

	FACULTY OF ENGINEERING AND APPLIED SCIENCE ENGI 1313 MECHANICS I - STATICS	
	Dr. Geoff Rideout, Ph.D., P.Eng.	Class of 2013A, Term A, Fall 2007

PROFESSOR CONTACT INFORMATION

Office: EN3067 Phone: 737-3746
 Email: grideout@engr.mun.ca
 Web Site: <http://www.engr.mun.ca/people/grideout.php>
 Course Web Site: <http://www.engr.mun.ca/~grideout/ENGI1313.html> (case sensitive)

TEXTBOOK

Engineering Mechanics Statics and Dynamics, 11th Edition
 R.C. Hibbeler; Pearson Prentice Hall (ISBN 0-13-221509-8)

LECTURES: Monday, Wednesday, Friday: 10:00-10:50, EN2006
 Tuesday 10:00-10:50, IIC2001
TUTORIALS: Tuesday 12:00-12:50, EN2043 (Section 7)
 Thursday 12:00-12:50, EN1040 (Section 8)
OFFICE HOURS: Monday, 2:00-3:00; Thursday 3:00-4:00; or by appointment
TEACHING ASS'TS: TBA

TOPICS COVERED

Statics is the study of bodies that are at rest or moving at constant velocity – bodies in *equilibrium*. Dynamics is concerned with accelerating bodies. Statics is a very important course because many objects are designed to remain in equilibrium. A thorough understanding of statics is critical to success in future courses such as rigid body dynamics, fluid dynamics, mechanical design, structural analysis, ship design, and electromechanical devices.

- Introduction and General Principles (Ch.1: Sections 1.1–1.6)
- Force Vectors (Ch.2: Sections 2.1–2.9)
- Particle Equilibrium (Ch.3: Sections 3.1–3.4)
- Force System Resultants (Ch.4: Sections 4.1–4.10)
- Rigid Body Equilibrium (Ch.5: Sections 5.1–5.7)
- Structural Analysis (Ch.6: Sections 6.1–6.4 & 6.6)
- Internal Forces (Ch.7: Section 7.1)
- Friction (Ch.8: Sections 8.1–8.3)
- Center of Gravity and Centroid (Ch.9: Sections 9.1–9.3)
- Moment of Inertia (Ch.10: Sections 10.1–10.5)
- Review

ONE OF THE MOST IMPORTANT CONCEPTS, WHICH WE WILL TRY TO RAM DOWN YOUR THROATS, IS FREE BODY DIAGRAMS. UNDERSTANDING AND BUYING INTO FREE BODY DIAGRAMS WILL MAKE THE NEXT FEW YEARS OF YOUR LIVES EASIER.

METHOD OF EVALUATION

There will be 4 quizzes, with the best 3 marks counting towards your final grade; 1 mid-term examination and 1 final examination. The 4 quizzes will occur during the tutorial sessions. **Know your section (7 or 8), and when your tutorial is.**

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Method	% Final Grade‡		Tentative Dates			
	Scheme A	Scheme B				
Quiz†	15	15	Quiz 1	Quiz 2	Quiz 3	Quiz 4
			Sep. 18/20	Oct. 2/4	Oct. 30/Nov. 1	Nov. 13/15
Mid-Term Exam	25	10	To Be Announced			
Final Exam	60	75	Tentatively scheduled for Thursday, December 6			

† Quizzes 1 and 3 will be written in your normal tutorial slot. The two sections of the course will change tutorial slots for Quizzes 2 and 4. For example, if you are in Section 7, you will write Quizzes 1 and 3 on Tuesdays in EN2043, and Quizzes 2 and 4 on Thursdays in EN1040.

‡ The higher of the Scheme A or B total will be your final grade.

QUIZ/EXAM POLICIES: Only simple scientific calculators are permitted in all quizzes and examinations. Programmable calculators with text storage and graphics capabilities, as well as other aids (books, notes, formula sheets [except as noted below], electronic translators and devices, etc.) are NOT allowed. Unauthorized use of the above aids or devices during quizzes, quizzes and examinations will be considered as an academic offence.

Students are expected to maintain academic integrity in the course and in the engineering program. Cheating on quizzes, quizzes, and examinations will be dealt with in accordance with the procedures outlined under Academic Misconduct in the University Calendar.

For the Mid-Term Exam you are permitted to bring ONE formula sheet that can be not more than 8.5"×11", and for the Final Exam TWO formula sheets (8.5"×11") can be brought along. Formula sheets will be provided for the quizzes.

PROBLEM SETS AND ASSIGNED READINGS: Over the course of the semester, sets of problems from the text will be handed out to help you prepare for quizzes and exams. These will not be graded. Numerical answers will be given with the problems, but solutions will not be posted until after the quiz or exam. **Consistent effort in solving these problems, and asking questions about them in office hours and tutorials, will likely be critical to your success in the course.**

REGRADE POLICY: I'll take care of obvious addition errors immediately. When a test or exam is returned, I will accept written requests for regrades after the next class. This gives people a chance to cool down after a disappointing score, or get clarification in office hours about concepts that were not understood. The only way a grade will be changed is if your paper is found to have been graded in a manner not consistent with other papers in the class.

WHAT I EXPECT OF YOU AS STUDENTS: I expect you to attend class except during extenuating circumstances. Please pay attention and don't disturb your neighbours by talking. Don't hesitate to ask me any questions if something is confusing or if you can't read what I've written on the board. I expect you to arrive on time so we can start the lecture on time, and not start packing your books before the end of lecture (pet peeve).

WHAT YOU SHOULD EXPECT OF ME AS AN INSTRUCTOR: You are entitled to a clearly-presented, organized lecture that begins and ends on time. You can expect me to respond within a day to emails. You can expect me to be patient with your struggles during office hours, and appreciative of questions, comments, or corrections in class. If you ask me something in class that I can't answer, then I'll find an answer and get back to you by email or in the next class.