

Instructor: Prof. Kurtis Nishimura
Office: WAT 211
email: kurtisn@hawaii.edu

Office Hours: M 1-2 pm, W 12-1 pm, 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 Polls, 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 9808 6072**
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 113)
Section 002:	T 3:00 – 3:50 pm (WAT 114)
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, September 19 (regular class time)

Midterm 2: Friday, October 26 (regular class time)

Final: Friday, December 14 (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	20-Aug	1	Introduction, Electric Charge	5.1 - 5.2		
	22-Aug	2	Coulomb's Law	5.3		
	24-Aug	3	Electric Field, Charge Distributions, Dipoles	5.4 - 5.7		
2	27-Aug	4	Electric Flux	6.1 - 6.2	1	
	29-Aug	5	Gauss' Law & Applications	6.2 - 6.3		
	31-Aug	6	More on Gauss' Law, Conductors	6.4		
3-Sep Holiday: Labor Day						
3	5-Sep	7	Electric Potential Energy and Potential Difference	7.1 - 7.2	2	
	7-Sep	8	Calculating Electric Potential	7.3		
4	10-Sep	9	Determining E from V, Equipotentials, Applications	7.4 - 7.6		
	12-Sep	10	Capacitance, Series and Parallel Capacitors	8.1 - 8.2	3	
	14-Sep	11	Energy of Capacitors, Dielectrics in Capacitors	8.3 - 8.5		
5	17-Sep	12	Capacitor Wrapup, Review for Midterm	Ch 5 - 8		
	Midterm #1					
	21-Sep	13	Current and Conduction	9.1 - 9.2	4	
6	24-Sep	14	Resistivity and Resistance, Ohm's Law	9.3 - 9.4		
	26-Sep	15	Electrical Power, Superconductors	9.5 - 9.6		
	28-Sep	16	Electromotive Force & Resistors in Series, Parallel	10.1 - 10.2	5	
7	1-Oct	17	Kirchoff's Rules	10.3		
	3-Oct	18	RC Circuits, Circuit Measurements, Safety	10.4 - 10.6		
	5-Oct	19	Intro to Magnetism, Magnetic Field and Lines	11.1 - 11.2	6	
8	8-Oct	20	Motion in Magnetic Fields, Forces, Torques	11.3 - 11.5		
	10-Oct	21	Hall Effect, Applications	11.6 - 11.7		
	12-Oct	22	Biot-Savart Law and Applications	12.1 - 12.3	7	
9	15-Oct	23	More Biot-Savart	12.4 - 12.5		
	17-Oct	24	Ampere's Law	12.6 - 12.7		
	19-Oct	25	Ampere's Law Examples	13.1 - 13.2	8	
10	22-Oct	26	Motional emf and induced Fields	13.3 - 13.4		
	24-Oct	27	Eddy Currents, Generators, Back-emf	13.5 - 13.7		
	26-Oct	Midterm #2				
11	29-Oct	28	Mutual & Self Inductance, Energy Stored in B Field	14.1 - 14.3	9	
	31-Oct	29	RL, LC Circuits	14.4 - 14.5		
	2-Nov	30	RLC Circuits; AC Sources	14.6; 15.1		
12	5-Nov	31	AC Sources, AC Circuits	15.1 - 15.2	10	
	7-Nov	32	AC Circuits - Reactances and Phasors	15.3 - 15.4		
	9-Nov	33	AC Circuits - RLC Analysis	15.5		
12-Nov Holiday: Veteran's Day						
13	14-Nov	34	AC wrapup: Transformers, Maxwell's Equations	16.1	11	
	16-Nov	35	EM Spectrum, EM Waves, Plane Waves	16.2, 16.5		
14	19-Nov	36	Energy, Momentum, Pressure	16.3 - 16.4		
	21-Nov	37	EM Wave Wrapup, Intro to Optics	V3: 1.1 - 1.2	12	
	23-Nov Non-instructional Day: Day after Thanksgiving					
15	26-Nov	38	Wave Fronts and Light Rays, Reflection, Refraction	V3: 1.1 - 1.3		
	28-Nov	39	Total Internal Reflection, Dispersion, Polarization	V3: 1.4 - 1.5		
	30-Nov	40	Image Formation, Mirrors	V3: 2.1 - 2.2	13	
16	3-Dec	41	Lenses	V3: 2.3 - 2.4		
	5-Dec	42	Optics wrapup, review	V3: 2.5 - 2.8		
	7-Dec Study Period (No Lecture)					
17	14-Dec		7:30-9:30 WAT 112 (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.