



Monday 15:30-17:30 & Wednesday: 8-10 AM (R. 103)

Topics

1. Introduction (up to 21 Bah.).....Exercise (20 p.)
 - Newtonian mechanics
 - Units
2. Statics of a particle (up to 30 Bah.)..... Exercise (30 p.)
 - Forces on a particle
 - Vectors
 - Particle equilibrium
 - Forces in space
3. Rigid bodies (up to 14 Esf.) Exercise (30 p.)
 - Principle of transmissibility
 - About vectors
 - Moment of a force
 - Equivalent system of forces
4. Equilibrium of rigid bodies (up to 28 Esf.)..... Exercise (30 p.)
 - Free body diagram
 - Equilibrium in two dimensions
 - Equilibrium in three dimensions
5. Centroids & center of gravity (up to 27 Far.)..... Exercise (30 p.)
 - Areas and lines
 - Composite planes and wires
 - Volumes
6. Analysis of structures (up to 29 Ord.)..... Exercise (60 p.)
 - Trusses
 - Frames
 - Beams
 - Cables

Midterm Exam (300 points)... 31 Ord. 1399, 8-10 AM

7. Moments of inertia (up to 21 Kho.)..... Exercise (50 p.)
 - Moments of inertia of areas
 - Moments of inertia of composite areas
 - Mohr's circle
 - Moments of inertia of a mass

Final Exam (450 points)... 11 Tir 1399, 8-10 AM

Bonus points for regular participation

Total Grade =1000 points, Total sessions = 27 sessions, Total hours =54 hours

Main Reference: Vector mechanics for engineers, Statics by Beer, Johnston, Mazurek, Cornwell, Eisenberg, Ninth Ed.