

SUMMER 2022 Department of Physics & Astronomy, UGA**PHYS 1112 Introductory Physics - Electricity and Magnetism, Optics (as of May 19/2022)**

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

Course Description:	The continuation of Introductory Physics. Electricity and electric circuits, magnetism, geometric and wave optics.
Athena Title:	INTRO PHYS ELEC
Pre or Corequisite:	PHYS 1111-1111L or PHYS 1211-1211L or PHYS 1311-1311L or PHYS 1251
Grading System:	A-F (Traditional)
Instructor:	Dr. Andrei Galiautdinov
Preferred method of communication:	In-class and during office hours
Office:	Physics 220 (Phone: 706-583-8224)
Emailing Policy:	Before emailing, make sure you read and understood this syllabus in its entirety. I will not respond to your inquiry if the question you are asking had already been answered here. ag1@uga.edu
Sections:	52481 10:30am – 11:30am (Physics Auditorium Rm. 202, M-F)
Office hours:	02:00pm – 03:00pm (Tue & Th)
Text:	James S. Walker, <i>Physics</i> , Chapters 19 – 28, 5 th edition, any other edition is OK (Pearson Addison-Wesley), with Mastering Physics <u>ATTENTION:</u> pre-lecture reading and various problem-solving assignments will be due very frequently; don't lose points; stay focused; log into the system every morning to see what's due that day.
Mastering Physics:	Student Registration Instructions for eLearning Commons/D2L: 1. Log in to eLearning Commons/D2L and open your course. 2. Select the MyLab and Mastering link in Course Navigation or a module. 3. Select Open MyLab & Mastering to go to the course home page. 4. Sign in to link your Pearson and eLearning Commons/D2L accounts. If you're new to MyLab and Mastering, create an account. 5. Select one of the available access options when asked: • Enter a prepaid access code that came with your textbook or from the bookstore. • Buy instant access using a credit card or PayPal account. • Select Get temporary access without payment for 14 days. 6. Select Go to my course. Make sure your browser is ready. Check the system requirements at https://mlm.pearson.com/global/system-requirements/ Student Mastering Resources: • Get Started with MyLab and Mastering video (this video shows students how to register for their Mastering course that is integrated with D2L) • Get Started with Mastering (in-product help for students on the features of Mastering)
Clickers:	None
Academic Honesty:	<i>As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: www.uga.edu/honesty. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.</i>
In-class rules:	➤ No laptops, cellphones, iPads, iPods, or any other electronic/communication devices are permitted in the classroom (with the exception of the tools needed for the DRC accommodation). ➤ If you are late for class, you must enter in the back of the room.
Attendance:	➤ Mandatory; will be taken at random

Labs:	➤ Labs are completely independent of the Lectures ➤ All inquiries related to Labs should be directed to either your respective lab TAs, or our Lab Coordinator, Mr. Tom Barnello, at: tjbar@uga.edu 706-542-2903, Rm. 310
Lab syllabus:	➤ Can be found here: http://www.physast.uga.edu/courses
Exams:	➤ There will be two (2) in-class closed book closed notes midterm exams on selected chapters, and one (1) cumulative final exam. ➤ No make-ups or re-scheduling permitted. ➤ Must be taken with the section you are registered for. ➤ You must work individually. Collaboration of any sort is prohibited.
Exam Rules:	➤ You are allowed to create and bring with you your own single page formula sheet (8.5 in. × 11 in.) containing any information you want, all handwritten. You may only write on one side. ➤ A simple (non-graphing, non-symbolic, non-programmable) scientific calculator. No other electronic device(s) permitted. ➤ You must have a valid UGA ID on you to take the test. ➤ You must work individually. Collaboration of any sort is prohibited. ➤ You must submit all exam materials (the test form, the scantron, the formula sheet, and all scratch paper) at the end of the exam. ➤ You are prohibited from copying and/or taking any test materials outside of the examination room. ➤ Cell phones and/or any other electronic devices (except for non-graphing calculators) are absolutely prohibited.
Grades:	Your exam grades will be posted on the eLC-New, http://elcnew.uga.edu
Grading policy:	35% Online Mastering Physics Assignments (must be completed online before due dates; no re-scheduling or make up) 15% In-class EXAM 1 (multiple-choice, no individual re-scheduling or make up) 15% In-class EXAM 2 (multiple-choice, no individual re-scheduling or make up) 15% FINAL EXAM (no individual re-scheduling or make up) 15% LABS 5% INCLASS PARTICIPATION (no participation points will be awarded if you accumulate more than 3 absences; students with DRC accommodation must provide a doctor's note for each absence episode) -1% PER ABSENCE NOTE: Our departmental policy prohibits rescheduling of missed exams (regardless of the reason, be it a court appearance, immigration, medical, family, sporting, or any other type of emergency). The final exam will replace your worst midterm if it is better (say, if you got a zero for non-attendance, etc.). That replacement will not be visible on the eLC. Your overall grade will become available on Athena after the corresponding deadline. Email me only if you strongly believe there was a mistake in my calculation. Do not ask for a bump-up, a curve, or any extra credit. Make sure to include your class and section number. 100% TOTAL = 35% Online Mastering Physics Assignments + 45% EXAMS (including the Final) + 15% LABS + 5% INCLASS PARTICIPATION – ABSENCES
Cut-offs:	F : [0, 60) D : [60, 68) C-: [68, 70) C: [70, 75) C+: [75, 78) B-: [78, 80) B: [80, 85) B+: [85, 88) A-: [88, 90) A: [90, 100] NOTE: No rounding; 89.99 = A- , etc.
Main objective and strategy for success:	In this course, learning how to solve physics problems should be regarded as your ultimate objective. I will not be able to cover everything you are expected to know in class. You will have to independently work through some of the topics at home. Since most of your grade would come from problem solving, do the following: 1. Start working from Day One. 2. Read each chapter before it is discussed in class. 3. Attend every lecture. 4. Take good notes.

	5. Participate actively in discussions. 6. Ask questions. 7. Re-read and re-work the chapter and the notes carefully after class. 8. Re-work problems solved in class 9. Solve all assigned end-of-chapter problems. Follow the formula: “Five problems a day keep the bad grade away.” 10. Concepts first. Think before plugging-and-chugging. 11. Ace the labs. 12. Use a buddy system; find a friend with whom to discuss physics. 13. Form a study group. 14. Teach physics to others. 15. Finally, think about physics on a regular basis. 16. If everything fails, learn from your mistakes. Drop the class before the deadline and re-take it at a later time.
Grade appeal:	Grade appeals are resolved by following our departmental due procedure as described here: https://www.physast.uga.edu/policies/policiesonstudentissues/grievance
Incompletes:	“Incompletes” will not be assigned in this class
Hardship withdrawals:	If your course performance is significantly affected by issues beyond your control, please seek assistance promptly from Student Care and Outreach 706-542-7774 or visit https://sco.uga.edu . They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services. It is always easier to address exceptional circumstances when you raise these concerns as early as possible. Waiting until the end of the semester to take action may limit University’s ability to provide appropriate support.

2022 Spring Schedule					
Week	Day	Date	Reading	Topic	End-of-Chapter Practice Problems (5th edition)
1	F	Jun. 10	26.1-2	Intro to this course; 6 Principles of GO GO: Reflection, plane mirrors	Ch. 26: 1 – 47 (odd), 51, 53, 63, 65, 69 – 81 (odd),
2	M	Jun. 13	26.3-4	GO: Spherical mirrors, ray tracing, mirror equation	
	T	Jun. 14	26.3-4	GO: Spherical mirrors, ray tracing, mirror equation	
	W	Jun. 15	26.5	GO: Refraction & total internal reflection	
	R	Jun. 16	26.6-7	GO: Ray tracing for lenses; thin lens equation	Drop/Add ends
	F	Jun. 17	27.1-2	OI: Human eye, camera, corrective optics	Ch. 27: 1 – 11 (odd), 17 – 31 (odd), 49 – 77 (odd)
3	M	Jun. 20			Holiday
	T	Jun. 21	27.3-5	OI: Magnifying glass, microscope, telescope	
	W	Jun. 22	27.1-2	OI: Human eye, camera, corrective optics	
	R	Jun. 23	28.1-2	WO: Superposition & interference; Two-slit experiment	Ch. 28: 1 – 27 (odd), 43 – 51 (odd), 61 – 73 (odd)
	F	Jun. 24	28.4,6	WO: Single-slit diffraction; diffraction gratings; spectrometers	
4	M	Jun. 27	19.1-3	EF: Electric charge; insulators & conductors; Coulomb's Law	Ch. 19: 1 – 55 (odd)
	T	Jun. 28	19.4-7	EF: Electric field; field lines; capacitor; shielding & charging by induction; Electric flux & Gauss's Law	
	W	Jun. 29			
	R	Jun. 30			
	F	Jul. 01			
5	M	Jul. 04			Holiday
	T	Jul. 05		In-class EXAM 1 (Ch. 26, 27, 28, 19)	
	W	Jul. 06	20.1-2	REVISITING: Energy, WkET & LCE EP: Electric potential & energy; energy conservation	Ch. 20: 1 – 71 (odd)
	R	Jul. 07	20.3-4	EP: Electric potential of point charges; equipotential surfaces & E-field	Withdrawal deadline

	F	Jul. 08	20.5-6	EP: Capacitors & dielectrics; electric energy storage	
6	M	Jul. 11			
	T	Jul. 12	21.1-3	DC: Electric current; Ohm's Law; Energy & power in electric circuits	Ch. 21: 1 – 59 (odd)
	W	Jul. 13	21.4-5	DC: Simple circuits; resistors in series & parallel	
	R	Jul. 14	21.4-5	DC: Simple circuits; resistors in series & parallel	
	F	Jul. 15	21.6-7	DC: Kirchhoff's Rules	
7	M	Jul. 18	22.1-2	MF: Magnetic field; magnetic force on moving charges	Ch. 22: 1 – 59 (odd)
	T	Jul. 19	22.3	MF: Motion of charged particles in a magnetic field	
	W	Jul. 20	22.4-5	MF: Magnetic force on current-carrying wire; loops & magnetic torque (cont.)	
	R	Jul. 21	22.6-7	MF: Electric currents, magnetic fields, and Ampere's Law	
	F	Jul. 22			
8	M	Jul. 25			
	T	Jul. 26		In-class EXAM 2 (Ch. 26, 27, 28, 19, 20, 21, 22)	
	W	Jul. 27	23.1 23.2-4	EMI: Induced e.m.f. EMI: Magnetic flux; Faraday's Law; Lenz's Rule	Ch. 23: 1 – 73 (odd)
	R	Jul. 28	23.5 23.6	EMI: Motional e.m.f. EMI: Generators & Motors	
	F	Jul. 29	23.7-8	EMI: Inductance; <i>RL</i> -Circuits	
9	M	Aug. 01	23.9-10	EMI: Energy stored in the magnetic field; Transformers	
	T	Aug. 02			
	W	Aug. 03			Classes End
	R	Aug. 04			
	F	Aug. 05		FINAL EXAM (Noon – 3:00 pm)	
10	M	Aug. 08			Grades due (12:00 PM)

Summer 2022 Thru Term Based on 60 minutes daily, 38 days of class

Orientation	June 8	Wednesday
Advisement / Registration	June 9	Thursday
Classes Begin	June 10	Friday
Drop / Add	June 10 - 16	Friday - Thursday
Holiday: Independence Day- no classes	July 4	Monday
Midterm	July 7	Thursday
Withdrawal Deadline	July 7	Thursday
Classes End	Aug. 3	Wednesday
Final Exams	Aug. 4 - 5	Thursday - Friday
Date of conferral of Summer 2022 degrees	Aug. 8	Monday
Grades Due	Aug. 8	Monday, 12 PM