	Emergency Response Day

13 Oct	Thanksgiving Day. College closed.
24 Oct	Mid-term feedback date
10 Nov	Final examination schedule posted
11 Nov	College closed in recognition of Remembrance Day
12 Nov	Classes Resume
03 Dec	Last day to withdraw from Fall Term courses and receive a WD on transcript
03 Dec	Last day of classes for Fall Term courses
08 Dec	First day of final examinations for Fall Term courses
13 Dec	Last day of final examinations for Fall Term courses
16 Dec	Deferred exams written
19 Dec	Last day for submission of final grades for Fall Term courses
22 Dec	Final grades available.
05 Jan	First day of classes for Winter Term 2015
07 Jan	Last day to apply Winter Term 2015
09 Jan	Last day to pay fees for Winter Term 2015
12 Jan	Last day to apply for Supplemental Exams for Fall Term 2014
17 Jan	Supplemental exams for Fall Term 2014 written

Changes to this course outline may be made providing this is done in consultation with the students and reviewed by the program lead for completeness and consistency with all college policies.

Program Lead Signature:  **Date:** 27 August 2014

Dr. Bryan Rowsell
Program Lead of Science Department
Red Deer College

PROBLEM SOLVING FORMAT

	EngG 130	Smith, Brian	3/8
May 8, 2006	Assignment 1	LAB D2 7654321	

This is the format you are to follow when preparing your assignments and laboratory solutions. The title block should be filled out in the following order:

Left of Center:	Date
Center:	Course name (EngG 130 in this case)
	Description (Assignment # or Laboratory #)
Right of Center:	Name (Surname, Given)
	Student ID number
Right Corner:	Page identification (3/8 identifies page 3 in a document with a total of 8 pages)

All your work should be done on the front side of the ENGINEERING PAPER using a SHARP PENCIL and a STRAIGHT EDGE to make DISTINCT LINES and LEGIBLE letters and numbers.

(e.g. 1 2 3 4 5 6 7 8 9 0)

Try your best to make sketches TO SCALE and show angles close to their true values.

If more than one problem is done on a page, separate the problems with a horizontal line.

Don't crowd your work. The easier it is to follow your own work, the easier it is to study from it!

Identify your final answer with a box.