The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary during the course of the semester and will supersede anything written here.

Professor: Loris Magnani  Office: Physics 238  Phone: 542-2876
E-Mail: loris@uga.edu
Web Page: www.physast.uga.edu/~loris/astr4202/prob.html
Class Hours: MWF 01:50 PM – 02:40 PM in Physics 327
Office Hours: M 3:30 PM – 5:30 PM (or by appointment)
Call Number: PHYS 4202: 27333
PHYS 6202: 27337


This course is an upper-level physics course dealing with the basics of electrodynamics theory. This is a two-semester course and PHYS 4202 is the second part that deals primarily with magnetic fields in matter and time-varying electric and magnetic fields. I assume you have at least two years of Calculus and PHYS 3700 and PHYS 3900 as part of your background. Also, I assume you have taken PHYS 4201 or an equivalent course.

Class Attendance: Given the issues raised by the ongoing COVID-19 pandemic, class will be given in hybrid mode. That is, no more than about 1/3 of the class will be allowed to attend in person on any given class day. The rest of the class will follow the lectures via Zoom. A Zoom invitation will be sent to everyone a few minutes before each class. My handwritten notes for a given class will be posted on eLC the day before that class. During the class lecture, I will go over the notes, annotating and expanding on them as necessary. I will also work out numerical problems and answer questions from the students.

In-person attendance, if desired, will be based on the first letter of the last name. If your last name begins with a letter from A to J, then you may attend the Monday lectures. If your last name begins with a letter from K to R, then you may attend the Wednesday
lectures, and if your last name begins with a letter from S to Z, then you may attend the
Friday lectures. Exceptions to the above rules can be discussed with me by email.
Attendance is not compulsory, but encouraged.

**Homework:** 5 to 10 homework problems will be assigned each week (or, every other
week, depending on how much material is covered) on the Monday class of that week. I
will not collect or grade the homework. Why should you do it, if that is the case? I
believe that doing the problems in a serious way (i.e., attempting them on your own and
only looking at the solutions when you are hopelessly stuck) is the best way to learn the
material. Think of the homework as exercise. It may not be fun and it may take a long
time, but the results will be clear if you engage in it in a serious way.

**Grading:** There will be five midterms; see the schedule below for the tentative dates.
The final exam for this course is cumulative and will be on Wednesday, May 5th, from
noon till 3 PM. The midterms count 15% each for a total of 75%, and the final 25%. If
you miss an exam, you will have to schedule a makeup exam within one week of the
original exam date.

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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>92.00 – 100.00</td>
</tr>
<tr>
<td>A-</td>
<td>88.00 – 91.99</td>
</tr>
<tr>
<td>B+</td>
<td>84.00 – 87.99</td>
</tr>
<tr>
<td>B</td>
<td>80.00 – 83.99</td>
</tr>
<tr>
<td>B-</td>
<td>76.00 – 79.99</td>
</tr>
<tr>
<td>C+</td>
<td>72.00 – 75.99</td>
</tr>
<tr>
<td>C</td>
<td>68.00 – 71.99</td>
</tr>
<tr>
<td>C-</td>
<td>60.00 – 67.99</td>
</tr>
<tr>
<td>D</td>
<td>50.00 – 59.99</td>
</tr>
<tr>
<td>F</td>
<td>less than 50.00</td>
</tr>
</tbody>
</table>

**Student Responsibilities:** Please make a reasonable attempt to arrive on time. If you
must leave earlier than the scheduled end of class, please try to do so quietly and
discreetly. Class disruptions or distracting behavior will not be tolerated.

You are responsible for all topics discussed in class, as well as class announcements.
Although attendance is not mandatory, it is in your best interest to attend every class
either in person or via Zoom, and absence from class does not excuse you from the above
responsibilities.

You are encouraged strongly to read the chapter in the book relevant to the material being
covered in class. If the schedule of readings changes significantly from that detailed
below, then those changes will be announced in class.
Ask for clarification on anything you find unclear, ambiguous, or unspecified. This includes both course policies and astronomical topics. Errors in this syllabus will be corrected and posted on the webpage for this course (see above).

Know the rules concerning withdrawals and incompletes, published in the UGA Undergraduate Bulletin. Note that I will NOT withdraw you from the course for excessive absences.

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.

Coronavirus Information for Students

Face Coverings:

As a reminder, the University of Georgia—along with all University System of Georgia (USG) institutions—requires all faculty, staff, students, and visitors to wear an appropriate face covering while inside campus facilities/buildings where six feet social distancing may not always be possible. Anyone not using a face covering when required will be asked to wear one or must leave the area. Reasonable accommodations may be made for those who are unable to wear a face covering for documented health reasons. Students seeking an accommodation related to face coverings should contact Disability Services at https://drc.uga.edu/.

DawgCheck:

Please perform a quick symptom check each weekday on DawgCheck—on the UGA app or website—whether you feel sick or not. It will help health providers monitor the health situation on campus: https://dawgcheck.uga.edu/

What do I do if I have symptoms?

Students showing symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday–Friday, 8 a.m.–5 p.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?

Any student with a positive COVID-19 test is required to report the test in DawgCheck and should self-isolate immediately. Students should not attend classes in-person until the isolation period is completed. Once you report the positive test through DawgCheck, UGA Student Care and Outreach will follow up with you.

What do I do if I am notified that I have been exposed?
**Revised Guidelines for COVID-19 Quarantine Period**

Effective Jan. 4, 2021, students who learn they have been directly exposed to COVID-19 but are not showing symptoms should self-quarantine for **10 days** (consistent with updated Department of Public Health (DPH) and Centers for Disease Control and Prevention (CDC) guidelines). Those quarantining for 10 days must have been symptom-free throughout the monitoring period. Please correspond with your instructor via email, with a cc: to Student Care & Outreach at sco@uga.edu, to coordinate continuing your coursework while self-quarantined.

We strongly encourage students to voluntarily take a COVID-19 test within 48 hours of the end of the 10-day quarantine period (test to be administered between days 8 and 10). Students may obtain these tests at Legion Field ([https://clia.vetview.vet.uga.edu/](https://clia.vetview.vet.uga.edu/)) or at the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5 p.m.). Please DO NOT walk-in the University Health Center without an appointment. For emergencies and after-hours care, see [https://www.uhs.uga.edu/info/emergencies](https://www.uhs.uga.edu/info/emergencies)

If the test is negative, the individual may return to campus, but MUST continue to closely monitor for any new COVID-19 symptoms through 14 days. **DawgCheck** is the best method for monitoring these symptoms. If new symptoms occur, the individual must not come to campus and must seek further testing/evaluation.

If the test is positive at the end of the 10-day period, the individual must begin a 10-day isolation period from the date of the test.

**How do I participate in surveillance testing if I have NO symptoms?**

We strongly encourage you to take advantage of the expanded surveillance testing that is being offered from **January 4 – 22: up to 1,500 free tests per day at Legion Field and pop-up locations**. Testing at Legion Field can be scheduled at [https://clia.vetview.vet.uga.edu/](https://clia.vetview.vet.uga.edu/). Walk-up appointments can usually be accommodated at Legion Field, and pop-up saliva testing does not require pre-registration. For planning purposes, precise sites and schedules for the pop-up clinics are published on the UHC’s website and its social media as they are secured: [https://www.uhs.uga.edu/healthtopics/covid-surveillance-testing](https://www.uhs.uga.edu/healthtopics/covid-surveillance-testing).

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

**Tentative Class Schedule & Readings:**

**Week of Topic/Readings**

January 10 – review; the magnetic vector potential – Ch. 5
January 17 – magnetic fields in matter – Ch. 6
January 24 – magnetic fields in matter – Ch. 6
January 31 – electrodynamics – Ch. 7  
**First midterm: February 3rd – Ch. 5 and 6**  
February 7 – electrodynamics – Ch. 7  
February 14 – electrodynamics – Ch. 7  
February 21 – conservation laws – Ch. 8  
**Second midterm: February 24th – Ch. 7**  
February 28 – conservation laws – Ch. 8  
March 7 – conservation laws – Ch. 8  
March 14 – electromagnetic waves – Ch. 9  
**Third midterm: March 17th – Ch. 8**  
March 21 – electromagnetic waves – Ch.9  
**Withdrawal Deadline – Wednesday, March 23rd**  
March 28 – electromagnetic waves – Ch. 9  
April 4 – potentials and fields – Ch. 10  
**Fourth midterm: April 2nd – Ch. 9**  
April 11 – potentials and fields – Ch. 10  
April 18 – radiation – Ch. 11  
April 25 – radiation – Ch. 11  
**Fifth midterm: April 26th – Ch. 10**  
May 2 – radiation – Ch. 11  
May 3 – Monday: Last day of classes  
May 4 – Tuesday: Reading Day  
**FINAL EXAM – Wednesday, May 5th, noon – 3 PM; Cumulative**