

General Information

• Karla Miranda • Sep 10, 2018 @02:30 PM MDT

THE UNIVERSITY OF TEXAS AT EL PASO

DEPARTMENT OF PHYSICS

PHYSICS LAB SYLLABUS

Physics 2421

Fall**Location:**

Physical Sciences Building (PSCI), Room 318

Enrollment:

Concurrent enrollment in a lecture section of Physics 2421 Introductory Electromagnetism is required.

Laboratory Coordinator:

Name: Karla Carmona Miranda, M.S.

Office: PSCI 317

Email: kcarmona@utep.edu

Phone: (915) 747-7549

Things to bring to the lab:

Each student should bring the following items:

- a laptop/tablet/smartphone to access the electronic lab manual
- a USB flash drive
- a scientific calculator
- a paper notebook
- pens & pencils
- additional paper for recording data and laboratory information

Lab Manual

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Tentative lab schedule:

Lab 1	How to use LabArchives / Lab Equipment
Lab 2	Electrostatics
Lab 3	Ohm's Law
Lab 4	Capacitance and Dielectric Constant
Lab 5	Kirchhoff's Rules
Lab 6	RC Circuits
Lab 7	Magnetic Forces
Lab 8	Faraday's Law
Lab 9	Inductance
Lab 10	Transformers

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Purchasing the Manual / LabArchives Access:

This lab uses an electronic lab notebook/manual accessed through the LabArchives service. Every student in the laboratory **must purchase access** to LabArchives.

To get started, look for the welcome e-mail from LabArchives containing a link to access your copy of the lab notebook for this course. Click on the link to set up an account. You must use the link provided in the welcome email, as accounts set up directly from the LabArchives website will not be properly linked to the course content.

The LabArchives service offers students a 2-week free trial period. After this trial ends, students must pay \$15 to maintain read/write privileges for the semester (see note below). To purchase access, please pay from within your LabArchives account using a credit card or PayPal. If you have any questions, please write to support@labarchives.com.

About LabArchives:

LabArchives is the electronic lab notebook we will use for this course. Your LabArchives notebook is accessed via your laptop or mobile device, and provides you with a place to record your experiments and find course information. Unlike a traditional paper lab manual or notebook, LabArchives features automatic date and time stamps on all entries, and can be updated by your instructors to provide you with comments. Check your account regularly!

Getting Started with LabArchives:

- View this 4-minute video tutorial: [LabArchives Classroom Edition - Getting Started for Students](#)
- Bookmark <https://mynotebook.labarchives.com/login> to access LabArchives from a web browser. If you will also be using a tablet or smart phone, download the most recent version of the [iOS](#) or [Android](#) app (and check for regular updates).
- For more details, download the PDF [Quick Start Guide](#) for students.

Have a technical question during the semester? Search the [Help page](#) for an answer, review the series of short videos on the LabArchives [YouTube Channel](#) or write/call their customer support.

I hope that you enjoy using this new, green alternative to paper notebooks, and look forward to hearing your feedback!

Note: At the end of the semester, you can download and/or print a copy of your notebook for permanent access. This notebook will remain accessible in your account if you take other lab courses using LabArchives.

Note on Read/Write Privileges:

If your LabArchives notebook loses read/write privileges (e.g., after the trial period ends, and access is not purchased), you will not be able to make any changes to your notebook. Your TA will also be unable to assign grades to your work, and you will subsequently receive an automatic and permanent grade of zero on each affected assignment.

Grading

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Attendance & Participation:

Attendance and participation are very important for the laboratory work. Every student must attend and actively participate in every laboratory session. Each team member should record the data and answer the questions individually. It is highly recommended that you show your results to the lab instructor before you leave the lab. It is also recommended that you have a hard copy of your experimental data, in case you need to finish entering lab work after the lab session. **A lack of active involvement with the lab activities will result in a sanction, which may range from deducted points to a zero in the entire lab, at the discretion of your instructor.**

Pre-lab Assignment (20 points each lab. Due before lab):

Each pre-lab assignment covers the main theoretical concepts you will use in the lab session. It is therefore important to complete the pre-lab before the lab begins, and not to leave it to the last minute. If something was not clear in the pre-lab and you have questions, email your TA or come to the Lab Coordinator's office (PSCI 317). If you still have uncertainties about the pre-lab, please ask them at the beginning of the relevant lab, before beginning work on the lab. The pre-lab grade will come from a combination of your LabArchives work and in-lab quiz.

Lab Work (40 points each lab. Due on the day following lab):

Students will perform the experiments in a group, and the lab worksheet generated (detailing your group's procedures, collected data, and conclusions) will be submitted as a group. Students must use their own words to answer the questions, since these responses will be graded as lab work. All lab write-up questions should ideally be completed on lab day. However, taking into considering that technical problems or other situations outside the control of the students and TA may arise, submitted lab work will be due at noon of the day following the lab day.

Lab Reports (40 points each lab. Due three days after the day of lab):

These are completed individually. This report will contain information about the personal experience in the lab for each team member. Using the features in this Electronic Notebook the report must content:

- Title
- Small introduction to the subject
- Materials Used
- Set up (pictures and sketches)
- General overview of the procedure
- Data and analysis of it
- Personal learning experience
- Conclusion

Overview of Grading Policy: [Pre-lab and Quiz - 20%, Lab work - 40%, Lab report - 40%]

Each pre-lab will be graded, in conjunction with a quiz administered at the beginning of each lab, on a scale from 0 to 20. Each lab worksheet will be graded on a scale from 0 to 40, with points taken off for errors detected in the labs. Each lab report will be graded on a scale from 0 to 40. The grade for each lab will be calculated by adding all three grades (for a base maximum of 100 points per lab session). The final grade for the lab will be calculated by summing all the labs grades and converting to a letter according to the table below.

Late submission policy:

Grades will be given at your instructor's discretion. Please note that the lab report and lab work for a missed lab will not be accepted for grading. There are no late submissions for pre-labs.

Individual and teamwork skills:

This lab will help you sharpen your teamwork skills. Group discussions during the laboratory are highly encouraged. However, each member of the group is required to do his/her own measurements, perform his/her own calculations, and write an individual laboratory report. Because independent thinking and independent work are also important skills to develop, you are required to be active in all the laboratory sessions and to prepare your own lab reports.

Advice:

You are strongly encouraged to ask questions while performing the labs. We hope to create an atmosphere that is conducive to learning and where no question is a "stupid question". Often several students will have the same or a similar question, so feel free to listen to the instructor when he/she is answering someone else's question. You may find that you can save time this way instead of waiting for the instructor to become available on a busy day. Occasionally, the scheduled lab experiment will cover material that has not yet been covered in the lecture. The lab instructors will make an effort in their introductory remarks to compensate for such mismatches, but in these cases you will find that it is especially important to read and understand the pre-lab and lab experiment before you come to the lab, and to ask for clarification of any questions you have. You will also find your course textbook to be a valuable aid under such circumstances, and you are encouraged to use it to help you understand the material presented in the lab.

Resolving Grading Disputes:

If you feel that an assignment has been graded unfairly, you should first consult with your lab instructor. If you are still unsatisfied, you may bring the matter to the attention of the lab coordinator. We are aware that we all make mistakes, and we can definitely review a questionable assessment. However, please keep in mind that while it may happen that we find your score was indeed too low, we may also find that we missed a mistake and that your score was too high.

Attendance Policies

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1. All laboratory experiments are MANDATORY AND CANNOT BE MISSED OR RESCHEDULED.
2. You must attend the section for which you originally registered. There are no other sections for your lab.
3. Waiver : Please DO NOT miss any labs. Waiver: In the case of a medical emergency, court date, or school sanctioned activity, the lab work may be waived once during the semester; you must provide written proof of your reason for absence: no waivers will be granted without acceptable written proof.
4. Late Arrival: It is imperative that you arrive on time for the labs. A pre-lab quiz will be given at the beginning of each lab, and a late arrival will result in a grade of zero for that quiz. Because each lab exercise involves working as a group, it is unfair to your group if you are late, as it delays their progress while they need to explain to you what is going on. Your instructor therefore has the authority to subtract points if you arrive after your group has begun working on the exercise for that day. In all cases, arriving 15 minutes or more late counts as an unexcused absence, and you will lose the lab grade for that day.
5. Receiving an Automatic Zero for the Lab: If you consistently violate safety precautions in the lab to the point where, in the instructor's judgment, you represent a safety hazard to yourself and/or your fellow students, you will be asked to leave the lab and will be given a total lab score of zero. You will receive one warning from the instructor that your behavior is a safety concern. If after this warning you continue to violate safety instructions, you will then be asked to leave and not return to the lab.

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Safety Policies

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1. **Positively NO drinking or eating of any kind of foods is allowed for ANYBODY in the laboratory.**
2. COMPUTER POLICY: The PASCO software that we use in this laboratory can be very sensitive to the way in which the Windows operating system is set up. Because of this, please DO NOT make any changes to any of the Windows settings, no matter how inconsequential the change may appear to be. Please use the Windows settings in their current configuration only. Please DO NOT load any new software on to the computers in the labs. Please also DO NOT delete any files from the laboratory computers.
3. LAB STATION POLICY: At the beginning of each lab, you and your lab group are responsible for turning on the lab equipment. Turn on the Pasco interface first, and then the computer. At the end of each lab, you are responsible for leaving the equipment at your work station in the same condition in which you found it. This means that you will leave all instruments, and the computer, in the OFF mode. If anything has been broken or damaged during the lab period, please let the lab instructor know about it, so that it may be fixed or replaced before the next lab group arrives.

General University Policies

1. The **Academic Integrity Policy** is cited at <http://academics.utep.edu/Default.aspx?tabid=23785>
2. **Disability Statement:** If you have a disability and need classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) by phone at 747-5148, by email at tocass@utep.edu, or by visiting their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. It is important to talk to the lab coordinator once your accommodations are granted and before a problem is presented.
3. **Military Statement:** If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact the laboratory coordinator as soon as you are called.
4. In all other matters not discussed above, The University of Texas at El Paso's university-wide policy supersedes all other laboratory policies.