

ENGR4110 : Machine Design

Study of the kinematics and kinetics of machines and machine components. Introduction to design specification and procedures for machine components, including linkages, gears, cams, bearings, clutches, shafts, and brakes. Finite element analysis shaft design of joints (threaded fasteners, welds, springs, keys, etc.); design of gear trains; lubrication and bearing design. Application of the principles of statics and mechanics of materials to the design of machine elements. Failure criteria in yielding, fatigue and buckling, statistical considerations. **Fee:** Additional fee required.

Credits 3

Prerequisite Courses

ENGR3100

ENGR1050

ENGR2110

Fees

\$330