

PHYS270
Summer I 2012

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Title: General Physics: Electrodynamics, Relativity, and Modern Physics

Lecture: Monday through Friday 9:30 – 10:50, Rm 1402

Section 0501

TA: Jeffery Demers
jdemers@umd.edu

Discussion: Monday & Wednesday 11:00-12:00, Rm 1402

PHYS271 (Lab)

Monday & Wednesday 1:00 – 4:00 PM, Rm 3220

Textbook: Randall D. Knight: *Physics for Scientists and Engineers, 2e*

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 his office hours

Tentative Lecture Schedule PHYS270

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	Memorial Day	Electrostatics Review CH 26: 48, 67; CH 27: 47, 59; CH 28: 54; CH 29: 51; CH 30: 84	Magnetic Fields CH 27: 27; CH 33: 57, 59, 61, 67, 69, 71	Sources of the Magnetic Field CH 33: 43, 47, 49, 51, 53, 55, 73	Induction CH 34: 27, 35, 45, 47, 49, 51, 53
2	Electromagnetism Test	Capacitance & Dielectrics CH 30: 59, 61, 63, 65, 67, 69, 71	Current & Resistance CH 31: 41, 47, 51, 57, 61, 65, 67		Inductance CH 34: 39, 41, 45, 61, 63, 67, 69
3	Linear Components Test	DC Circuits CH 32: 71, 75; CH 34: 49, 53, 77, 79; CH 14: 70	AC Circuits I CH 36: 43, 45, 47, 49, 51, 53, 5	AC Circuits II CH 36: 59, 61, 63, 65, 69, 71	Circuits Test
4	Electromagnetic Waves CH 35: 41, 45, 47, 49, 51, 55, 61	Reflection & Mirrors CH 23: 41, 43, 67, 75, 77, 55, 57	Refraction & Lenses CH 23: 59, 63, 65, 69, 73, 79, 81	Interference CH 21: 63, 65, 67, 69, 73; CH 22: 57, 61	Physical & Geometric Optics Test
5	Galilean Relativity CH 03: 39; CH 37: 1, 3, 5, 43, 45; CH 35: 33	Special Relativity CH 37: 53, 55, 57, 61, 71, 73, 75	Relativity Test	Quantization CH 39: 45, 57, 59, 61, 63, 65, 67	Quantum Mechanics I CH 40: 35, 37, 39, 41, 43, 45, 47
6	Quantum Mechanics II CH 41: 31, 35, 37, 39, 41, 43, 45	Quantum Test		Final Review	Final Exam

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:** **MPBUEHRLE55498**

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

Physics 271 Labs, Summer I, 2012



Monday, Wednesday 1-4 pm

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

TA: Jeffery Demers, jdemers@umd.edu

Date	Wk #	Expt #	Experiment Title
Wed, May 30	1	1	The Oscilloscope and Multimeter
Mon, Jun 4	2	2	The Resistors and Capacitors
Wed, Jun 6	2	3	Faraday's Law of Induction
Mon, Jun 11	3	4	LR and LRC Circuits
Wed, Jun 13	3	1-4	Make-up and Discussion
Mon, Jun 18	4	5	Diffraction
Wed, Jun 20	4	6	Polarized Light
Mon, Jun 25	5	7	The Hydrogen Spectrum
Wed, Jun 27	5	8	The Photoelectric Effect
Mon, Jul 2	6	5-8	Make-up and Discussion
Wed, Jul 4	6	--	No Labs
Fri, Jul 6	6	--	Summer I Term Ends