

Western University
Department of Mechanical & Materials Engineering

MME 2202A - “Mechanics of Materials”

COURSE OUTLINE – Fall 2026

CALENDAR DESCRIPTION: Stress and strain, Mohr's stress circle, behavior of structures, axial loading of columns and struts, torsion of shafts, bending of beams, buckling of columns and combined loading of components.

COURSE INFORMATION:

Instructors: Prof. Liying Jiang (Section 001)
Room: SEB 2069C
Email: ljiang55@uwo.ca

Prof. Samuel F. Asokanthan (Section 002)
Room: SEB 2059A
Email: sasokant@uwo.ca

Lectures/tutorials See [Draft My Schedule](#)
/labs:

PREREQUISITES: ES 1022 a/b/y, NMM 1412A/B or the former Applied Mathematics 1412A/B

Unless you have either the requisites for this course or written special permission from your Dean to enroll it in, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the prerequisites.

ANTIREQUISITES CEE 2202A/B, the former MSE 2212A/B

ACCREDITATION UNITS: Engineering Science = 100%

TOPICS: Concepts of stress and strain (normal and shear); Hooke's Law; axially loaded members; second moment of area; elastic torsion of shafts; bending and shearing stresses in beams; design of beams and introduction to beam deflection; principle of superposition; statically indeterminate problems; columns; Euler's formula.

LEARNING OBJECTIVES: Upon successful completion of this course, students will be able to

1. Assimilate fundamental concepts of statics and apply fundamental principles of statics to solve mechanics problems. **(KB3, PA2, PA3)**
2. Develop skills necessary for stress and strain analysis for mechanical members in a variety of different loading situations (axial, pure bending, torsion, transverse loading and combined loads) within a given material's elastic limit. **(KB3, PA2, PA3, I3)**
3. Apply these skills to analyze and solve the engineering problems related to the design of various mechanical components. **(KB3, PA2, PA3)**

The terms in parentheses following each learning outcome refer to Graduate Attributes (GAs) established by the Canadian Engineering Accreditation Board (CEAB) of Engineers Canada. These attributes are used in the accreditation process to ensure that accredited engineering programs are providing the academic requirements for licensure as a professional engineer in Canada. Information on Graduate Attributes and Indicators can be found at [GA Indicators](#). The table below indicates which specific attributes are measured in this course and the level at which it is measured, wherein I=Introduced, D=Developed and A=Advanced/Applied

CEAB Graduate Attribute Learning Levels for this course:

Knowledge Base	I	Engineering Tools		Impact on Society	
Problem Analysis	D	Individual & Teamwork		Ethics and Equity	
Investigation	I	Communication		Economics & Project Mgmt.	
Design		Professionalism		Life-Long Learning	

CONTACT HOURS: 3 lecture hours and 2 tutorial hours per week, three labs each 3 hours in duration, half course

TEXT: Mechanics of Materials, R.C. Hibbeler. 11th edition. Prentice Hall, ISBN 9780137605385 (\$80) https://bookstore.uwo.ca/textbook-search?campus=UWO&term=W2026A&courses%5B0%5D=001_UW/MME2202A. Students are also welcome to purchase second-hand or any earlier edition of this textbook.

COURSE POLICIES Laboratory Sessions:

- Reports are due by 5pm on due days (will be posted on OWL)
- Late submissions of lab reports will receive a grade no higher than 50%
- Students who show up to the lab time 15 min later or more, will receive a grade of 50% for that laboratory session
- Missing of a laboratory session without academic consideration will translate into a zero mark for that laboratory session
- Students who miss a lab with academic consideration are required to reschedule the lab by contacting the course instructor no later than 2 days after that lab. Failure to do so will result in a zero mark for that lab.

Quizzes:

- No make-up quiz option will be offered regardless of the circumstances for which the quiz was missed
- Missing of a quiz without academic consideration will translate into a zero mark for that quiz
- Missing a quiz with academic consideration will automatically re-weight the missing quiz(zes) to the final exam.

Midterm Examination:

- There is no make-up midterm option offered regardless of the circumstances for which the midterm was missed.
- Missing the midterm with academic consideration will result in automatic reweighting to the final exam.
- Missing the midterm without academic consideration will result in a grade of 0 for the midterm.
- Only non-programmable calculators will be allowed during the examination
- This assessment is considered to be central to the learning objectives for this course (designated assessment). Accordingly, students seeking academic consideration for this assessment will be required to provide formal supporting documentation.

Final Examination:

- Only non-programmable calculators will be allowed during the final examination
- If a minimum of 50% is not obtained on the final examination, the student cannot receive a final mark greater than 48%

**EXAMINATIONS
AND QUIZZES:**

2 hour Closed Book mid-term examination; 3-1 hour Closed Book quizzes;
3 hour Closed Book final examination

EVALUATIONS

The final grade is computed as follows:

Evaluation Format	Weight	Effort Type	Due	CEAB GAS ASSESSED
Assignments (6 total)	5%	Individual	Sept. 22, Oct. 6, Oct. 20, Nov. 3, Nov. 24, Dec. 8	
Quizzes (3 total)	15%	Individual	Sept. 29 (5%) Oct. 20 (5%) Nov. 24 (5%) (during tutorial)	KB3 PA3
Laboratories	10%	Team	Oct. 19-23 (2.5%) Nov. 9-13 (full length report, 5%) Nov. 23-27 (2.5%)	
Midterm Test	20%	Individual	6:30-8:30 Oct. 30	
Final Exam	50%	Individual	Dec. Exam Period	PA2

General Faculty / University Policies

The Faculty of Engineering and Western University have overarching policies that prescribe how undergraduate courses should run. The course-specific policies described above should be considered in addition to those overarching policies, or as course-specific interpretations of them. In the event of contradictions or confusion between course-specific policies above and general Faculty / University policies, please contact your course instructor for clarification.

Western Engineering's undergraduate policies can be found by navigating to:

<https://www.eng.uwo.ca/undergraduate/academic-support-and-accommodations/policies.html>

and then clicking the "Engineering Undergraduate Policies framework" link.

The policy covers:

- Absence/Late Accommodation Policy
- Religious Accommodation
- Academic Integrity
- Academic Offences
- Faculty of Engineering AI Policy
- Accessibility
- Inclusivity, Diversity, and Respect
- Health and Well-being
- Gender-Based and Sexual Violence