PHYS 1425 Syllabus - Spring 2010

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| **Class #**  | **Date**  | **Day**  | **Text Sections**  | **Topic**  |
| 1  | Jan 20  | W | 1 | Introduction, measurement, estimation  |
| 2  | Jan 22  | F | 2(1-6) | One-dimensional motion  |
| 3  | Jan 25  | M | 2(6-9)  | One-dimension motion  |
| 4  | Jan 27  | W | 3(1-6) | Projectile motion, vectors  |
| 5  | Jan 29 | F | 3(7-9) | Projectile motion, vectors  |
| 6  | Feb 1  | M | 4(1-5) | Newton's laws of motion |
| 7  | Feb 3  | W | 4(6-8) | Weight, tension, free body diagrams  |
| 8  | Feb 5  | F |  | No class - snow  |
| 9  | Feb 8  | M | 5(1) | Friction |
| 10  | Feb 10  | W | 5(2-6)  | Circular motion, more complicated motion |
| 11  | Feb 12  | F | 6(1-5) | Gravitation, applications, maybe Kepler's law |
| 12  | Feb 15  | M | 6(5-8) | Kepler's law, gravitational fields, review, catchup  |
| 13  | Feb 17  | W |  | **Exam I, Chs. 1-5**  |
| 14  | Feb 19  | F | 7(1-3) | Review exam, work  |
| 15  | Feb 22  | M | 7(3-4) | Work, work-energy principle |
| 16  | Feb 24  | W | 8(1-4) | Conservative and non-conservative forces, potential and mechanical energy  |
| 17  | Feb 26  | F | 8(5-9) | Conservation of energy  |
| 18  | Mar 1  | M | 9(1-5) | Linear momentum, collisions |
| 19  | Mar 3  | W | 9(6-10) | Collisions, center of mass, rockets  |
| 20  | Mar 5  | F  | 10(1-3) | Rotational motion  |
|   | Mar 6-14  |   |  | Spring Break, no class  |
| 21  | Mar 15  | M | 10(4-7) | Torque, rotational dynamics  |
| 22  | Mar 17  | W | 10(8-10) | Rotational kinetic energy  |
| 23  | Mar 19  | F | 11(1-3) | Angular momentum  |
| 24  | Mar 22  | M | 11(3-6) | Angular momentum and torque for rigid objects and system of particles |
| 25  | Mar 24  | W | 11(6-9) | Conservation of angular momentum, tops, gyroscopes, rotating frames  |
| 26  | Mar 26  | F | 12 | Statics |
| 27  | Mar 29  | M |  | Catchup, revise syllabus, snow day, review?? |
| 28 | Mar 31  | W |  | **Exam II, Chs. 6-11** |
| 29 | Apr 2  | F | 13(1-7) | Go over Exam II, Fluids |
| 30 | Apr 5  | M | 13(8-14) | Buoyancy, Bernoulli equation, applications  |
| 31 | Apr 7  | W | 14(1-4) | Buoyancy, simple harmonic motion |
| 32 | Apr 9  | F | 14(5-8) | Pendulum, damped and forced harmonic motion  |
| 33 | Apr 12  | M | 17(1-5) | Temperature |
| 34 | Apr 14  | W | 17(6-10) | Ideal gas law  |
| 35 | Apr 16  | F | 18(1-4) | Kinetic theory of gases  |
| 36 | Apr 19  | M | 18(5-7), 19(1-2)  | Van der Waals, heat  |
| 37 | Apr 21  | W | 19(3-7) | Specific and latent heat, first law of thermodynamics  |
| 38 | Apr 23  | F | 19(8-10) | Heat transfer  |
| 39 | Apr 26  | M | 20(1-4) | Second law of thermodynamics  |
| 40 | Apr 28  | W |  | **Exam III, Chs. 12, 13, 14, 17-19**  |
| 41 | Apr 30  | F | 20(5-8) | Entropy |
| 42 | May 3  | M | 20(9-11) | Statistical interpretation, thermal pollution, course review  |