

MAIN TEXT

Landau and Lifshitz “*Mechanics*”

SUPPLEMENTARY TEXTS

Dittrich and Reuter “*Classical and quantum dynamics*”

Kotkin and Serbo “*Collection of problems in classical mechanics*”

COVERED MATERIAL (TENTATIVE)

Core subjects

- Action principles in mechanics
- Canonical transformations
- Hamilton-Jacobi equation
- Action-angle variables
- Adiabatic invariance
- Conditionally-periodic motion

More tentative

- Small oscillations
- Rigid body motion
- Perturbation theory, resonances
- Poincaré surface of section, mapping
- KAM theorem
- Semiclassical quantization

COURSE LOGISTICS

Name: Prof. SLAVA SEROTA
Office: Rm. 429, ext. 60538
E-mail: serota@physunc.phy.uc.edu slava.serota@uc.edu
URL: <http://physuna.phs.uc.edu/~serota/> <http://serota.phy.uc.edu/>