

Syllabus

Physics 104 is a Physical Science course in the Natural Science category of the GEC. The goals and objectives for this category are:

Goals/Rationale:

Courses in natural sciences foster an understanding of the principles, theories and methods of modern science, the relationship between science and technology, and the effects of science and technology on the environment.

Learning Objectives:

1. Students understand the basic facts, principles, theories and methods of modern science.
2. Students learn key events in the history of science.
3. Students provide examples of the inter-dependence of scientific and technological developments.
4. Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

A Textbook and an Activity Book are required for

Physics 104. These are available **ONLY** at the UniPrint location at Tuttle Park Place (the garage mall next to the University

Bookstore). Textbooks and Activity Books can be ordered in advance for pickup at UniPrint. Orders for Textbooks and Activity Books can be placed online at

uniprint.osu.edu

A web site is maintained for Physics 104. It can be accessed at

www.physics.ohio-state.edu/104

or by going the OSU Department of Physics web page

www.physics.ohio-state.edu

clicking on “courses” and then selecting “104.” Students are encouraged to visit the 104 web site to see course announcements and to view solutions to the written assignments, which appear on the web site approximately one week after each assignment is due.

Midterms are given during the Group Meetings at 7:00 p.m. on Tuesdays in Hitchcock Hall, Room 131.

Midterm I Tuesday, Feb. 10, 7:00 p.m., Hitchcock Hall, Room 131.

Covering periods 1-7

Midterm II Tuesday, March 3, 7:00 p.m., Hitchcock Hall, Room 131.

Covering periods 8-13

Final Examination Tuesday, March 17, 5:30-7:18 p.m., Smith Lab, Room 1153.
Comprehensive

Examinations cannot be given at times other than those scheduled. In particular, early examinations and examinations at alternate times are not given. The time for the Final Examination for Physics 104 has been assigned by the University Registrar, based on the Tuesday evening weekly meeting time for the course.

Many departments give “common” midterms and final examinations in the evening for courses that meet at various times throughout the day. Any department using common exams must schedule an alternate time for that examination. In the case of a time conflict between a Physics 104 exam and a common exam in another department, you must make arrangements to take that department’s common exam at the alternate time. Since alternate times for common exams are typically later in the week than the common exam itself, you should plan for this possibility. In particular, during final examination week, be sure to make plans to remain on campus through the time of the alternate exam.

ID Requirements at Examinations:

You must bring University Identification with you to every exam. You may be requested to provide us with that identification.

Class Attendance:

If you cannot attend a Group Meeting at which a video is shown, you may borrow a DVD of the video from the closed reserve desk of the Science and Engineering Library. DVDs may be checked out for two hours. You will need your University Identification card and your own earphones. Hours for the Science Library reserve desk: 8:00 am - 11:00 pm every day (including weekends).

You must be present during a Laboratory Section Meeting to receive credit for the homework and activity sheets due during that period. If for some particular Period you cannot attend your assigned Laboratory Section Meeting, you may attend any of the other Laboratory Section Meetings. The times of all of the Laboratory Section Meetings are shown on an Assignment Sheet, later in this Syllabus. To obtain credit for attending an alternate Laboratory Section Meeting, you must turn in the activity sheet and all assignments due to the instructor teaching at that time. That instructor will sign the student’s assignments and will forward those materials to your regular instructor. It is your responsibility to check with your Laboratory Section instructor to confirm that he or she has received these materials. Any activity sheet not turned in at the end of the laboratory period during which it was written will not be counted.

Excused Absences:

No points will be given for assignments (activity sheets, homework, or video summaries) that are turned in late except in the case of a documented excused absence. A missed Laboratory Section Meeting or an Examination may be treated as an excused absence under some circumstances. If you miss or know you will miss a Laboratory Section Meeting or an Examination, you may provide timely documentation of the reason for the absence and request an excused absence from your Laboratory Section Meeting instructor.

In the case of an approved excused absence from a Laboratory Section Meeting, ask your instructor for information regarding the possibility of obtaining credit for the missed Laboratory Section Meeting. In the case of an approved excused absence from a Midterm, a grade for that Midterm will be determined based on your grade on the Final Examination. No makeup examinations will be given for missed midterms. In the case of an excused absence from the Final Examination, you will receive an incomplete for the course. A default grade will be assigned unless you request and take a makeup Final Examination following the University rules for Incompletes.

Reading Assignments and Written Assignments:

Reading assignments are given for each period. Unless otherwise noted, the assignments are from the Textbook. They should be read before the class meeting for which they are assigned. The Exercises and Review Questions at the end of each section should also be read and thought about before the class meeting. As noted in the discussion of Written Assignments, written answers are required for two of the Exercises from each period.

Grading policy:

Course policy is that the grades will be based on the two midterms (30 points each), the comprehensive final (45 points), and the Written Assignments (9 points from Exercises, 18 points from Activity Sheets, and 8 points from Video Summaries, for a total of 140 points).

Instructors					
Name	Section		Office	Phone	
Bill Davis	T	7:00 pm	1106 G Smith	292-8065	davis.30@osu.edu
Mary Wildermuth	MW	12:30 pm	1106 G Smith	292-8065	wildermuth.1@osu.edu
Bill Davis	MW	2:30 pm	1106 G Smith	292-8065	davis.30@osu.edu
Bill Davis	TR	10:30 am	1106 G Smith	292-8065	davis.30@osu.edu
Bernard Mulligan	TR	12:30 pm	2007 PRB	292-7967	mulligan@mps.ohio-state.edu

The following videos will be shown at the Group Meetings:

Group Meeting	Date	Title
I	Jan. 6	Light Speed
II	Jan. 13	Empire of the Air
III	Jan. 20	Cadillac Desert
IV	Jan. 27	Nova: Absolute Zero
V	Feb. 3	Global Warming
VII	Feb. 17	The Mighty Atom / Nova: Suicide Mission to Chernobyl
VIII	Feb. 24	Origins: Back to the Beginning
X	March 10	Nova: Solar Energy, Saved by the Sun

ASSIGNMENT SHEET				
Period/ Chapter	Group Meeting	Section Meeting M, W	Section Meeting T, R	Reading Assignment
1	I	Jan. 5 M 6 T 7 W	Jan. 6 T 6 T 8 R	Course Introduction video Light Speed Introduction to Physics 104
2 3	II	Jan 12 M 13 T 14 W	Jan 13 T 13 T 15 R	Electromagnetic Radiation - Radiant Energy I video Empire of the Air Electromagnetic Radiation - Radiant Energy II
4	III	Jan 19 M 20 T 21 W	Jan 20 T 20 T 22 R	NO CLASS Tuesday lecture will be held as usual video Cadillac Desert Transfer of Thermal Energy
5 6	IV	Jan. 26 M 27 T 28 W	27 T 27 T 29 R	Thermal Energy, the Microscopic Picture video Absolute Zero Entropy and the Laws of Thermodynamics
7 8	V	Feb. 2 M 3 T 4 W	Feb. 3 T 3 T 5 R	Applications of the Laws of Thermodynamics video Global Warming Chemical Energy
9 10	VI	Feb. 9 M 10 T 11 W	Feb. 10 T 10 T 12 R	Mass and Energy Midterm I covering periods 1-7 Ionizing Radiation I
11 12	VII	Feb. 16 M 17 T 18 W	Feb. 17 T 17 T 19 R	Ionizing Radiation II and Fundamental Particles video Mighty Atom/Chernobyl Nuclear Reactions
13 14	VIII	Feb. 23 M 24 T 25 W	24 T 24 T 26 R	Astrophysics video Origins Sensitive Systems and Computer Modeling
15 16	IX	March 2 M 3 T 4 W	March 3 T 3 T 5 R	Earth as an Energy System Midterm II covering periods 8-13 Consequences of Chemical Energy Use
17 18	X	March 9 M 10 T 11 W	March 10 T 10 T 12 R	Consequences of Nuclear Energy Use video Saved by the Sun Uses of Solar Energy

**Final Examination: Tuesday, March 17, 5:30 p.m. – 7:18 p.m.,
Smith Lab 1153**

NOTE: Early examinations will not be given.