Course Name: Strength of Materials II	
Course Code: CIV033	
Semester / Year: second Semester / 2025	
Date of Preparation of this Description: 3 / 5 / 2026	
Available Attendance Modes: Bologna System	
Total Study Hours / Total Units: SSWL 62 + USSWL 63; ECTS 5	
Course Coordinator: Asst. Lecturer Ahmed Abbas Shareef	
Course Objectives	
Objectives	Develop problem-solving skills and an understanding of material behaviour through the application of engineering techniques. Understand the relationship between applied forces and the resulting stresses in materials. Learn the fundamental concepts of stress and strain. Build a

	foundation for the analysis of all types of statically determinate structures. Acquire knowledge of the methods used to solve problems related to stress, strain, and deflection of structures.
Teaching and Learning Strategy	
Strategy	– Interactive lectures supported by visual aids such as presentations. – Encouraging discussion and questions. – Motivating students to conduct research and consult references to broaden their knowledge in numerical analysis. – Allocating time for in-class activities and practical exercises. – Conducting quizzes to assess student performance.
Course Structure	

Week	Hours	Required Learning Outcomes	Topic	Teaching Method	Assessment Method
1	5	1, 3	Review of reactions and loads	In-person	Quizzes, Homework Assignments
2	5	1, 3	Stresses in the members	In-person	Quizzes, Homework Assignments
3	5	1, 3	Solving exercises n strsses	In-person	Quizzes, Homework Assignments
4	5	1, 3	Shear stresses in memebers	In-person	Quizzes, Homework Assignments
5	5	1, 3	Shear force and bending moment diagrams	In-person	Quizzes, Homework Assignments

6	5	1, 3	Solving Exercises on SFD AND BMD	In-person	Quizzes, Homework Assignments
7	5	1, 3	Graphical representation of SFD and BMD	In-person	Quizzes, Homework Assignments
8	5	1, 3	Torsion in circular rods	In-person	Quizzes, Homework Assignments
9	5	1, 3	Solving Exercises Torsion in circular rods	In-person	Quizzes, Homework Assignments
10	5	1, 3	Stresses in Composite Beams	In-person	Quizzes, Homework Assignments
11	5	1, 3	Transformation of Composite Cross-Sections	In-person	Quizzes, Homework Assignments
12	5	1, 3	Solving Exercises on Composite Cross-Sections	In-person	Quizzes, Homework Assignments
13	5	1, 3	Deflection in Beams	In-person	Quizzes, Homework Assignments
14	5	1, 3	Solving Exercises on Deflection	In-person	Quizzes, Homework Assignments
15	5	1, 3	in Shear beams	—	Questions
16	5	1, 3	—	—	—

Course Assessment

Mid-term Examination = 10% Quizzes = 15% Daily Attendance & Participation = 10% Homework & In-class Assignments = 5% Reports & Seminars = 10% Final Examination = 50%

Learning and Teaching Resources	
Required Prescribed Textbooks (Syllabus Texts, if any)	– Strength of Materials, by: Singer.
Main References (Sources)	– Introduction to Mechanics of Solids, by: E. Popov. – Elements of Strength of Materials, by: Timoshenko. – Mechanics of Materials, by: Russell C. Hibbeler.
Recommended Supporting References (Journals, Reports, etc.)	– Mechanics of Materials, by: Ferdinand Beer et al. – Mechanics of Materials, by: James Gere. – Strength of Materials, by: J. P. Den Hartog.
Electronic References, Websites	https://www.coursera.org/