

PHYS 4201/6201 – ELECTRICITY and MAGNETISM I

Fall 2021

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Web Page: www.physast.uga.edu/~loris/astr4201/prob.html
Class Hours: MWF 12:40 PM – 1:30 PM in Physics 327
Office Hours: M 4:00 PM – 5:30 PM (or by appointment)
Call Number: PHYS 4201: 25800
 PHYS 6201: 25801

Textbook: *Introduction to Electrodynamics –4th ed.* – David J. Griffiths (Pearson: Addison Wesley) - Required. It will also be used in PHYS 4202.

This course is an upper-level physics course dealing with the basics of electrodynamics theory. This is a two-semester course and PHYS 4201 is the first part that deals primarily with vector analysis, electrostatics, electric fields in matter, and magnetostatics. I assume you have at least two years of Calculus and PHYS 3700 and PHYS 3900 as part of your background.

Grading: 5 to 10 homework problems will be assigned every week or two on the Monday class. They are due the following Monday. You may work with others in the class on the homework, but, if you choose to do so, you must write on the homework who you worked with. There is no penalty for working with others, but I will assign the same exact grade to all the people who worked on the problems together. I will not grade all the problems assigned, but will choose one or two from each homework assignment to grade. Your weekly performance on the graded problems will dictate your final homework grade.

There will be three midterms; on Monday, September 13th, on Monday, October 11th, and on Monday, November 8th. The final exam for this course is cumulative and will be on Monday, December 13th, from noon till 3 PM. The homework will constitute 15% of your grade, the midterms 20% each for a total of 60%, and the final exam will be 25% of your total score. If you miss an exam, you will have to schedule a makeup exam within one week of the original exam date. For every two days that any homework assignment is late, ten points will be deducted from the final score for that homework.

Your numerical score based on the above percentages will be calculated at the end of the semester and letter grades will be assigned using the following scale:

A	corresponds to 90.00 – 100.00
A-	corresponds to 87.00 – 89.99
B+	corresponds to 84.00 – 86.99
B	corresponds to 80.00 – 83.99
B-	corresponds to 77.00 – 79.99
C+	corresponds to 73.00 – 76.99
C	corresponds to 70.00 – 72.99
C-	corresponds to 60.00 – 69.99
D	corresponds to 50.00 – 59.99
F	corresponds to less than 50.00

PHYS 6201 Requirements

If you are taking this course for PHYS 6201 credit (either as a graduate or undergraduate student) you will have to do an extra homework problem for each homework set (this will be graded in addition to the regularly graded problems. Also, on the final exam you will have to do two extra exam problems.

All students are responsible for knowing, understanding, and abiding by the academic honesty policy of the University of Georgia, which can be found online at

<http://honesty.uga.edu>

If you have any questions about this policy and how it pertains to your work in this course, please ask me for clarification.

You are responsible for all topics discussed in class, as well as class announcements (e.g., changes in homework due dates or exam dates). Although attendance is not mandatory, it is in your best interest to attend every class and absence from class does not excuse you from the above responsibilities. If you have to miss class for Covid-related reasons, you should arrange to get lecture notes from fellow students or from me. You are still responsible for completing homework assignments and exams though you may turn them in later.

If you have any questions or concerns about this syllabus, please contact me.

CORONAVIRUS INFORMATION FOR STUDENTS FOR FALL 2021 CLASSES

Face coverings:

Following guidance from the University System of Georgia, face coverings are recommended for all individuals while inside campus facilities.

How can I obtain the COVID-19 vaccine?

University Health Center is scheduling appointments for students through the UHC Patient Portal (https://patientportal.uhs.uga.edu/login_dualauthentication.aspx). Learn more here – <https://www.uhs.uga.edu/healthtopics/covid-vaccine>.

The Georgia Department of Health, pharmacy chains and local providers also offer the COVID-19 vaccine at no cost to you. To find a COVID-19 vaccination location near you, please go to: <https://georgia.gov/covid-vaccine>.

In addition, the University System of Georgia has made COVID-19 vaccines available at 15 campuses statewide and you can locate one here: <https://www.usg.edu/vaccination>

What do I do if I have COVID-19 symptoms?

Students showing COVID-19 symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see, <https://www.uhs.uga.edu/info/emergencies>.

What do I do if I test positive for COVID-19?

If you test positive for COVID-19 at any time, you are required to report it through the [DawgCheck Test Reporting Survey](#). We encourage you to stay at home if you become ill or until you have excluded COVID-19 as the cause of your symptoms. UGA adheres to current Georgia Department of Public Health (DPH) quarantine and isolation [guidance](#) and requires that it be followed. Follow the instructions provided to you when you report your positive test result in DawgCheck.

Guidelines for COVID-19 Quarantine Period (As of 8/1/21; follow DawgCheck or see DPH website for most up-to-date recommendations)

Students who are fully vaccinated do not need to quarantine upon exposure unless they have symptoms of COVID-19 themselves. All others should follow the Georgia Department of Public Health (DPH) recommendations:

Students who are not fully vaccinated and have been directly exposed to COVID-19 but are not showing symptoms should self-quarantine for 10 days. Those quarantining for 10 days must have been symptom-free throughout the monitoring period and continue self-monitoring for COVID-19 symptoms for a total of 14 days. You should report the need to quarantine on [DawgCheck](#) (<https://dawgcheck.uga.edu/>), and communicate directly with your faculty to coordinate your coursework while in quarantine. If you need additional help, reach out to Student Care and Outreach (sco@uga.edu) for assistance.

Students, faculty and staff who have been in close contact with someone who has COVID-19 are no longer required to quarantine if they have been fully vaccinated against the disease and show no symptoms.

Well-being, Mental Health, and Student Support

If you or someone you know needs assistance, you are encouraged to contact Student Care & Outreach in the Division of Student Affairs at 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.

UGA has several resources to support your well-being and mental health: <https://well-being.uga.edu/>

Counseling and Psychiatric Services (CAPS) is your go-to, on-campus resource for emotional, social and behavioral-health support: <https://caps.uga.edu/>, TAO Online Support (<https://caps.uga.edu/tao/>), 24/7 support at 706-542-2273. For crisis support: <https://healthcenter.uga.edu/emergencies/>.

The University Health Center offers FREE workshops, classes, mentoring and health coaching led by licensed clinicians or health educators: <https://healthcenter.uga.edu/bewelluga/>

Monitoring conditions:

Note that the guidance referenced in this syllabus is subject to change based on recommendations from the Georgia Department of Public Health, the University System of Georgia, or the Governor's Office or. For the latest on UGA policy, you can visit coronavirus.uga.edu.

Tentative Class Schedule & Readings:

Week of Topic/Readings

August 15 – introduction – vector analysis– Ch. 1

August 22 – more on vector analysis – Ch. 1

August 29 – even more on vector analysis – Ch. 1

Sept. 5 – Labor Day holiday on Sept. 6 – electrostatics – Ch. 2

Sept. 12 – electrostatics – Ch. 2

First midterm: September 13th – Ch. 1

Sept. 19 – electrostatics – Ch. 2

Sept. 26 – electrostatics, special techniques – Ch. 2-3

Oct. 3 – special techniques – Ch. 3

Oct. 10 – special techniques – Ch. 3

Second midterm: October 11th – Ch. 2

Oct. 17 – special techniques – Ch. 3

Oct. 24 – Fall Break holiday on Oct. 29 – electric fields in matter – Ch. 4

Withdrawal Deadline – Monday, October 25th

Oct. 31 – electric fields in matter – Ch. 4

Nov. 7 – electric fields in matter – Ch. 4

Third midterm: November 8th – Ch. 3 and 4

Nov. 14 – magnetostatics – Ch. 5

Nov. 21 – Thanksgiving break – Class **will meet** on Monday, Nov. 22

Nov. 28 – magnetostatics – Ch. 5

Dec. 5 – magnetostatics – Ch. 5

Tuesday, Dec. 7 is the last day of classes (Friday Class Schedule in Effect, so we will meet)

Reading Day – Wednesday, December 8, 2021

FINAL EXAM – Monday, December 13th – Cumulative