SYLLABUS **PHYS 1607 Honors Physics I** **Fall 2007**

Instructor: Dr. Fukai Office: AL 213 (Physics Bldg); fukaiju@auburn.edu

Class: 8:00 – 8:50 M W F PKH 236 (Office hr; 2:30-4:00 M, T and by app.)

Laboratory: Monday **Recitation:** Wednesday

Text/material: *Fundamentals of Physics, Vol .I* (8th edition with **WileyPLUS**) by Halliday, Resnick, and Walker (ISBN: 9780470132081) and Lab manual I.

PHYS 1607 is the first of a two-course sequence entitled the Honors Physics course that introduces fundamental issues in calculus and physics in a cohesive fashion and is recommended for members of the Honors College and physics majors. The subject matter in PHYS 1607 involves basically mechanics and thermal physics using calculus. The lecture is slightly more advanced level than the standard course represented by the PHYS1600 series. The main difference lies in the extensive use of calculus to describe physical phenomena. But, the enhancements in honors courses are meant to be qualitative rather than quantitative – more focused on a deeper exploration of the subject matter than on simply adding more work. The materials covered include: Newton's laws, conservation of momentum, energy, and angular momentum, rotational dynamics, gravitation, fluids, oscillations, waves, and thermal physics.

Lecture schedule:

Week	Mon (Lab)	Wed_(Rec)	Fri	Test Schedule (Recitation)
8/17	- - -	- - -	Introd	
8/20	Ch. 1 (Web)	Ch. 2 (2M)	Ch. 2	
8/27	Ch. 3 (1M)	Ch. 3 (Rec)	Ch. 4	
9/03	- - -	Ch. 4 (Rec)	Ch. 5	
9/10	Ch. 5 (3M)	Ch. 5 (Test1)	Ch. 6	**Test 1** (09/12 W)
9/17	Ch. 6 (4M)	Ch. 7 (Rec)	Ch. 7	
9/24	Ch. 7 (5M)	Ch. 8 (Rec)	Ch. 8	
10/01	Ch. 8 (Rec)	Ch. 9 (Test2)	Ch. 9	**Test 2** (10/03 W)
10/08	Ch. 9 (6M)	Ch. 10 (Rec)	Ch. 10	
10/15	Ch. 10 (8M)	Ch. 11 (Rec)	Ch. 11	
10/22	Ch. 12 (7M)	Ch. 12 (Test3)	Ch. 13	**Test 3** (10/24 W)
10/29	Ch. 14 (1F)	Ch. 14 (Rec)	Ch. 15	
11/05	Ch. 15 (2W)	Ch. 16 (Rec)	Ch. 16	
11/12	Ch. 17 (3W)	Ch. 18 (Test4)	Ch. 18	**Test 4** (11/14 W)
11/19	- - - - Thanksgiving Recess - - - -			
11/26	Ch. 19 (1H)	Ch. 19 (Rec)	Ch. 20	
12/03	Ch. 20 (Test5)	Review (No Rec)		**Test 5** (12/03 M-No Lab)

Test 1 covers Chapters 1 – 4: 1D-, 2D-kinematics and Vectors
Test 2 covers Chapters 5 – 8: Newton's laws/Energy/Conservation of energy
Test 3 covers Chapters 9– 11: linear-, angular-momentum/Conservation of momentum/rotation
Test 4 covers Chapters 12 – 17: Equilibrium/Gravitation/Fluids/Oscillations and Waves
Test 5 covers Chapters 18 – 20: Thermal physics

Final Exam (comprehensive): **12/10 (Mon) 8:00 am – 10:30 am**

Tests: There will be five (5) Tests scheduled as shown in the previous page. The tests will be given during the designated recitation sessions. The tests are closed book, and no note cards are allowed. Also, no formula sheets, but hand calculators are allowed. *My advice* Do not miss any test - - - you do not want to take a makeup test.

Homework: Homework will be assigned for each chapter through the "**WileyPLUS**" website. Homework will consist of several exercises and problems chosen from the text. You are required to work out homework questions on the designated website. You need to register for LOGIN. The registration card with instructions comes with the textbook (ISBN 9780470138366).

Grading:
I anticipate using the following grading scale. Class participation will be a relevant factor in determining the final grade for those cases that fall on the borderline between grade ranges.

Grading scale:	5 test average	50%	A:	88 – 100
	Final	25%	B:	76 – 87.9
	Lab/Rec&HW(10/15)	25%	C:	64 – 75.9
			D:	52 – 63.9
			F:	below 52

"Option" - To exercise this option you must inform your intention to the instructor by 12/7(F).

5 Test average	75%
Lab/Rec&HW	25%

Course Policy: The student is responsible for all materials covered and information given in lectures. **No make-up test** will be given without an official document for excuse.

Absence: Please inform me in advance of any excused absence on the day an exam is given.

Laboratory/Recitation course (PHYS 1608): The laboratory/recitation work is an integral part of the course. Satisfactory completion of lab/rec work is mandatory. Lab experiments are selected to parallel and complement the topics covered in the lectures. Recitation is to enhance students' problem-solving skills and to help students for better understanding of the materials.

Modifications: The instructor reserves the right to make reasonable changes to the course in the event a situation arises which warrants a change. Such changes will be made known to the class when they occur.