Course Number and Name	CE213-3 Strength of Materials
Credits hours	3 Credits hours
Contact hours	5 Contact hours; 2 for lecture, 2 for tutorial and 1 for practical
Instructor/s name/s	Dr. Mohammed Mutnbak Dr. Mohammed Shubaili
Textbook	Mechanics of materials by R.C. Hibbeler, 10th Ed., Pearson 2015.
Other supplemental materials	1- Mechanics of Materials by Andrew Pytel & Jaan Kiusalaas, 2nd Ed., Global Engineering: Cengage 2012. 2- Lecture notes.
Specific course information	
a. Catalog description	This course covers and concentrates on the structural analysis and properties of engineering materials. It also focuses on the relationships between stresses and strains.
b. Prerequisite	CE111-3 Engineering Mechanics: Static
c. Required / Elective	Required
Specific goals for the course	
By the end of this course, the student will be able to: 1. **Recall** the basic principles and concepts of structural analysis. 2. **Describe** properties and behavior of the engineering materials under different types of loading patterns. 3. **Calculate** stresses and strains due to axial forces and shearing forces. 4. **Evaluate** bending stress due to bending in beams. 5. **Evaluate** shear stresses in beams. 6. **Evaluate** stress due to torsion forces. 7. **Evaluate** stress due to combined loads. 8. **Determine** principal stresses, maximum shearing stress, and the stresses acting on a structural member. 9. **Determine** beam deflection due to different loading patterns.	
Topics to be covered	
Topic	**Number of weeks**
Review of basic principles of statics.	**1.5**
Stress	**1.5**
Strain	**1**
Mechanical Properties of materials	**1**
Bending Stress	**2**
Shear Stress	**2**
Stresses Due to combined loads	**1.5**
Stress Transformation	**1.5**
Torsion	**1**

Beam Deflection	**2**
Schedule of Assessment Tasks for Students During the Semester	
Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	**Week due**	**Proportion of Total Assessment**
Homework	Per 2 weeks	10%
Quizzes	Per 2 weeks	10%
Midterm-exam I	7^{th} week	15%
Midterm-exam II	11^{th} week	15%
Term Project	Final week	20%
Final Exam	Final week	30%

CLO-SO Map							
	S01	**S02**	**S03**	**S04**	**S05**	**S06**	**S07**
CLO 1	√						
CLO 2	√		√	√	√		
CLO 3	√		√	√	√		
CLO 4	√		√	√	√		
CLO 5	√		√	√	√		
CLO 6	√		√	√	√		
CLO 7	√		√	√	√		
CLO 8	√		√	√	√		
CLO 9	√						