

Course Outcome Assessment (COA)

excellent understanding and can use effectively

good understanding

have some understanding and can use

understand somewhat, but cannot use

do not understand and cannot use

- A. Forces, units, dimensions, significant digits, conversion of units
- B. Newton's laws of motion, law of gravitation; parallelogram law
- C. Addition and resolution of forces in a plane
- D. Addition and resolution of forces in space
- E. Equilibrium of particles in a plane
- F. Equilibrium of particles in space
- G. Moments of forces, couples, Varignon's theorem
- H. Moments of forces using cross product, dot product, and scalar triple product
- I. Equilibrium of rigid bodies in a plane
- J. Equilibrium of rigid bodies in space
- K. Centroids of lines and areas
- L. Distributed loads and centroids of volumes
- M. Area moments of inertia, radii of gyration
- N. Parallel-axis theorem, composite areas
- O. Trusses: method of joints
- P. Trusses: method of sections
- Q. Frames and machines
- R. Friction between rigid bodies
- S. Belt friction
- T. Work of a force, work of a moment, displacement center
- U. Method of virtual work