

## Physics 272 - General Physics II (Electricity, Magnetism, and Optics) Tue-Thurs section

Class meets Tue/Thurs 10:30-11:45 a.m in Watanabe 112

Instructor: Tom Browder

Office: Watanabe 233

Office Hrs: 11:45-12:20 Tue/Thu

Please feel free to stop by my office at other times or to make an appointment

phone: (808)-956-2936

e-mail: [teb@phys.hawaii.edu](mailto:teb@phys.hawaii.edu)

*Course Web page* : <http://www.phys.hawaii.edu/~teb/phys272/phys272.html>

*Course Syllabus page* : [http://www.phys.hawaii.edu/~teb/phys272/syllabus\\_phys272.html](http://www.phys.hawaii.edu/~teb/phys272/syllabus_phys272.html)

Prerequisite: Math 242. **Calculus is used in this course.**

Text: University Physics II by Young and Freedman, 15th Edition

Computers: *A computer account with access to World-Wide-Web is required*

*for the Mastering Physics Exercises and to access the Textbook*

Some of the homework will be done using the Mastering Physics (MP) system and some will be handed in for grading

MP Course ID: browder15846

MP Course access code: DSCKUO-KNEAD-TARDO-AFFIX-STASH-LINES

Grader: Kenny Kiriuk (e-mail: [kiriuk@hawaii.edu](mailto:kiriuk@hawaii.edu))

Grader's mailbox: Dept office, 4th floor Watanabe

Substitute (two weeks in October): Professor Bob Morse, e-mail: [morse@icecube.wisc.edu](mailto:morse@icecube.wisc.edu)

Grading: Recitations - 15%, Homework 15%, Clicker Problems 10%, Midterms + Final - 60%

Grading is based on an absolute scale. (Midterm 1+ Midterm 2 + Final=(60%)).

The combined % for Midterm 1+ Midterm 2 + Final=60%; the highest score=25%, middle score=20%, lowest score=15%. Approximate values for the total weighted average: 90-100 (A), 71-89 (B) 58-70 (C) 41-57 (D) <40 (F)

There are two midterm exams (notecard and calculator allowed)

**To learn physics you must learn concepts and develop problem solving skills**

**Final Exam: Thursday, Dec 19th, 9:45-11:45 am**

Syllabus for Physics 272 (Fall 2019 under construction)

- Tuesday August 27: Coulomb's Law, Point Charges

Read Chapter 21

Homework I: Mastering Physics (MP) Assignment I (MP21.2, MP21.7, MP21.22, MP 21.52) and Hand in (HI) 21.57, 21.74, 21.84

*(Homework I is due Tuesday Sept 3rd)*

- Thursday August 29: E Fields and Dipoles
  
- Tuesday September 3: Gauss' Law  
Read Chapter 22  
**Homework I due**  
Homework II: Mastering Physics MP22.4, MP22.9, MP22.10, MP22.12, MP22.16, MP22.22, MP22.41, and Hand-in (HI) 22.37, 22.46, and 22.50  
(*Homework II is due Tuesday Sept 10*)
  
- Thursday September 5: Gauss' Law, Conductors and Examples
  
- Tuesday September 10: Finish Gauss' Law, Electric Potential  
**Homework II due**  
Read Chapter 23  
Homework III: MP23.4, MP23.12, MP23.19, MP23.34, MP23.38, MP23.62 and Hand-in (HI) 23.41, 23.59, 23.64  
(*Homework III is due Tuesday September 17*)
  
- Thursday September 12: Electric Potential
  
- Tuesday September 17: Capacitance and Dielectrics  
**Homework III due**  
Read Chapter 24  
Homework IV: MP24.2, MP24.10, MP24.21, MP24.26, MP24.30, MP24.44 and hand-in (24.48, 24.60, 24.66)  
(*Homework IV is due Tuesday September 24*)  
[Slides](#)
  
- Thursday September 19: Capacitance and Dielectrics  
[Slides](#)
  
- Tuesday September 24: Review for Midterm I  
**Homework IV due**  
Read Chapter 25  
Homework V: Mastering Physics Assignment V and Hand-in (HI) MP 25.2, 25.9, 25.14, 25.26, 25.37, 25.48 and HI 25.60, 25.68 and 25.70  
(*Homework V is due Tuesday October 8 (after the midterm)*)
  
- Thursday September 26: Midterm I  
Cover Chapters 21, 22, 23 and 24
  
- Tuesday October 1: Chapter 25, Current, Resistance and EMF  
Read Chapter 25
- Thursday October 3: Current, Resistance and EMF  
Read Chapter 25
  
- Tuesday October 8: Chapter 26, Direct Current Circuits  
Homework V due

Homework VI: TBA

Read Chapter 26

- Thursday October 10: DC Circuits

Read Chapter 26

- Tuesday October 15: Chapter 27, Magnetic Field and Magnetic Forces **Homework VI due**

Read Chapter 27

Homework VII: Mastering Physics Assignment and Hand-in (HI)

*(due TBA)*

- Thursday October 17: Magnetic Field and Magnetic Forces

- Tuesday October 22: Chapter 28, Sources of Magnetic Field

Read Chapter 28

- Thursday October 24: Sources of Magnetic Field

**Homework VII due**

Mastering Physics Assignment and Hand-in (HI)

*(Homework is due )*

- Tuesday October 29: Review for Midterm II

Read Chapter 29

- Thursday October 31: Midterm II

Mastering Physics Assignment IX and Hand-in (HI) TBA

- Tuesday November 5: EM Induction

Read Chapter 29

- Thursday November 7: Chapter 30, Inductance Slides

- Tuesday November 12: Chapter 30, Inductance

**Homework TBA**

Mastering Physics Assignment and Hand-in (HI)

- Thursday November 14: Chapter 31, AC circuits

- Tuesday November 19, Chapter 31, AC circuits

- Thursday November 21 Chapter 32

- Tuesday November 26: Chapter 32

- Thursday November 28: Thanksgiving Holiday

- Tuesday December 3: Chapter 33
- Thursday December 5: Chapter 33
- Tuesday December 10: Chapter 34  
Will have a Mastering Physics Problem Set on Geometric Optics
- Thursday December 12: Conclusion and Summary
- **Final Exam: Thursday Dec 19, 9:45-11:45 am**

*Tom Browder*

*Last update: Sept 30, 2019*

*Classes on Oct 22, 24, 29 and 31 will be taught by Professor Duncan Farrah*