Instructor:
Dr. Mazyar Amin
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Office hours: 5-7pm Mondays, 4-6pm Mondays and Tuesdays (or by appointment)
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Text Material:

Description:
Introduction to the use of statics and strength of materials to the analysis of individual machine components. Application of these principles to overall machine analysis is presented.

Prerequisites:
ENT 272

Type of Course:
Required for MET and EMET (mechanical option) students.

Course Objective:
Upon Completion of this course, students will be able to:
1. Apply basic engineering methods and techniques to analyze complex mechanical components and systems
2. Able to function effectively within a team-work environment
3. Use computer-aided design tools for mechanical design and analysis
4. Improve presentation skills and generate a technical design report while working within the confines of a design team.
Course Outcomes:

- Fundamental knowledge of engineering materials and how these materials are used in the design of machine components and systems
- The ability to apply creative technical skills to the analysis and design of mechanical components and systems
- Written and verbal communication skills necessary for success in the modern industrial environment
- Effective team work skills

Topical Outline:

- The nature of mechanical design
- Materials in mechanical design
- Stress and deformation analysis
- Design for different types of loading
- Columns
- Belt drives and chain drives
- Kinematics of gears
- Spur gear design
- Keys, couplings, and seals
- Shaft design
- Rolling contact bearings