

**EM 221 STATICS. (3)**

Study of forces on bodies at rest. Vector algebra; study of force systems; equivalent force systems; distributed forces; internal forces; principles of equilibrium; application to trusses, frames and beams; friction. Prereq or concur: MA 213.

**EM 302 MECHANICS OF DEFORMABLE SOLIDS. (3)**

A study of stress and strain in deformable solids with application primarily to linear elastic materials: stress and strain transformations; simple tension and compression of axial members; torsion of shafts; bending of beams; combined loading of members; buckling of columns. Prereq: Registration in the College of Engineering or consent of chairperson, and EM 221; prereq or concur: MA 214.

**EM 313 DYNAMICS. (3)**

Study of the motion of bodies. Kinematics: cartesian and polar coordinate systems; normal and tangential components; translating and rotating reference frames. Kinetics of particles and rigid bodies: laws of motion; work and energy; impulse and momentum. Prereq: Registration in College of Engineering, EM 221 and MA 214.