SYLLABUS

Instructor
Andrea Atkins
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Rm 3012 (Fridays only)

Teaching Assistant
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Rm 3002

Lectures
Fridays 2pm-5pm
Room 1101 (E-Classroom)

Tutorials
Wednesdays 6:30pm-8:30pm
Room 1101 (E-Classroom)
6:30pm: Review homework from previous week (optional)
7:30pm: Quiz

Course Description
Fundamental concepts of mechanics and structures, as related to architectural design, study of loading conditions, forces, moments, systems of forces, conditions of equilibrium for two and three dimensional structures, centre of gravity of loads and areas, bar forces in trusses, simple frame analysis, moment of inertia. Concepts of simple stress and strain; shear and bending moments in simple beams; shear and moment diagrams, qualitative deflected shapes, flexural and shearing stresses, deflection calculations; compression members; Euler's formula.

Course Policies
Each student is requested to bring a hand calculator to every class meeting. All other electronic devices, such as computers, cell phones, tablets, etc., are prohibited from use in class at all times. The exception to this rule is any device necessary for the accommodation of a student with special needs.

Text Books
Course Notes available from UW Bookstore
Homework from textbooks posted on Learn and available in the library

Grading
Final marks will be calculated on the following basis:

Quizzes	30%
Midterm Exam	30%
Final Exam	40%

Homework
Each week suggested homework problems will be assigned, covering the material taught in the lecture. This work is not evaluated, but is crucial to your understanding of the material. You will be given opportunities to practise what you have learned and ask questions in tutorials before writing each quiz.

Quizzes
Quizzes are administered during tutorial sessions, and are the only mandatory portion of the Wednesday class. Each quiz will be a short (often single-question) problem reflecting the material taught in the previous lecture, and the associated homework problems.
There are eight quizzes. At the end of the term, your two quizzes with the lowest marks will be discarded and only the top six grades will be counted towards your final. This affords you some forgiveness for absence, illness, and poor performance. Re-writing quizzes for any reason is not an option. Students registered with accessibility services will be accommodated.

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Exams

Both the Midterm and the Final exam will be closed-book exams. Students will be responsible for all material covered in the course, both in-class and in-textbook. You may bring in one personal formula sheet on an 8.5x11" paper, hand-written, double-sided, with whatever information you wish to have on it (i.e. examples, formulae, diagrams, inspirational notes, etc.).

Avoidance of Academic Offenses

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. Refer to the Academic Integrity website (https://uwaterloo.ca/academic-integrity/) for details.

Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4, (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70). When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline

A student is expected to know what constitutes academic integrity to avoid committing an academic offense, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71 (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71) Student Discipline. For typical penalties check Guidelines for the Assessment of Penalties, (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/guidelines/guidelines-assessment-penalties).

Appeals

A decision made or penalty imposed under Policy 70 (Student Petitions and Grievances) (other than a petition) or Policy 71 (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm .

Note for Students with Disabilities

AccessAbility Services (http://uwaterloo.ca/disability-services/), located in the new addition to Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for with students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the office at the beginning of each academic term.

Issued

September 6th, 2019

University of Waterloo
School of Architecture
Fall 2019

SCHEDULE

Friday, Sept. 6	introduction, concurrent forces, equilibrium, moment, and reactions
Wednesday, Sept. 11	quiz 1
Friday, Sept. 13	two-force members, pinned frames
Wednesday, Sept. 18	quiz 2
Friday, Sept. 20	gables, cables, trusses by method of joints
Wednesday, Sept. 25	quiz 3
Friday, Sept. 27	section properties, moment of inertia
Wednesday, Oct. 2	quiz 4
Friday, Oct. 4	load, shear, and moment diagrams, beam tables
Wednesday, Oct. 9	review tutorial, by request
Friday, Oct. 11	determinacy, superposition, midterm review
Wednesday, Oct. 23	midterm exam (6:30pm-9:00pm)
Friday, Oct. 25	Toronto Co-op Day. Review Lecture.
Wednesday, Oct. 30	no quiz- take up midterm
Friday, Nov. 1	trusses by method of sections
Wednesday, Nov. 6	quiz 5
Friday, Nov. 8	axial stress, bending stress, shear stress
Wednesday, Nov. 13	quiz 6
Friday, Nov. 15	limit states design, beam design
Wednesday, Nov. 20	quiz 7
Friday, Nov. 22	column design, slenderness, buckling
Wed. Nov. 27	quiz 8
Friday, Nov. 29	Review Lecture
Dec. 17	final exam