PHYS-272 SYLLABUS SPRING 2018

Instructor: Prof. Kurtis Nishimura
Office: WAT 211
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Office Hours: M 1-2 pm, W 10-11 am, or email to make an appointment

Lecture Hours: MWF 8:30 – 9:20 am (WAT 112)

Textbooks: "University Physics Volume 2" and "University Physics Volume 3*"
These textbooks may be downloaded for free (see http://www.openstax.org)
Print versions are also available from the bookstore or Amazon.
*If you do not plan to take PHYS 274, I recommend you download (rather than purchase) Vol. 3.

Prerequisites: PHYS 151 or 170
MATH 242 or 252A (or MATH 216 with consent)

Course Website: https://laulima.hawaii.edu

Grading: Course grades will be determined based on the following contributions:

Homework:	10%
Recitation:	10%
Clicker/Quizzes:	10%
Midterm 1	20%
Midterm 2	20%
Final Exam	30%

Homework: Problem sets will be assigned weekly. Most problems will be issued online through WebAssign. To enroll, please visit the following link:
https://www.webassign.net/wa-auth/class-key/enroll
And use class key: **hawaii 8574 4227**
Paper problem sets may also be assigned, and will be posted on laulima.

Recitation: Please check your schedule to verify which section to attend:

Section 001:	M 3:30 – 4:30 pm (WAT 114)
Section 002:	T 3:00 – 3:50 pm (WAT 415)
Section 003:	W 1:30 – 2:20 pm (WAT 415)

Clickers: We will be using iClicker Cloud to conduct in-class quizzes and polls.
You are required to bring a device to every lecture in order to participate in iClicker sessions. Please see the extra notes on iClicker registration.
It is your responsibility to properly register your iClicker Reef device and/or iClicker remote in a timely fashion.

Exams: There will be three exams, two in-class midterms and one final, *tentatively* scheduled for the following dates:

Midterm 1: Wednesday, February 7 (regular class time)
Midterm 2: Wednesday, March 21 (regular class time)
Final: Friday, May 11 (7:30 – 9:30 am)

Makeup exams will not be permitted, unless arranged at least 2 weeks in advance due to a scheduled UH-activity, or in cases of *documented* emergencies.

Students may bring the following to each exam:
- A single page (double-sided) with formulas, equations, physical constants, and conversion factors.
- A *non-networked* pocket or graphing calculator (no laptops, tablets, mobile phones, etc.).

The following is a *tentative* schedule of class readings, homework due dates, and exam dates. This schedule will be updated regularly and posted to laulima.

week	date	Lect #	Lecture topics	Reading	HW due
1	8-Jan	1	Introduction, Electric Charge	5.1 - 5.2	
	10-Jan	2	Coulomb's Law	5.3	
	12-Jan	3	Electric Field, Charge Distributions, Dipoles	5.4 - 5.7	
2	15-Jan		Holiday: Martin Luther King, Jr. Day		
	17-Jan	4	Electric Flux	6.1 - 6.2	**1**
	19-Jan	5	Gauss' Law & Applications	6.2 - 6.3	
3	22-Jan	6	Gauss' Law Applications (cont.) & Conductors	6.4	
	24-Jan	7	Electric Potential Energy and Potential Difference	7.1 - 7.2	**2**
	26-Jan	8	Calculating Electric Potential	7.3	
4	29-Jan	9	Determining E from V, Equipotentials, Applications	7.4 - 7.6	
	31-Jan	10	Capacitance, Series and Parallel Capacitors	8.1 - 8.2	**3**
	2-Feb	11	Energy of Capacitors, Dielectrics in Capacitors	8.3 - 8.5	
5	5-Feb	12	Capacitor Wrapup, Review for Midterm	Ch 5 - 8	
	7-Feb		**Midterm #1**		**4**
	9-Feb	13	Current and Conduction	9.1 - 9.2	
6	12-Feb	14	Resistivity and Resistance, Ohm's Law	9.3 - 9.4	
	14-Feb	15	Electrical Power, SuperConductors	9.5 - 9.6	
	16-Feb	16	Electromotive Force & Resistors in Series,Parallel	10.1 - 10.2	**5**
7	19-Feb		Holiday: President's Day		
	21-Feb	17	Kirchoff's Rules	10.3	
	23-Feb	18	RC Circuits, Circuit Measurements, Safety	10.4 - 10.6	
8	26-Feb	19	Intro to Magnetism, Magnetic Field and Lines	11.1 - 11.2	**6**
	28-Feb	20	Motion in Magnetic Fields, Forces, Torques	11.3 - 11.5	
	2-Mar	21	Hall Effect, Applications	11.6 - 11.7	
9	5-Mar	22	Biot-Savart Law and Applications	12.1 - 12.3	**7**
	7-Mar	23	More Biot-Savart, Ampere's Law	12.4 - 12.5	
	9-Mar	24	Ampere's Law Applications, Magnetism in Matter	12.6 - 12.7	
10	12-Mar	25	Faraday's Law & Lenz's Law	13.1 - 13.2	**8**
	14-Mar	26	Motional emf and induced Fields	13.3 - 13.4	
	16-Mar	27	Eddy Currents, Generators, Back-emf	13.5 - 13.7	
11	19-Mar	28	Midterm Review		**9**
	21-Mar		**Midterm #2**		
	23-Mar	30		Chapter 14	
12	26-Mar		Holiday: Kuhio Day	SPRING	
	28-Mar				
	30-Mar		Holiday: Good Friday	BREAK	
13	2-Apr	31		Chapter 14	
	4-Apr	32			
	6-Apr	33			**10**
14	9-Apr	34		Chapter 15	
	11-Apr	35			
	13-Apr	36			**11**
15	16-Apr	37		Chapter 16	
	18-Apr	38			
	20-Apr	39			**12**
16	23-Apr	40		Vol.3: Ch. 1	
	25-Apr	41			
	27-Apr	42			**13**
17	30-Apr	43		Vol.3: Ch. 2	
	2-May	44			
	4-May		study period (no class)		**14**
18	**11-May**		**7:30-9:30** WAT112 (to be confirmed)		

Detailed iClicker Information and Instructions

You are required to bring a device to participate in iClicker sessions during class. I will be allowing the use of iClicker Reef on a smartphone, tablet or laptop OR iClicker remotes.

It is your responsibility to properly register your iClicker Reef device and/or iClicker remote in a timely fashion. It is also your responsibility to regularly check your iClicker grades for any discrepancies and bring them to my attention quickly.

Registration Instructions:

Regardless of which device you use in class, you must create an iClicker Reef account–or use your existing Reef account if you already have one–to ensure that your grades sync to my iClicker gradebook. You can do this by downloading the mobile app via the App Store or Google Play, or by visiting iclicker.com.

Then, you must connect your Reef account within our learning management system (laulima). To do this, you must navigate to the iClicker Reef registration link in laulima, click the link, then sign into your Reef account from the window that opens. This will automatically add our class to your Reef account. It is also recommended that you enter your student ID accurately in the "Student ID" field of your Reef profile.

Upon signing up with iClicker Reef, you will have a 2 week free-trial period. After that point, you will need to purchase a Reef subscription or obtain an access code if you want to participate in iClicker sessions with your mobile device, tablet, or laptop. Be sure to do this during the 2 week window so your use of iClicker Reef is not interrupted. Students who fail to properly set up their iClicker Reef accounts will miss out on polling points. It is your responsibility to make sure your account is in working order, and to regularly check your grades for any discrepancies and bring them to my attention immediately. If you already have a Reef account, simply add my course to it. **Do not create a duplicate account.**

If you are using iClicker remotes to participate in class, you must also register your remote in the profile section of your Reef account by entering the 8 character ID from the back of your iClicker remote into your Reef profile. **You will not need to pay for a Reef subscription or obtain an access code if you are only using an iClicker remote**, and can therefore ignore the "Buy or Extend Subscription" message that will appear in your Reef account.

If you want the option of using both an iClicker remote and iClicker Reef on a smart device, you can purchase a Reef subscription in addition to an iClicker remote and simply register the remote in Reef. The iClicker system will record your responses to sessions regardless of which device you use to vote.

Need Help?

You can find technical support at http://iclicker.com/studentsupport.

If you continue to experience issues, please contact iClicker support via phone (866.209.5698) or email (support@iclicker.com). Live support is available Monday - Thursday from 9AM - 11PM, ET and Friday from 9AM - 9PM, ET.