

# PHYS 296/Introductory Laboratory II

## Sections 01, 02, 03, 04, 05, 06, 08

Instructor: Elijah R. Jensen M.S.

Laboratory Room: Room 314, Natural Science Building  
Email: [elijah.jensen@louisville.edu](mailto:elijah.jensen@louisville.edu) or [ejensen141@gmail.com](mailto:ejensen141@gmail.com)  
Website: <http://ejensen141.github.io>  
Office: Natural Science LL06  
Office Hours: MW 2:00pm → 4:00pm

The instructor reserves the right to make changes in the syllabus when necessary to meet learning objectives, to compensate for missed classes, or for similar reasons.

**Course Description:** PHYS 296 is a 2-hour-per-week laboratory course conducting experiments on electromagnetism.

**Prerequisite(s):** Prior completion of or concurrent registration in PHYS 299.

**Credit Hours:** 1

**Text(s):** Print lab manual out each week from website.

### Course Objectives:

PHYS 296 is designed for students to acquire hands-on knowledge of working with basic instruments and performing experiments concerning electromagnetism.

### Grade Distribution:

Labs	80%
Quizzes	20%

### Letter Grade Distribution:

$\geq 90$	A	$70 \rightarrow 74$	C
$87 \rightarrow 90$	A-	$67 \rightarrow 70$	C-
$84 \rightarrow 87$	B+	$64 \rightarrow 67$	D+
$80 \rightarrow 84$	B	$60 \rightarrow 64$	D
$77 \rightarrow 80$	B-	$50 \rightarrow 60$	D-
$74 \rightarrow 77$	C+	$\leq 50$	F

Instructor reserves the right to lower grade cutoff.

**Course Policies:**

Pre-lab quiz: A short quiz will be given before each lab that will contain subject matter discussed in that weeks lab. You may use any calculator you want.

Experiment: you must submit your lab report to your TA at the end of the lab period. For the experimental part, 80% of the grade will be evaluated based on the collected data during the lab period, including graphs and analyses. Evaluation is based on correct understanding of the experimental procedure, data, data analysis, and also on correct use of the data unit. Your answers to the questions given in the lab report and during the lab period are worth 20% of the grade for the experimental part.

A grade will be given for each lab. This number is the sum of your Quiz grade and your Lab Report grade. Your final grade will be calculated by the average of your 9 best lab grades.

**Course Materials:** Class materials can be found on the website <http://ejensen141.github.io/Classes/Phys296>. You must make sure that you can access the lab manual (both the lab and the pre-lab materials) for each lab by Friday noon of the week before conducting the lab. If not, notify your TA and the instructor as soon as possible. Except for the first lab (Lab I), you must download and print out the lab materials before each lab.

**Special Accommodations**

Any student needing to request accommodations for a specific disability please contact the instructor at your earliest convenience to ensure timely and appropriate accommodations. The students who request special accommodations please provide the instructor with written permission from the university. If you read this far, as a reward email “Physics is Phun” to me and receive 1pt extra credit!

**TA Contact Information:**

Bryan Fagan	bkfaga01@louisville.edu
Alex Larin	a0lari01@louisville.edu
Richard Judge	richard.judge@louisville.edu

**Tentative Course Outline:**

The weekly coverage might change as it depends on the progress of the class.

<b>Week</b>	<b>Content</b>
Week 1	• Lab I: Introductory Lab
Week 2	• Lab II: Electrostatics
Week 3	• Lab III: Coulomb's Law
Week 4	• Lab IV: Electric Field
Week 5	• Lab V: Ohm's Law
Week 6	• Lab VI: RC circuits
Week 7	• Lab VII: Magnetic Force on Charged Particles moving in Magnetic Field
Week 8	• Lab VIII: Ampere's Law & the Magnetic Properties of Materials
Week 9	• Lab IX Faradays Law
Week 10	• Lab X LRC circuits
Week 11	• Lab 11: Optics