

Topics

1. Types of structures and loads (7 hours).....Exercise-1 (20 points)
 - Classification
 - Statically determinate and indeterminate structures
 - Stable and unstable structures
2. Analysis of statically determinate structures (10 hours).....Exercise-2 (30 points)
 - Analysis of statically determinate trusses
 - Analysis of statically determinate beams
 - Analysis of statically determinate frames
 - Influence lines for statically determinate structures
3. Deflections (22 hours).....Exercise-3 (40 points)
 - Double integration method
 - Moment-area method
 - Conjugate beam method
 - Energy methods
 - Method of virtual work
 - Castigliano's theorem

Midterm (400 points)

4. Introduction to statically indeterminate structures (7 hours).....Exercise-4 (30 points)
 - Force method
 - Displacement method
 - Superposition principle

Final (480 points)

Total Grade =1000 points

Total sessions = 32 sessions

Total hours =48 hours

Reference:

R.C. Hibbeler, Structural Analysis, 8th ed.