Physics 200B   **Mechanics II**   **Winter 2014**

Required Texts

"Mechanics", L.D. Landau, E.M. Lifshitz

"Theoretical Mechanics of Particles and Continuua", A. Fetter and D. Walecka

"Physical Kinetics", E.M. Lifshitz and L. Pitaevski

References

I.)   **Fluids**

       a.)   L.D. Landau and E.M. Lifshitz; "Fluid Mechanics"
       b.)   G.K. Batchelor; "Introduction to Fluid Dynamics"
       c.)   S. Chandrasekhar; "Hydrodynamic and Hydromagnetic Stability"

II.)   **Nonlinear Oscillations and Waves**

       a.)   G.B. Whitham; "Linear and Nonlinear Waves"
       b.)   J. Lighthill; "Waves in Fluids"
       c.)   L.D. Landau and E.M. Lifshitz, "Electrodynamics of Continuous Media"

III.)   **Rigid Body Dynamics**

       a.)   L.D. Landau and E.M. Lifshitz; "Mechanics"
       b.)   H. Goldstein; "Classical Mechanics"
       c.)   E. Whittaker; "A Treatise on the Analytical Dynamics of Particles and Rigid Bodies"

IV.)   **Noisey Dynamics**

       a.)   N. Wax; "Selected Papers on Noise and Stochastic Processes"
       b.)   L.D. Landau and E.M. Lifshitz; "Statistical Physics, Vol. I")
       c.)   E.M. Lifshitz and L. Pitaevski; "Physical Kinetics"
       d.)   R. Serra, et al.; "Introduction to the Physics of Complex Systems"
       e.)   L.P. Kadanoff; "Statistical Physics"
       f.)   N.G. Van Kampen, "Stochastic Processes in Physics and Chemistry"

V.)   **Hamiltonian Chaos**

       a.)   M. Tabor; "Chaos and Integrability in Nonlinear Dynamics"
       b.)   A.J. Lichtenberg and M. Lieberman; "Regular and Chaotic Dynamics"
       c.)   E. Ott, "Chaos in Dynamical Systems"