

1. Course number and name	Strength of Materials
2. Credits and contact hours	3 credits and 3 1-hour lectures per week
3. Instructor's or course coordinator's name	Mustafa Mahamid, PhD, SE, PE, P.Eng., F.SEI, F.ASCE Prepared: May, 2018
4. Textbook title, author, yr	<i>Mechanics of Materials 3e by Timothy A. Philpot</i> Publisher: Wiley, 2013
a. Supplemental materials	Instructor's Lecture notes
5. Specific course information	
a. Brief description of the content of the course (catalog description)	Relationships between the stresses and strains within a deformable body. Axially loaded members, torsion and bending of bars. Stress transformation equations. Column buckling.
b. Prerequisites or co-requisites	Statics and Calculus III
6. Specific goals of the course	
a. Specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.	Course Objectives: The objective of this course is to prepare students to learn problem solving skills in solid mechanics at a level sufficient to pass the Fundamentals of Engineering exam strength of materials topical area and prepare them for advanced studies in structural analysis and design. Educational Outcomes: Students will be able to analyze both statically determinate and indeterminate problems involving axial, torsional, and flexural deformations. Successful completion of this course will prepare students for further study in structural analysis and design. Assessment criteria: Homework 10%; 2 Midterm exams 50%; Final 40%.
7. Brief list of topics covered	<ol style="list-style-type: none"> 1. Stress, strain and linearly elastic material behavior 2. Axially loaded bars 3. Torsion of circular shafts 4. Shear forces and bending moments 5. Stresses in beams 6. Deflections of beams 7. Analysis of stress and strain 8. Pressure vessels and combined loadings 9. Buckling of columns