Phys 124X: College Physics II Syllabus

Spring 2021

Instructor Information

Instructor	Email	Office Location & Hours
Wang Xu (Caleb)	wxu3@alaska.edu	REIC 110,TBD

General Information

Course Description

Physics 124X is a four-credit course. In the first half of the course, we start with classical physics: electricity, magnetism, and optics. Then, in the second half, we will swerve to modern physics: special relativity, quantum theory, nuclear physics, particle physics, astrophysics, and cosmology. Fasten your seatbelts; it's going to be a fast and bumpy ride.

Lecture Schedule

Lectures: Offline/Mondays, Wednesdays, and Fridays, 9:15 AM - 10:15 AM

Required Text

Physics: Principles with Applications, Douglas C. Giancoli, 7th Edition, ©2014 |Pearson ISBN 9780321625922

Grading Policy

Homework	Lecture-Questions	Lab	Quiz	Midterm 1	Midterm 2	Final	Total
20%	5%	10%	15%	15%	15%	20%	100%

Your final grade for this course will be based on a bell curve. The average of the curve will be the breakpoint between letter grade B- and C+. The standard deviation of the grade point distribution will separate subsequent letter grades.

Lecture Schedule

Week	Topic	Reading	Dates	HWK Due Date
Week 1	Electric Charge and Electric Field,	Ch16:1-5, 5-12, Quiz 1	01/11,01/13,*01/15*	01/22
Week 2	Electric Potential	Holiday Ch17:1-5, 5-10	~~01/18~~,01/20,*01/22*	01/29
Week 3	Electric Currents	Ch18:1-5, 5-10, Quiz 2,	01/25,01/27,*01/29*	02/05

Week	Topic	Reading	Dates	HWK Due Date
Week 4	DC Circuits	Ch19:1-5, 5-8, Quiz 3	02/01,02/03,*02/05*	02/12
Week 5	Magnetism	Ch20:1-6, 6-12, **Mid-term 1**	02/08,02/10,***02/12***	02/19
Week 6	Electromagnetic Induction and Faraday's Law	Ch21:1-4, 4-7, Quiz 4	02/15,02/17,*02/19*	02/26
Week 7	Electromagnetic Waves & Light: Geometric Optics	Ch22, Ch23, Quiz 5	02/22,02/24,*02/26*	03/05
Week 8	The Wave Nature of Light	Ch24:1-5, 5-12, Quiz 6	03/01,03/03,*03/05*	03/19
Week 9		Spring Break	~~03/08~~,~~03/10~~,~~03/12~~	
Week 10	Optical Instruments	Ch25:1-5, 5-12, Quiz 7	03/15,03/17,*03/19*	03/26
Week 11	The Special Theory of Relativity	Ch26:1-5, 5-11, **Mid-term 2**	03/22,03/24,***03/26***	04/02
Week 12	Early Quantum Theory and Models of the Atom	Ch27:1-5, 5-13, Quiz 8	03/29,03/31,*04/02*	04/09
Week 13	Quantum Mechanics of Atoms	Ch28:1-5, 5-12, Quiz 9	04/05,04/07,*04/09*	04/16
Week 14	Nuclear Physics	Ch30, Ch31, Quiz 10	04/12,04/14,04/16	04/23
Week 15	High Energy Physics	Ch32, Ch33, Quiz 11	04/19,04/21,*04/23*	04/30* (optional)
Week 16	Reviews	Review, **Final** , -----	04/26,***04/28***,~~04/30~~	

Exam Schedule

Date	Time	Subject
02/12	09:15am - 10:15am	Mid-term 1
03/26	09:15am - 10:15am	Mid-term 2
04/28	08:00am - 10:00am	Final Exam

Additional Requirements & Policy

Homework:

On average, 8-12 problems will be assigned each week through the blackboard on **Friday**. The assignment will be due by 9:15 AM the following **Friday**, and you need to submit it on the blackboard. **NO LATE HOMEWORK WILL BE ACCEPTED. NO EXCEPTIONS** (barring emergencies and extreme situations). Group work is encouraged to solve problems. Students are welcome to consult the instructor during office hours or by appointment for additional help with homework. All homework you

submit should reflect your own work. Copying of homework is absolutely not acceptable and will result in a grade of ZERO for the assignment.

Quizzes:

11 short quizzes will be given in class during the semester. They will be open-book tests, and calculators will be allowed (if needed). The quiz material given will be similar to the recent homework or topics covered in class. All necessary formulas will be provided.

Exams:

There will be two midterms and a final comprehensive exam. The first midterm will test the material covered in the first four weeks, and the second test will cover the material in weeks 5-10. The final will include material covered from the beginning of the semester, with more weight on the material covered after the second midterm (weeks 11-15). **NO MAKE-UP QUIZZES OR EXAMS WILL BE GIVEN.** If the student must miss a quiz or an exam, and the student has a legitimate reason, the student must notify the instructor that the exam will be missed prior to the exam. The student must present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc., clearly stating the date AND time of the mitigating problem. If these conditions are met, the comprehensive final exam score will be substituted for the quiz or exam the student missed. Otherwise, a ZERO score will be given 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 make-up 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. All labs and reports must be completed on time. Every effort must be made to make up a lab during the same week, if possible. The last week of the semester will be set aside for make-up labs. **ALL LABS MUST BE COMPLETED IN ORDER TO PASS THIS 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. 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).