

Syllabus
Physics 4210, Electricity and Magnetism
Fall 2022

Regular Class Meeting Times: MoWeFr 9:00AM - 9:50AM

Recitation Meeting Times: Mo 3:00PM - 3:50PM

Instructor's Office Hours: MoWeFr 9:50AM - 10:50AM (immediately following regular class meetings) or by appointment

Instructor: Dr. Carlos Ordonez (or-dawn-ez)
PHYS 302, 940-565-4860, cao@unt.edu

Course Packet: A course packet is required for all meetings, exams and assignments for this class. PHYS 4210 Course Packet by C. A. Ordonez is available at Eagle Images, University Services Building, Room 124.

Scientific Calculator: A scientific non-communicating calculator is required for each class. The calculator should have the \sqrt{x} , $\ln(x)$, and y^x functions and scientific notation.

Textbook: A textbook is required: Introduction to Electrodynamics, 4th Edition, by D. J. Griffiths, Cambridge University Press (2017).

Attendance: Attendance is required.

Prerequisite(s): PHYS 1520 (or PHYS 2220) and MATH 2730.

Course Requirements:

Three Exams: Each Counts 30%
Final Exam: Counts 30%
Assignments: Count 10%

Exams: The lowest of the four exam grades is dropped. If an exam is missed for any reason, it will be the one dropped. Make-up exams will **not** be given. Exams are multiple choice, open book/notes, and a scientific non-communicating calculator is required. Answer sheets are provided. If you are more than 20 minutes late to an exam, you will not be allowed to take

the exam. If you turn in your exam, you must leave the room. Items (e.g., calculators) may *not* be shared during an exam.

Each assignment is due at the beginning of class one week following the designated start date. Any assignments that have start dates during the first week of class may be turned in up to one week late without penalty. You may only turn in assignments for credit during class, and assignments may not be turned in after the class period that precedes pre-finals days. You may help each other when working assignments (but not when working exams). However, each person must submit separate work. After you finish an assignment, you will be responsible for having it graded (if a grader is available) or grading it yourself (if answers are provided). You may revise your work and regrade the assignment up to the due date. An assignment is penalized 30 points (out of 100) if turned in late by up to one week. Assignments are not accepted more than one week late. Staple each assignment separately and put your name on each. (The instructor has a stapler if you need one.)

Learning Objective: To develop analytical problem-solving skills and learn about electricity and magnetism. The class meetings are optimized to maximize the efficiency at which problem-solving skills are developed. A typical class meeting includes a class lecture with an interactive problem-solving component.

Practice Problems: It is recommended that each set of practice problems be worked in preparation for each exam.

Some textbook-notation changes may be used including the following:
Cartesian unit vectors $\hat{x} \rightarrow \hat{i}$, $\hat{y} \rightarrow \hat{j}$, $\hat{z} \rightarrow \hat{k}$; radial cylindrical coordinate $s \rightarrow r$ or $s \rightarrow \rho$; vector position of a “source” point $\mathbf{r}' \rightarrow \mathbf{r}_s$; longhand symbol for the letter $\mathbf{r} \rightarrow \mathbf{R}$, where $\mathbf{R} = \mathbf{r} - \mathbf{r}_s$ and \mathbf{r} is the vector position of a “field” point

Schedule

Aug. 29, 31, Sept. 2	MWF	Mathematics Review (B06)
Sept. 5	M	Labor Day (no class)
Sept. 7, 9	WF	Mathematics Review (B07)
Sept. 12, 14	MW	Mathematics Review (B09)
Sept. 16	F	Vacuum Electrostatics (E01)
Sept. 19, 21, 23	MWF	Vacuum Electrostatics (E01)
Sept. 26, 28, 30	MWF	Vacuum Electrostatics (E01)
Oct. 3	M	Exam 1 (during the recitation meeting time)
Oct. 5, 7	WF	Non-Vacuum Electrostatics (E02)
Oct. 10	M	Non-Vacuum Electrostatics (E02)
Oct. 12, 14	WF	Vacuum Magnetostatics (E03)
Oct. 17, 19	MW	Vacuum Magnetostatics (E03)
Oct. 21	F	Non-Vacuum Magnetostatics (E04)
Oct. 24, 26, 28	MWF	Non-Vacuum Magnetostatics (E04)
Oct. 31	M	Exam 2 (during the recitation meeting time)
Nov. 2, 4	WF	Electrodynamics (E05)
Nov. 7, 9, 11	MWF	Electrodynamics (E05)
Nov. 14, 16, 18	MWF	Miscellaneous Statics Topics (E06)
Nov. 21	M	Electromagnetic Waves (E07)
Nov. 23, 25	WF	Thanksgiving Break (no class)
Nov. 28, 30	MW	Electromagnetic Waves (E07)
Dec. 2	F	Review
Dec. 5	M	Exam 3 (during the recitation meeting time)
Dec. 7	W	Pre-finals Day
Dec. 9	F	Reading Day (no class)
Dec. 14	W	8:00AM - 10:00AM Final Exam

Addendum to Course Syllabus

Academic Integrity Standards and Consequences

According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

ADA Accommodation Statement

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website at disability.unt.edu.

Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please communicate with the instructor about contingency plans for covering course materials.