PHYS 103X: College Physics I **Syllabus** **Fall 2015**

Coach can teach you baseball, but you have to swing the bat.

Instructor:	Hongbo Joshua Yang Office: REIC 110; E-mail: hyang20@alaska.edu
Time:	Lectures: Mondays, Wednesdays, and Fridays, 9:15am-10:15am
Lab Instructor:	Jeannie Talbot, jktalbot2@alaska.edu, 474-7857, REIC 114
Place:	Lectures: REIC 201; Labs: REIC 258
Office Hours:	Mondays, Wednesdays, and Fridays 10:15am-11:15am, or by appointment. Additionally, a help room (REIC 122) will be staffed at various times (the schedule is posted on REIC 122 door) to answer homework related questions.
Credits:	4 credits, 3 hours/week of lecture and 3 hours/week of lab
Required Text Book:	**Physics: Principles with Applications**, Douglas C. Giancoli, 7th Edition, ©2014 | Pearson ISBN 9780321625922
Course Description	Physics 103 offers an overview of basic physics. We will begin with a review of the basic language of physics including measurement and how to describe motion. We will then introduce Newton's laws of motion and two important concepts, energy and momentum. We will then move on to fluid mechanics and waves (including sound wave). Finally we will learn thermodynamics, including temperature, heat, and laws of thermodynamics.

Grading Policy:

Homework	15%
Lab	20%
Quiz	10%
2 Midterms	30%
Final	25%
Total	100%

The final grading for this course will be based on a curve, the average of which is usually taken to be the break-point of letter grade B- and C+, and the standard deviation of the grade point distribution will separate subsequent letter grades.

Homework:

On the average, 8-12 problems will be assigned each week on Fridays. The homework will be due by 5:00 PM the following Friday. There will be a designated dropbox for homework for PHYS 103x inside physics office (REIC 102). NO LATE HOMEWORK WILL BE ACCEPTED. NO EXCEPTIONS (barring emergencies and extreme situations). Group work is encouraged for solving problems, and for additional help with the homework the students are most welcome to consult the instructor during the office hour or other time by prior appointment. Any homework you submit should reflect your own best effort. Copying of homework is absolutely not acceptable and will result in a grade of ZERO for the assignment.

Quizzes:

6 - 12 short quizzes will be given in class during the semester. They will be closed book and no calculators allowed (or needed). All difficult formulas needed will be given and the quiz will be similar to some of the recent homework or topics covered in class.

Exams:
There will be **two** midterms (Oct 2 and Nov 6, 9:15-10:15 AM, REIC 210A) and a final comprehensive exam (Dec 13, 8-10 AM, REIC 210A). The first midterm will test the material covered in the first 5 weeks, and the second will test the material covered in weeks 6-10. The final will include material covered in chapters 1-15, with more weight on material covered after the second midterm.

NO MAKE-UP QUIZZES OR EXAMS WILL BE GIVEN.
If the student must miss a quiz or an exam, under rare circumstances where the student has a legitimate reason, the student must notify the instructor that the exam will be missed and present written verifiable proof of the reason for missing the exam, e.g., a doctors note, police report, court notice, etc., clearly stating the date AND time of the mitigating problem. If these conditions are met, the score on the comprehensive final exam will be substituted for the quiz or exam the student missed. Otherwise, a ZERO score will be assigned for the missed quiz or exam. In the event the Final Exam is not taken, under rare circumstances where the student has a legitimate reason for missing the final exam, a makeup exam will be administered.

Laboratory:
The laboratory is an integral part of this course, and each student must register for and attend the lab section and perform all labs that are listed in this handout. All labs and reports must be completed. Every effort must be made to make up a lab during the same week if possible. Last week of the semester would be set aside for makeup lab. Lab reports must be turned in on time. A PASSING GRADE IN THE LAB IS REQUIRED TO PASS THE COURSE. Questions about the lab should be directed to your TA.

Student Code of Conduct:
You are expected to submit work that is your own and properly acknowledge the work of others. You are responsible for understanding and adhering to the Student Code of Conduct that is printed in the UAF Course Catalog. Abide by It. Violations of the Code will be reported to the Dean of Students.

Disabilities Services:
If applicable, it is your responsibility to arrange for these services. The UAF Center for Health and Counseling provides services for UAF students with disabilities to ensure equal access to educational opportunities. The Center's Disability Services Program ensures compliance with §504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. If you believe you are eligible for 504 and/or ADA accommodations, please contact them at 474-7043 (WHIT 203).

General Advice:
Physics is not something you read and memorize, rather it is something you learn how to do. Try the following study procedure:

1. Read the chapter prior to lecture, so that you will know what it's about.
2. Listen carefully to the lecture and take notes.
3. This is crucial: Do not go back and read and re-read the chapter until you "understand it." Rather, start working problems, going back through the chapter to clarify points as they come up. I suggest you try to answer all "Checkpoint" problems in the text and the questions at the end of the chapter. If you understand these, you've probably understood the salient points of the chapter.
4. Think! Don't simply try to fit the problems into the form of another problem, think through the problem first.
5. Start your homework on day one so that you have ample time to think about the questions and get the help you need.

Tentative Weekly Schedule			
Week	Date	Lecture Subject	Homework
1	M Aug 28	Syllabus/Introduction to Physics (Ch1: sec 1-4)	
	W Aug 30	Units, significant figures (Ch1: sec 4-7)	
	F Sep 1	1-D motion (Ch2: sec 1-4)	
2	M Sep 4	**Labor Day (no classes)**	
	W Sep 6	Motion at Constant Acceleration (Ch2: sec 5-7)	
	F Sep 8	Vectors and Scalars (Ch3: sec 1-4)	Homework 1 is Due
3	M Sep 11	Projectile Motion (Ch3: sec 5-7)	
	W Sep 13	Force, Newton's Laws of Motion (Ch4: sec 1-4)	
	F Sep 15	Newton's Laws of Motion Cont. (Ch4: sec 5-6)	Homework 2 is Due
4	M Sep 18	(Ch4: sec 7-8)	
	W Sep 20	Circular Motion (Ch5: sec 1-3)	
	F Sep 22	Gravitation (Ch5: sec 5-7)	Homework 3 is Due
5	M Sep 25	(Ch5: sec 8-10)	
	W Sep 27	Work and Energy (Ch6: sec 1-5)	
	F Sep 29	(Ch6: sec 6-10)	
6	M Oct 2	**Mid-term Exam 1**	
	W Oct 4	Linear Momentum (Ch7: sec 1-4)	
	F Oct 6	(Ch7: sec 5-6)	Homework 4 is Due
7	M Oct 9	(Ch7: sec 7-8)	
	W Oct 11	Rotational Motion (Ch8: sec 1-4)	
	F Oct 13	(Ch8: sec 5-8)	Homework 5 is Due
8	M Oct 16	Static Equilibrium (Ch9: sec 1-4)	
	W Oct 18	(Ch9: sec 5-6)	
	F Oct 20	Fluid Mechanics (Ch10: sec 1-5)	Homework 6 is Due
9	M Oct 23	(Ch10: sec 6-10)	
	W Oct 25	Oscillations (Ch11: sec 1-4)	
	F Oct 27	Waves (Ch11: sec 5-6)	Homework 7 is Due
10	M Oct 30	(Ch11: sec 7-13)	
	W Nov 1	Sound (Ch12: sec 1-4)	
	F Nov 3	(Ch12: sec 6-7)	
11	M Nov 6	**Mid-term Exam 2**	
	W Nov 8	Temperature (Ch13: sec 1-4)	
	F Nov 10	The Gas Laws (Ch13: sec 5-8)	Homework 8 is Due
12	M Nov 13	Kinetic Theory (Ch13: sec 9-12)	
	W Nov 15	Heat (Ch14: sec 1-4)	
	F Nov 17	(Ch14: sec 5-8)	Homework 9 is Due
13	M Nov 20	Laws of Thermodynamics (Ch15: sec 1-3)	
	W Nov 22	(Ch15: sec 4-5)	Homework 10 is Due
	F Nov 24	**Thanksgiving Holidays (no classes)**	
14	M Nov 27	(Ch15: sec 6-7)	
	W Nov 29	(Ch15: sec 8-9)	
	F Dec 1	(Ch15: sec 10-11)	Homework 11 is Due
15	M Dec 4	Review	
	W Dec 6	Review	
	F Dec 8	Review	
16	W Dec 13	**8 – 10 am, Final Exam**	