

Course Contents:

Steel structures, Limit states and design philosophy; partial safety factors and load combinations; Analysis and design methods; Design of tension members based on net section including shear lag effects, staggered holes and block shear; Design of compression members for flexural and flexural torsional buckling, Column formula, Local buckling and buckling class, End restraints and effective length factor; Role of plate buckling, Plastic hinge, Classification of section: plastic, compact, semi-compact, slender, Design strength of laterally supported beams, Shear buckling strength Post-critical method, Shear moment interaction, Design strength of laterally unsupported beams, Lateral torsional buckling, Effect of restraints and effective length; Effect of axial load on flexure behavior, Cross-section yielding and member instability, PM interaction and moment amplification, Biaxial bending; Design of Bolts and Welds, Strength under combined stresses, Prying action; Common simple and eccentric joints and frame connections, Column bases.