



EGR 256: Advanced Mechanics of Materials

This course is designed to be taken concurrently with EGR 254 Mechanics of Materials and Structures and cover complex analysis techniques. Advanced mechanical properties of materials and stress, strain, bending and torsion concepts will be utilized to solve problems associated with beam, shaft and column design. The use of stress and strain transformation to determine maximum normal and shear stress and predict the failure of a material will be discussed. Prerequisite: EGR 253. Pre or co-requisite: EGR 254.

Course Student Learning Outcomes

Students who successfully complete this course will be able to: 1. Explain advanced stress, strain and mechanical properties concepts. 2. Solve advanced stress analysis and deflection problems. 3. Solve simple combined loading stress analysis and deflection problems. 4. Solve statically indeterminate and column buckling problems. 5. Analyze stress and strain components and stress transformation in 2D and 3D.

Credits: 1

Program: Engineering