

FCE 431 - Structural Design IA (60 hrs)

Reinforced Concrete:

Elements of concrete construction. Principles of reinforced concrete design. Elastic and ultimate limit states. Designing of reinforced concrete elements for bending, shear and compression loading. Fire protection. Bond and Anchorage. Reinforced concrete slabs and yield line analysis. Detailing of beams slabs, columns, staircases and walls. Foundation and Retaining walls. Codes of Practice. Design Exercises.

Prestressed Concrete:

Elements of precast prestressed concrete construction. Principles of prestressed concrete design. Tendon. Profiles. Design of statically determinate prestressed concrete elements. Applications. Codes of practice Design exercises:-