

PHYS607 Electromagnetic Theory, Spring 2023

INSTRUCTOR: Dr. Pengwang Zhai
Office: Phys. 427
Ph.:410-455-3682

DATES AND LOCATION: WeFr 9:00AM-10:15AM
First Day of Class: Jan 30
Last Day of Class: May 16
Spring Break: March 19-26, no class.
Midterm I: March 1
Midterm II: April 12
Final Exam: TBD

OFFICE HOURS: WeFr 10:15AM-11:00AM or Through Email Appointment

Email: pwzhai@umbc.edu

Required TEXTS: Modern Electrodynamics, Zangwill

Other Resources: Classical Electrodynamics, Jackson
Introduction to electrodynamics, Griffiths

GRADING:

Homework (20%),
Quizzes (10%),
Midterm Exam I: (20%),
Midterm Exam II: (20%),
Final Exam: (30%).

- $91 \leq A < 100$
- $88 \leq A- < 91$
- $85 \leq B+ < 88$
- $81 \leq B < 85$
- $78 \leq B- < 81$
- $75 \leq C+ < 78$
- $71 \leq C < 75$
- $65 \leq C- < 71$
- $60 \leq D < 65$
- $0 \leq F < 60$

Course Strategy:

Email: All emails for this class should have PHYS607 in the Subject line.

Please turn off all cell phones and pagers when entering any classroom. All exams will be in class. Phones, calculators, computers, ipads, etc. are expressly forbidden to be turned on during quizzes and exams.

This course covers the general content of Chapters 1-15 in Zangwill. You will learn to calculate the electrical and magnetic fields in various physical scenarios, and just as importantly, develop valuable technical and problem-solving skills.

Reading the sections of the textbook corresponding to the assigned homework exercises is considered part of the homework assignment; you are responsible for material in the assigned reading whether or not it is discussed in the lecture. Homework will be due weekly in Friday's lecture. Late homework submission is not accepted. Your lowest homework score will be dropped.

Private chatter during lecture is very distracting, but it is perfectly OK to interrupt the lecture by yelling "Question!" Questions in lecture are always good, and are strongly encouraged! I encourage collaboration, an essential skill in science and engineering. However, it is also important that you OWN the material. I strongly suggest you start homework by yourself (and that means really making an extended effort on every problem) Then work with a group, and finally, finish up on your own - write up your own work, in your own way.

Academic Honesty Policy

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community, in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory. [Statement adopted by UMBC's Undergraduate Council and Provost's Office.]

Accessibility and Disability Accommodations, Guidance and Resources (required)

Accommodations for students with disabilities are provided for all students with a qualified disability under the Americans with Disabilities Act (ADA & ADAAA) and Section 504 of the Rehabilitation Act who request and are eligible for accommodations. The Office of Student Disability Services (SDS) is the UMBC department designated to coordinate accommodations that creates equal access for students when barriers to participation exist in University courses, programs, or activities.

If you have a documented disability and need to request academic accommodations in your courses, please refer to the SDS website at sds.umbc.edu for registration information and office procedures.

SDS email: disAbility@umbc.edu

SDS phone: (410) 455-2459

If you will be using SDS approved accommodations in this class, please contact me (instructor) to discuss implementation of the accommodations. During remote instruction requirements due to COVID, communication and flexibility will be essential for success.

***Sexual Assault, Sexual Harassment, and Gender Based Violence and Discrimination
(required)***

UMBC's Policy on Sexual Misconduct, Sexual Harassment and Gender Discrimination and Federal Title IX law prohibit discrimination and harassment on the basis of sex, sexual orientation, and gender identity in University programs and activities. Any student who is impacted by sexual harassment, sexual assault, domestic violence, dating violence, stalking, sexual exploitation, gender discrimination, pregnancy discrimination, gender-based harassment or retaliation should contact the University's Title IX Coordinator to make a report and/or access support and resources:

Mikhel A. Kushner, Title IX Coordinator (she/they)

410-455-1250 (direct line), kushner@umbc.edu

You can access support and resources even if you do not want to take any further action. You will not be forced to file a formal complaint or police report. Please be aware that the University may take action on its own if essential to protect the safety of the community.

If you are interested in or thinking about making a report, please see the Online Reporting/Referral Form. Please note that, while University options to respond may be limited, there is an anonymous reporting option via the online form and every effort will be made to address concerns reported anonymously.

Notice that Faculty are Responsible Employees with Mandatory Reporting Obligations:

All faculty members are considered Responsible Employees, per UMBC's Policy on Sexual Misconduct, Sexual Harassment, and Gender Discrimination. Faculty are therefore required to report possible violations of the Policy to the Title IX Coordinator, even if a student discloses something they experienced before attending UMBC.

While faculty members want encourage you to share information related to your life experiences through discussion and written work, students should understand that faculty are required to report past and present sexual assault, domestic and interpersonal violence, stalking, and gender discrimination that is shared with them to the Title IX Coordinator so that the University can inform students of their rights, resources and support.

If you need to speak with someone in confidence, who does not have an obligation to report to the Title IX Coordinator, UMBC has a number of Confidential Resources available to support you:

The Counseling Center: 410-455-2472 / After-Hours 410-455-3230 [Monday – Friday; Academic Year: 8:30 a.m. – 5 p.m.; Summer: 8:30 a.m. – 4:30 p.m.]
University Health Services: 410-455-2542 [Monday – Friday 8:30 a.m. – 5 p.m.]
Pastoral Counseling via Interfaith Center: 410-455-3657; interfaith@umbc.edu [7 days a week; Fall and Spring 7 a.m. – 11 p.m.; Summer and Winter 8 a.m. – 8 p.m.]
Other Resources:

Women's Center (for students of all genders): 410-455-2714; womenscenter@umbc.edu.
[Monday-Friday; Spring 10 a.m.-4 p.m.]
Shady Grove Student Resources, Maryland Resources, National Resources.
Child Abuse and Neglect:

Please note that Maryland law and UMBC policy require that I report all disclosures or suspicions of child abuse or neglect to the Department of Social Services and/or the police.

Pregnancy

UMBC's Policy on Sexual Misconduct, Sexual Harassment and Gender Discrimination expressly prohibits all forms of Discrimination and Harassment on the basis of sex, including pregnancy. Resources for pregnant students are available through the University's Office of Equity and Inclusion. Pregnant and parenting students are encouraged to contact the Title IX Coordinator to discuss plans and assure ongoing access to their academic program with respect to a leave of absence or return following leave related to pregnancy, delivery, or the early months of parenting.

In addition, students who are pregnant may be entitled to accommodations under the ADA through the Student Disability Service Office, and/or under Title IX through the Office of Equity and Inclusion.

Religious Observances & Accommodations

UMBC Policy provides that students should not be penalized because of observances of their religious beliefs, students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the responsibility of the student to inform the instructor of any intended absences for religious observances in advance, and as early as possible. For questions or guidance or to request an accommodation, please contact the Office of Equity and Inclusion at oei@umbc.edu.

Hate, Bias, Discrimination and Harassment

UMBC values safety, cultural and ethnic diversity, social responsibility, lifelong learning, equity, and civic engagement.

Consistent with these principles, UMBC Policy prohibits discrimination and harassment in its educational programs and activities or with respect to employment terms and conditions based on race, creed, color, religion, sex, gender, pregnancy, ancestry, age, gender identity or expression, national origin, veterans status, marital status, sexual orientation, physical or mental disability, or genetic information.

Students (and faculty and staff) who experience discrimination, harassment, hate or bias or who have such matters reported to them should use the online reporting/referral form to report discrimination, hate or bias incidents; reporting may be anonymous.

Spring 2022 Safety Protocols and Compliance Statement:

“UMBC has set clear expectations for masking while on campus that include the requirement that you must wear a KN95 face mask or equivalent that covers your nose and mouth in all classrooms regardless of your vaccination status. For information on masks equivalent to KN95s please click the following link:

<https://covid19.umbc.edu/masks/>

This is to protect your health and safety as well as the health and safety of your classmates, instructor, and the university community. Anyone attending class without a KN95 mask or wearing one improperly will be asked by the instructor to put on a KN95 mask or fix their mask in the appropriate position. Any student that refuses to comply with this directive will be asked to leave the classroom immediately and failure to do so may result in the instructor requesting the assistance of the University Police. Students who refuse to wear KN95 masks may be referred to Student Conduct and Community Standards and may face disciplinary action for violations of the Code of Student Conduct, specifically, Rule 2: Behavior Which Jeopardizes the Health or Safety of Self or Others and Rule 16: Failure to Comply with the Request of a University Official. UMBC’s on-campus safety protocols, including masking requirements, are subject to change in response to the evolving situation with Covid-19.”