Steel sections (Week4)

- Hot-rolled sections are produced in steel mills from steel billets by passing them through a series of rolls. The main sections are:
- Universal beam, Universal columns, Channels, Equal and unequal angles, Structural tees and Circular, square, rectangular hollow sections.

Connections (Week5)

- Connections are needed to join: Members together in trusses and lattice girders, Plates together to form built-up members, Beams to beams, trusses, bracing, columns, frames etc. Columns to foundation.
- Type of connections : Ordinary bolts, Friction grip bolts and Welding.

Beam design (Week 6)

- Beams span between supports to carry lateral loads which are resisted by bending and shear. However, deflections and local stress are also important.
- Beams may be : cantilevered, simply supported, fixed ended or continuous.
- Classification of beam cross sections:

The projecting flange of an I beam will buckle prematurely if it too thin, web will also buckle under stress from bending and from shear. To prevent such from occurring, beam sections are classified as follows in accordance with their behavior in bending.

Class 1. Plastic cross section.

Class 2. Compact cross section

Class3. Semi-compact cross section

Class4.Slender cross section.