

PHYS270
Summer I 2014

David Buehrle
1330 Toll Physics Building
X5-6045
dbuehrle@umd.edu

Title: General Physics: Electrodynamics, Relativity, and Modern Physics
Lecture: Monday through Friday 11:00 AM – 12:20 PM, Rm 1204

Section 0101

TA: Nightvid Cole
ncole1@umd.edu

Discussion: Monday & Wednesday 10:00 - 10:50, Rm 1204

PHYS271 (Lab)
Monday & Wednesday 1:00 – 4:00 PM, Rm 3220

Textbook: Randall D. Knight: *Physics for Scientists and Engineers*, 3e

Physics 270 is the third of a three semester introductory course on physics for engineers.

Math Background

You are expected to know differentiation, integration, elementary algebraic manipulations, and trigonometric rules. If you do not know any math step discussed in class, be sure to ask and we can clear that up in the discussion sessions.

Homework

To help facilitate the competing needs to give timely input and spend more of class time discussing new material rather than just going over homework, your assignments will be online. The online exercises are accessed through MasteringPhysics. I have observed in the past that there is a strong correlation between the steady effort needed to successfully complete homework and performance on examinations. Solutions to all homework assignments will be available on ELMS after their due date. I strongly encourage you ask questions about the homework during the discussion! To access Mastering Physics, see below

Assessments

- 20% of your semester grade is based on your **attempts** at doing homework. Quizzes will come directly from the homework.
- 20% will be based on your **correct method** on the weekly quizzes. If you use correct procedure and calculate a reasonable answer with correct units, then you will receive full credit.
- 20% will consist of the labs. How the lab is graded is up to the TA, but the prelab is mandatory and must be turned in at the beginning of the lab. You must perform all labs to pass the class.
- 20% is from unit tests as listed on the schedule. Your grade is mostly determined by correct method as the quizzes, but also on correctness
- 20% from the final exam.

Extra Help

Feel free to call my office phone anytime. The best way to communicate is via email.
Your TA will post office hours

Week	Date	Subject (Ch)	Assignment	Lab	
1	M	June	2 Intro, Forces & Fields	MP00	1 - The Oscilloscope an
	Tu		3 Electric Potential	MP01	
	W		4 Magnetic Fields	MP02	2 - The Resistors and C
	Th		5 Sources of the Magnetic Field	MP03	
	F		6 Induction	MP04	
2	M		9 Electromagnetism Test		3 - Faraday's Law of Inc
	Tu		10 Capacitance & Dielectrics	MP05	
	W		11 Current & Resistance	MP06	4 - LR and LRC Circuits
	Th		12 Inductance	MP07	
	F		13 DC Circuits I	MP08	
3	M		16 Linear Components Test		Make-up and Discussio
	Tu		17 DC Circuits I	MP09	
	W		18 AC Circuits I	MP10	5 - Diffraction
	Th		19 AC Circuits II	MP11	
	F		20 Electromagnetic Waves	MP12	
4	M		23 Circuits Test		6 - Polarized Light (revi
	Tu		24 Reflection & Mirrors	MP13	
	W		25 Refraction & Lenses	MP14	7 - The Hydrogen Spect
	Th		26 Interference	MP15	
	F		27 Galilean Relativity	MP16	
5	M		30 Waves & Optics Test		8 - The Photoelectric E
	Tu	July	1 Special Relativity	MP17	
	W		2 General Relativity	MP18	Make-up and Discussio
	Th		3 Quantization	MP19	
	F		4		
6	M		7 Relativity Test		
	Tu		8 Quantum Mechanics I	MP20	
	W		9 Quantum Mechanics II	MP21	
	Th		10 Review		
	F		11 FINAL EXAM		



Physics 271 Labs, Summer I, 2014

Monday and Wednesday 1-4 pm

Instructor: David Buehrle
 dbuehrle@umd.edu, x5-5949, Rm 1120

TA: Nightvid Cole,
 ncole1@umd.edu

Wk #	Date	Expt #	Experiment Title
1	Mon Jun 2	1	The Oscilloscope and Multimeter (revised)
1	Wed Jun 4	2	The Resistors and Capacitors
2	Mon, Jun 9	3	Faraday's Law of Induction
2	Wed, Jun 11	4	LR and LRC Circuits
3	Mon, Jun 16	1 - 4	Make-up and Discussion
3	Wed, Jun 18	5	Diffraction
4	Mon, Jun 23	6	Polarized Light (revised)
4	Wed, Jun 25	7	The Hydrogen Spectrum
5	Mon, Jun 30	8	The Photoelectric Effect (not in lab manual)
5	Wed, Jul 2	5 - 8	Make-up and Discussion
6	Mon, Jul 7	--	No Labs
6	Wed, Jul 9	--	No Labs
6	Fri, Jul 11	--	Last Day of Classes

Dear Student:

In this course you will be using MasteringPhysics™, an online tutorial and homework program that accompanies your textbook.

What You Need:

- ✓ **Your UMD email address**
- ✓ **A student access code** (Comes in the Student Access Kit that may have been packaged with your new textbook or is available separately in your school's bookstore. Otherwise, you can purchase access online at www.masteringphysics.com.)
- ✓ **The ZIP code for your school:** 20742

- ✓ **A Course ID:** **MPBUEHRLE88540**

Register

- Go to www.masteringphysics.com and click **New Students** under Register.
- To register using the Student Access Code inside the MasteringPhysics Student Access Kit, select **Yes, I have an access code**. Click **Continue**.

–OR– **Purchase access online:** Select **No, I need to purchase access online now**.

Select your textbook and whether you want to include access to the eBook (if available), and click **Continue**. Follow the on-screen instructions to purchase access using a credit card. The purchase path includes registration, but the process may differ slightly from the steps printed here.

- **License Agreement and Privacy Policy:** Click **I Accept** to indicate that you have read and agree to the license agreement and privacy policy.
- Select the appropriate option under “Do you have a Pearson Education account?” and supply the requested information. Upon completion, the **Confirmation & Summary** page confirms your registration. This information will also be emailed to you for your records. You can either click **Log In Now** or return to www.masteringphysics.com later.

Log In

- Go to www.masteringphysics.com.
- Enter your Login Name and Password and click **Log In**.

Enroll in Your Instructor's Course and/or Access the Self-Study Area

Upon first login, you'll be prompted to do one or more of the following:

- Enter your instructor's MasteringPhysics Course ID.
- Select your text, if available, and **Go to Study Area** for access to self-study material.
- Enter a Student ID. Your instructor *may* request that you enter a special Student ID for this course. If so, be sure to enter this information EXACTLY as instructed.

Click **Save** and **OK**.

Congratulations! You have completed registration and have enrolled in your instructor's MasteringPhysics course. To access your course from now on, simply go to www.masteringphysics.com, enter your Login Name and Password, and click **Log In**. If your instructor has created assignments, you can access them by clicking on the **Assignments** button. Otherwise, click on **Study Area** to access self-study material.

Support

Access Customer Support at www.masteringphysics.com/support, where you will find:

- System Requirements
- Answers to Frequently Asked Questions
- Additional contact information for Customer Support, including Live Chat