

SUGGESTED PROBLEMS
PHYS 5306: “Classical Dynamics”

I. Lagrangian and Hamiltonian mechanics (sections 1-10, 40):

§5: 1, 2, 3

§7: 1

§8: 1

§9: 1, 2, 3

§40: 1, 2

II. 1-d and central force motion (sections 11, 13-15):

§11: 1

§14: 1, 2

§15: 1, 3

III. Collisions and scattering (sections 16-20):

§16: 1, 2

§17: 1

§18: 1, 4, 6

§19: 1

§20: 1

IV. Small oscillations (sections 21-23):

§21: 1, 2, 3, 5, 6

§23: 1, 3

V. Rigid body motion and non-inertial reference frames (sections 31-36, 38-39):

§32: 1, 2, 3, 6, 7, 9, 10

§35: 1

§38: 1, 2

§39: 1, 3

VI. Special relativity: 4-vectors and relativistic collisions (TBD)