<u>Final Exam</u>

14. Fluid Mechanics

- 14.1 Pressure
- 14.2 Variation of Pressure with Depth
- 14.3 Pressure Measurements
- 14.4 Buoyant Forces and Archimedes's Principle
- 14.5 Fluid Dynamics
- 14.6 Bernoulli's Equation
- 14.7 Flow of Viscous Fluids in Pipes
- 14.8 Other Applications of Fluid Dynamics

15. Oscillatory Motion

- 15.1 Motion of an Object Attached to a Spring
- 15.2 Analysis Model: Particle in Simple Harmonic Motion
- 15.3 Energy of the Simple Harmonic Oscillator
- 15.4 Comparing Simple Harmonic Motion with Uniform Circular Motion
- 15.5 The Pendulum
- 15.6 Damped Oscillations
- 15.7 Forced Oscillations (especially the concept of resonance)

16. Wave Motion

- 16.1 Propagation of a Disturbance
- 16.2 Analysis Model: Traveling Wave (but not the x vt math like Example 16.1)
- 16.3 The Speed of Waves on Strings
- 16.4 Rate of Energy Transfer by Sinusoidal Waves on Strings
- 16.5 The Linear Wave Equation
- 16.6 Sound Waves
- 16.7 Speed of Sound Waves
- 16.8 Intensity of Sound Waves (but not sound level in decibels)
- 16.9 The Doppler Effect

17. Superposition and Standing Waves

- 17.1 Analysis Model: Waves in Interference (not two-dimensional like Example 17.1)
- 17.2 Standing Waves
- 17.3 Boundary Effects: Reflection and Transmission
- 17.4 Analysis Model: Waves Under Boundary Conditions
- 17.5 Resonance
- 17.6 Standing Waves in Air Columns
- 17.7 Beats: Interference in Time
- 17.8 Nonsinusoidal Waveforms