



**ARIZONA STATE UNIVERSITY  
GENERAL STUDIES COURSE PROPOSAL COVER FORM**

**Course information:**

Copy and paste **current** course information from [Class Search/Course Catalog](#).

Academic Unit College of Liberal Arts and Sciences Department Department of Physics  
 Subject PHY Number 151 Title Physics 2 Units: 4

Is this a cross-listed course? No  
 If yes, please identify course(s) \_\_\_\_\_

Is this a shared course? No If so, list all academic units offering this course \_\_\_\_\_

Course description:  
 Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements

**Requested designation:** Natural Sciences-SQ  
*Note- a **separate** proposal is required for each designation requested*

**Eligibility:**

Permanent numbered courses must have completed the university's review and approval process.  
 For the rules governing approval of omnibus courses, contact [Phyllis.Lucie@asu.edu](mailto:Phyllis.Lucie@asu.edu) or [Lauren.Leo@asu.edu](mailto:Lauren.Leo@asu.edu).

**Submission deadlines dates are as follow:**

For Fall 2015 Effective Date: October 9, 2014

For Spring 2016 Effective Date: March 19, 2015

**Area(s) proposed course will serve:**

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

**Checklists for general studies designations:**

- Complete and attach the appropriate checklist
- [Literacy and Critical Inquiry core courses \(L\)](#)
  - [Mathematics core courses \(MA\)](#)
  - [Computer/statistics/quantitative applications core courses \(CS\)](#)
  - [Humanities, Arts and Design core courses \(HU\)](#)
  - [Social-Behavioral Sciences core courses \(SB\)](#)
  - [Natural Sciences core courses \(SO/SG\)](#)
  - [Cultural Diversity in the United States courses \(C\)](#)
  - [Global Awareness courses \(G\)](#)
  - [Historical Awareness courses \(H\)](#)

**A complete proposal should include:**

- Signed General Studies Program Course Proposal Cover Form
- Criteria Checklist for the area
- Course Catalog description
- Course Syllabus
- Copy of Table of Contents from the textbook and list of required readings/books

**Respectfully request that proposals are submitted electronically with all files compiled into one PDF. If necessary, a hard copy of the proposal will be accepted.**

**Contact information:**

Name Alicia Hawley Phone 480-965-3561  
 Mail code 1504 E-mail: alicia.hawley@asu.edu

**Department Chair/Director approval: (Required)**

Chair/Director name (Typed): Dr. Peter Bennett Date: 2/9/2015

Chair/Director (Signature): 



ARIZONA STATE UNIVERSITY

Arizona State University Criteria Checklist for

**NATURAL SCIENCES [SQ/SG]**

**Rationale and Objectives**

Public scientific literacy, critical for sound decisions on scientifically infused issues such as climate change, includes understanding of basic science concepts, such as the fundamental behavior of matter and energy. It also includes the understanding that "science" is not an encyclopedic collection of facts. Rather, it is a process of exploration that embraces curiosity, inquiry, testing, and communication, to reduce uncertainty about nature. Absent understanding of scientific concepts and of the nature of science, science and pseudoscience are difficult to distinguish, and normal scientific disagreements may be misinterpreted as ideological or political disputes. The goal of the natural sciences (SQ/SG) requirement, including the laboratory requirement, is to instill understanding of basic science content and of the nature of science in every ASU graduate.

10/1989

REV: 1/1991, 3/1991, 1/2000, 10/2008, 4/2014

Proposer: Please complete the following sections and attach appropriate documentation.

<b>ASU--[SQ] CRITERIA</b>			
<b>I. - FOR ALL <i>QUANTITATIVE</i> [SQ] NATURAL SCIENCES CORE AREA COURSES, THE FOLLOWING ARE CRITICAL CRITERIA AND MUST BE MET:</b>			
YES	NO		Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A. Course emphasizes the mastery of basic scientific principles and concepts.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	B. Addresses knowledge of scientific method.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	C. Includes coverage of the methods of scientific inquiry that characterize the particular discipline.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	D. Addresses potential for uncertainty in scientific inquiry.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	E. Illustrates the usefulness of mathematics in scientific description and reasoning.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	F. Includes <b>weekly</b> laboratory and/or field sessions that provide hands-on exposure to scientific phenomena and methodology in the discipline, and enhance the learning of course material.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	G. Students submit written reports of laboratory experiments for constructive evaluation by the instructor.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	H. Course is general or introductory in nature, ordinarily at lower-division level; not a course with great depth or specificity.	Syllabus
<b>II. - AT LEAST ONE OF THE FOLLOWING ADDITIONAL CRITERIA MUST BE MET WITHIN THE CONTEXT OF THE COURSE:</b>			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A. Stresses understanding of the nature of basic scientific issues.	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	B. Develops appreciation of the scope and reality of limitations in scientific capabilities.	Syllabus
<input type="checkbox"/>	<input type="checkbox"/>	C. Discusses costs (time, human, financial) and risks of scientific inquiry.	
<b>NOTE: CRITERIA FOR [SG] COURSES BEGIN ON PAGE 4.</b>			

III. - [SQ] COURSES MUST ALSO MEET THESE ADDITIONAL CRITERIA:			
YES	NO		Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A. Provides a substantial, quantitative introduction to fundamental principles governing behavior of matter and energy, in physical or biological systems.	Syllabus
		B. Includes a college-level treatment of some of the following topics (check all that apply below):	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Atomic and molecular structure	Syllabus
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Electrical processes	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. Chemical processes	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	d. Elementary thermodynamics	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Electromagnetics	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Dynamics and mechanics	Syllabus
<b>[SQ] REQUIREMENTS CANNOT BE MET BY COURSES:</b>			
<ul style="list-style-type: none"> <li>• Presenting a qualitative survey of a discipline.</li> </ul>			
<ul style="list-style-type: none"> <li>• Focusing on the impact of science on social, economic, or environmental issues.</li> </ul>			
<ul style="list-style-type: none"> <li>• Focusing on a specific or limiting but in-depth theme suitable for upper-division majors.</li> </ul>			

Proposer: Please complete the following section and attach appropriate documentation.

<b>ASU--[SG] CRITERIA</b>			
<b>I. - FOR ALL <i>GENERAL</i> [SG] NATURAL SCIENCES CORE AREA COURSES, THE FOLLOWING ARE CRITICAL CRITERIA AND MUST BE MET:</b>			
YES	NO		Identify Documentation Submitted
<input type="checkbox"/>	<input type="checkbox"/>	1. Course emphasizes the mastery of basic scientific principles and concepts.	
<input type="checkbox"/>	<input type="checkbox"/>	2. Addresses knowledge of scientific method.	
<input type="checkbox"/>	<input type="checkbox"/>	3. Includes coverage of the methods of scientific inquiry that characterize the particular discipline.	
<input type="checkbox"/>	<input type="checkbox"/>	4. Addresses potential for uncertainty in scientific inquiry.	
<input type="checkbox"/>	<input type="checkbox"/>	5. Illustrates the usefulness of mathematics in scientific description and reasoning.	
<input type="checkbox"/>	<input type="checkbox"/>	6. Includes <b>weekly</b> laboratory and/or field sessions that provide hands-on exposure to scientific phenomena and methodology in the discipline, and enhance the learning of course material.	
<input type="checkbox"/>	<input type="checkbox"/>	7. Students submit written reports of laboratory experiments for constructive evaluation by the instructor.	
<input type="checkbox"/>	<input type="checkbox"/>	8. Course is general or introductory in nature, ordinarily at lower-division level; not a course with great depth or specificity.	
<b>II. - AT LEAST ONE OF THE ADDITIONAL CRITERIA THAT MUST BE MET WITHIN THE CONTEXT OF THE COURSE:</b>			
<input type="checkbox"/>	<input type="checkbox"/>	A. Stresses understanding of the nature of basic scientific issues.	
<input type="checkbox"/>	<input type="checkbox"/>	B. Develops appreciation of the scope and reality of limitations in scientific capabilities.	
<input type="checkbox"/>	<input type="checkbox"/>	C. Discusses costs (time, human, financial) and risks of scientific inquiry.	

<b>[SG] REQUIREMENTS CANNOT BE MET BY COURSES:</b>	
	<ul style="list-style-type: none"><li>• Presenting a qualitative survey of a discipline.</li></ul>
	<ul style="list-style-type: none"><li>• Focusing on the impact of science on social, economic or environmental issues.</li></ul>
	<ul style="list-style-type: none"><li>• Focusing on a specific or limiting but in-depth theme suitable for upper-division majors.</li></ul>

Course Prefix	Number	Title	General Studies Designation
PHY	151	Physics I	SQ

Explain in detail which student activities correspond to the **specific** designation criteria. Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
I. A.	Students master basic scientific principles and concepts in homework, classwork, and laboratory.	Syllabus: Overview
I. B.	The Scientific Method is used primarily in the laboratory portion of the course.	Syllabus: Overview and Laboratory
I. C.	Students use scientific inquiry when problem solving and in the laboratory.	Syllabus: Overview
I. D.	Students analyze the uncertainty in their laboratory data.	Syllabus: Overview



Alicia Hawley

my class schedule | class search | add | drop/withdraw | swap | edit | schedule planner

**New! The Schedule Planner.**  
Easily generate a class schedule based on your criteria.

**course catalog & class search**

Click on the title of the course for more details. Each column can be sorted by clicking on the column header. Courses found: 1

Term:

Search:

Subject:  Num:

Level:

Gen Studies:

Keywords:

Offerings:

**Search**

Clear

Advanced Search

Course	Title	Units	GeneralStudies
PHY 151	<b>Physics II</b> Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements. <b>Allow multiple enrollments:</b> No <b>Primary course component:</b> Lecture <b>Repeatable for credit:</b> No <b>Grading method:</b> Student Option <b>Offered by:</b> College of Liberal Arts and Sciences -- Department of Physics Pre-requisites: MAT 266 or MAT 271 with C or better; PHY 150 (or PHY 121 and PHY 122) with C or better; Pre/Co-requisite: MAT 267 or MAT 272 with C or better If completed	4	SQ

Feedback



Alicia Hawley

- my class schedule
- class search
- add
- drop/withdraw
- swap
- edit
- schedule planner

**New! The Schedule Planner.**  
 Easily generate a class schedule based off your criteria.

### course catalog & class search

Term:

Search:

Subject:

Level:

Gen Studies:

Keywords:

Offerings:

**Search**

Clear  
Advanced Search

## PHY 151 - Physics II

Spring

**Course description:** Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements.

**Enrollment requirements:** Pre-requisites: MAT 266 or MAT 271 with C or better; PHY 150 (or PHY 121 and PHY 122) with C or better; Pre/Co-requisite: M MAT 272 with C or better if completed

Units: 4

Repeatable for credit: No

General Studies: SQ

Offered by: College of Liberal Arts and Sciences

### Class meeting details

Class #:	Days:	Start:	End:	Location:	Instructor:	Seats open:
13458	M W F	11:00 AM	12:50 PM	Tempe - PSH356	Zaniewski	9 of 35 <input type="button" value="Add"/>

### Additional class details

**Component:** Lecture

**Session:** Session C

**Dates:** 1/12/2015 - 5/1/2015

**Instruction Mode:** In-Person

**Fees:** \$50 course fee

### Books:

[View books for this class](#)

### Syllabus:

[View syllabus for this class](#)

[Back](#)



## PHY 151 Physics II Electricity and Magnetism

University Physics for Physics Majors

11:30 – 1:20pm M-W-F Room PSH 356 Fall 2014. Course No. 72449

**Instructor:** Prof. Robert Culbertson

**Office:** PSH 553 Phone: (480) 965-0945 E-mail: [robert.culbertson@asu.edu](mailto:robert.culbertson@asu.edu)

**Office Hours:** 1:30 – 2:30pm Monday and Wednesday and by appointment

**Graduate Teaching Assistant:** Jason Holmes

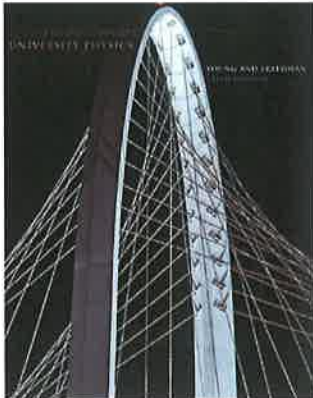
**Undergraduate Learning Assistants:** Jonathan Alfson and Chris Connot

### ASU Catalog Description:

#### **M PHY 151 Physics II. (4)**

*fall*

Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements. 3 hours lecture, 3 hours lab. Prerequisite: [PHY 150 and MAT 271](#) (or equivalent). *General Studies:* [SQ](#).



**Text:** Young, Hugh D. and Freedman, Roger A., *University Physics (with Mastering Physics) 13<sup>th</sup> Edition*.

Note: do not purchase the version with *Modern Physics*.

### **Overview**

This course emphasizes basic principles and concepts in the study of introductory electricity and magnetism. Students shall have previously mastered the material in PHY 150 or equivalent course. Calculus II is a prerequisite and Calculus III is a co-requisite for this course, as many of the concepts in the course will be mathematically formulated and analyzed. Connections will also be made to everyday experiences, current events, relevant historical events, and the nature of basic scientific issues.

This course is taught in a studio type classroom, where student-student interaction is emphasized. This instructional format utilizes active learning and inquiry for introducing, refining, and mastering basic physical concepts and analysis techniques.

The weekly laboratory sessions involve quantitative investigation of phenomena in MECHANICS. Students work in groups to set up experiments, make measurements, quantify the uncertainty of these measurements, analyze the results, and submit a written laboratory report. This report has a format that is similar to the format of scientific journal papers.

### Course Format

- **Lecture/Recitation:** Little formal lecture will be given. Each student is responsible for doing the required reading prior to each class. Much of each class will be spent reviewing recent material and introducing new material; this will be accomplished partly through demonstrations and in-class problems that are performed by the class in small groups.
- **Homework:** Homework will use the *Pearson Publishing* online system *Mastering Physics* - our course number is **MPCULBERTSONPHY151F2014**. These online assignments will be of two types: pre-lecture assignments and homework, and one of each will be assigned for each of the 12 chapters for the semester. Assignments are expected to be completed prior to class on the date indicated on the course schedule. If the score on any assignment is less than 95% an *Adaptive Follow-Up* assignment automatically will be added; the adaptive follow up assignment is relatively short and is typically due two calendar days after the parent assignment. Each assignment carries the same weight as every other homework set, regardless of the number of problems. Adaptive follow up assignments carry this same weight (a score of 95% or higher on any parent assignment will automatically give 100% on the associated adaptive follow up. (see Grading below). Late assignments will not be accepted. However, each student may request to make up one or two missed “parent” assignments; this will include the associated adaptive follow up assignment. (Missed adaptive follow up assignments cannot be made up.) With 12 chapters there are a total of 12 pre-lecture assignments and 12 adaptive follow ups plus 12 homework assignments and 12 adaptive follow ups.
- **“Clicker Questions”:** *Learning Catalytics*, also from Pearson Publishing, will be used for “clicker questions.” However, instead of using clickers, a laptop, notebook, pad, or smart phone device is required. The frequency and number of these assignments will vary. Students who have not purchased the e-text option from Pearson Publishing must either upgrade to the e-text option or separately purchase a *Learning Catalytics* six-month subscription for \$12.
- **In-Class Problems:** Additional problems often will be introduced in class and solved in small groups. A student will be selected at random to present an explanation of his/her work.
- **Quizzes:** A 20-minute quiz will be given nearly every week on Wednesday, except for exam days or class days immediately before or after an exam day. Quizzes will typically cover the previous three classes. Approximately eleven quizzes will be given during the semester. *No make-up quizzes will be offered.* However, the lowest two quiz grades will automatically be dropped. See also *Cellular Phones, etc.*, below.
- **Written Exams:** Two one-hour exams plus a final exam will cover the material in the text. Missing the final exam will result in a failing grade in the course. *No make-up exams will be given.*
- **Puzzlers:** Approximately once each week a problem will be offered that is somewhat of a puzzle. Up to two points will be awarded for a correct answer; one point will be awarded for an honest effort. These points will be added to the quiz grades. *Participation is optional.*

- **Jeopardy Challenges:** Similar to Puzzlers, [Jeopardy](#) “answers” will be given approximately once a week. Students who submit a correct question will receive one point added to their quiz scores. Students with particularly interesting, clever, and creative questions will receive two points. *Participation is optional.*
- **Laboratory:** (see also the description of laboratory procedures in the Laboratory document) Labs will take place during the Friday class time. Written reports are due at the beginning of the Monday class after the next lab begins. Students will work in assigned groups and a single group grade will be given for each report. Lab notes and data shall be recorded in a bound lab book. Each student is responsible for the *entire* experiment - excuses such as “that was my lab partner's job” will not be accepted. Laboratory reports will be graded on a 10-point scale: 3 points each for "procedure" and "creativity", and 4 points for overall "quality".
- **Participation:** A portion of your grade will be based on class participation and attendance.
- **Grading:** The final course grade will be determined by homework, in-class problems, quiz grades, text exams, lab exam, lab reports, and a "participation" component, as indicated in the table below.

Homework	0.15
In-Class Problems and <i>Learning Catalytics</i>	0.15
Quizzes	0.10
Exams (2 at 7.5% each)	0.15
Final Exam	0.15
Laboratory	0.25
Participation	0.05
<b>Total</b>	<b>1.00</b>

- **Student Success Center:** The [Student Success Center](#) is available Monday-Friday, 9:00am – 6:00pm in PSF 186. It is dedicated to undergraduate students in need of help with their introductory physics (and earth/space science) courses. Throughout the semester the center is staffed with knowledgeable Faculty, Teaching Assistants, and/or Learning Assistants that are there to help students with homework or test preparation. Physics Majors may also request ISAAC access in the Physics Office (PSF 470) to gain entrance into the room after business hours.  
E-mail: [Physics.SESE.SSC@asu.edu](mailto:Physics.SESE.SSC@asu.edu)  
Phone: (480).727.3673  
Webpage: [physics.asu.edu/resources/student/study](http://physics.asu.edu/resources/student/study)  
All Students must sign-in with their ASU ID card at the front desk
- **Academic Integrity:** Zero tolerance will be given to cheating of any kind. In every case a grade of **XE** will be given, and formal disciplinary procedures within the Arizona State University will be initiated. Students must be familiar with the ASU Academic Integrity Policy: <http://provost.asu.edu/academicintegrity>
- **Conduct:** Disruptive behavior will not be tolerated. Students are required to follow the ASU Student Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: <http://www.azregents.edu/policymanual/default.aspx>
- **Computer Policy:** Students must be in compliance with the ASU Computer, Internet, and Electronic Communications Policy: <http://www.asu.edu/aad/manuals/acd/acd125.html>

- **Cellular Phones, etc.:** Cellular phones must always be in silent mode. No cellular phones, laptops, iPads, etc. may be used during class with the exception of exclusive use in *Learning Catalytics* sessions or laboratory sessions. A warning will be given for the first infraction or audible interruption. The second offense will result in the equivalent of a zero on one quiz. A student will be expelled from the course for the third offense.

**Comments:**

- Read the assigned text sections before each class. Pay close attention to example problems.
- Work problems in addition to the homework assignments. You can find many more problems that are easier than, equivalent to, or harder than the assigned problems.
- When solving problems, avoid inserting numerical values until the last possible moment. Then, check your units, and always check to see if the answer is reasonable.
- You are encouraged to work homework problems with other students from the class. Do not just copy someone else's work, however. Make sure you understand the solutions.
- Utilize the Student Success Center when working on homework. This facility is attended by a faculty member or teaching assistant during most of the day, and they are there to help you with your questions.
- Utilize your instructor's and teaching assistant's office hours or make appointments to meet with them at other times.
- Meet with your laboratory partners outside of class to complete the laboratory reports.



**PHY 151 Fall 2014 Schedule**

Date	Day	Class	Topic	Chapter	Section	HW	Mastering Physics Online	Lab	Comments	
22-Aug	F	1	<b>Electric Charge</b>	21	1		Mastering Physics Introduction		Quiz 0	
25-Aug	M	2	Electric Charge	21	2, 3	1	Chapter 21: Reading Questions			
27-Aug	W	3	Electric Charge	21	4, 5	2			Quiz 1	
29-Aug	F	4	Electric Charge	21	6, 7	3	Chapter 21: HW	1		
1-Sep	M		<b>Labor Day</b>							
3-Sep	W	5	<b>Gauss' Law</b>	22	1, 2	4	Chapter 22: Reading Questions		Quiz 2	
5-Sep	F	6	Gauss' Law	22	3, 4	5		2		
8-Sep	M	7	Gauss' Law	22	4, 5	6	Chapter 22: HW	(1)		
10-Sep	W	8	<b>Electric Potential</b>	23	1, 2	7	Chapter 23: Reading Questions		Quiz 3	
12-Sep	F	9	Electric Potential	23	2, 3	8				
15-Sep	M	10	Electric Potential	23	4, 5	9	Chapter 23: HW			
17-Sep	W	11	<b>Capitance and Dielectrics</b>	24	1, 2	10	Chapter 24: Reading Questions		Quiz 4	
19-Sep	F	12	Capitance and Dielectrics	24	2, 3	11		3		
22-Sep	M	13	Capitance and Dielectrics	24	3, 4	12		(2)		
24-Sep	W	14	Capitance and Dielectrics	24	5, 6	13	Chapter 24: HW		Quiz 5	
26-Sep	F	15	<b>Electric Current</b>	25	1, 2	14	Chapter 25: Reading Questions			
29-Sep	M	16	Electric Current	25	3, 4	15				
1-Oct	W	17	Electric Current	25	5, 6	16	Chapter 25: HW		Quiz 6	
3-Oct	F	18	<b>Electric Circuits</b>	26	1, 2	17	Chapter 26: Reading Questions	4		
6-Oct	M	19	Electric Circuits	26	3, 4	18		(3)		
8-Oct	W	20	<b>Chapters 21-25</b>			<b>Exam 1</b>				
10-Oct	F	21	Electric Circuits	26	5	19				
13-Oct	M		<b>Fall Break</b>							
15-Oct	W	22	<b>Magnetic Field</b>	27	1,2,3	21	Chapter 27: Reading Questions		Quiz 7	
17-Oct	F	23	Magnetic Field	27	4,5,6	22		5		
20-Oct	M	24	Magnetic Field	27	7, 8		Chapter 27: HW	(4)		
22-Oct	W	25	<b>Sources of Magnetic Field</b>	28	1, 2	23	Chapter 28: Reading Questions		Quiz 8	
24-Oct	F	26	Sources of Magnetic Field	28	3, 4	24		6		
27-Oct	M	27	Sources of Magnetic Field	28	5, 6	25		(4)		
29-Oct	W	28	Sources of Magnetic Field	28	7, 8	26	Chapter 28: HW		Quiz 9	
31-Oct	F	29	<b>Induction</b>	29	1, 2	27	Chapter 29: Reading Questions	7		
3-Nov	M	30	Induction	29	4, 5	28		(6)		
5-Nov	W	31	Induction	29	5, 6	29			Quiz 10	
7-Nov	F	32	Induction	29	7, 8	29	Chapter 29: HW	8		
10-Nov	M	33	<b>Inductance</b>	30	1, 2	30	Chapter 30: Reading Questions	(7)		
12-Nov	W	34	<b>Chapters 26-29</b>			<b>Exam 2</b>				
14-Nov	F	35	Inductance	30	3, 4	31				
17-Nov	M	36	Inductance	30	5, 6	32	Chapter 30: HW			
19-Nov	W	37	<b>AC Circuits</b>	31	1, 2	33	Chapter 31: Reading Questions		Quiz 11	
21-Nov	F	38	AC Circuits	31	2, 3	34		9		
24-Nov	M	39	AC Circuits	31	3, 4	35		(8)		
26-Nov	W	40	AC Circuits	31	5, 6	36	Chapter 31: HW		Quiz 11	
28-Nov	F		<b>Thanksgiving Break</b>							
1-Dec	M	41	<b>Electromagnetic Waves</b>	32	1, 2	37	Chapter 32: Reading Questions			
3-Dec	W	42	Electromagnetic Waves	32	3, 4	38		10	Quiz 12	
5-Dec	F	43	Electromagnetic Waves	32	5, 6	39	Chapter 32: HW	(9)	Last Class	
10-Dec	M		<b>Chapters 21-32</b>			<b>Final Exam: 9:50-11:40 AM</b>				
See also: ASU Academic Calendar <a href="http://asu.edu/calendar">http://asu.edu/calendar</a>										



## INSTRUCTIONAL RESOURCES

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GO

# Young, Freedman, University Physics, 13th Edition

## Table of Contents

### MECHANICS

1. Units, Physical Quantities, and Vectors
2. Motion Along a Straight Line
3. Motion in Two or Three Dimensions
4. Newton's Laws of Motion
5. Applying Newton's Laws
6. Work and Kinetic Energy
7. Potential Energy and Energy Conservation
8. Momentum, Impulse, and Collisions
9. Rotation of Rigid Bodies
10. Dynamics of Rotational Motion
11. Equilibrium and Elasticity
12. Fluid Mechanics
13. Gravitation
14. Periodic Motion

### WAVES/ACOUSTICS

15. Mechanical Waves
16. Sound and Hearing

### THERMODYNAMICS



17. Temperature and Heat
18. Thermal Properties of Matter
19. The First Law of Thermodynamics
20. The Second Law of Thermodynamics

#### ELECTROMAGNETISM

21. Electric Charge and Electric Field
22. Gauss's Law
23. Electric Potential
24. Capacitance and Dielectrics
25. Current, Resistance, and Electromotive Force
26. Direct-Current Circuits
27. Magnetic Field and Magnetic Forces
28. Sources of Magnetic Field
29. Electromagnetic Induction
30. Inductance
31. Alternating Current
32. Electromagnetic Waves

#### OPTICS

33. The Nature and Propagation of Light
34. Geometric Optics and Optical Instruments
35. Interference
36. Diffraction

#### MODERN PHYSICS

37. Relativity
38. Photons: Light Waves Behaving as Particles
39. Particles Behaving as Waves
40. Quantum Mechanics
41. Atomic Structure
42. Molecules and Condensed Matter
43. Nuclear Physics
44. Particle Physics and Cosmology

