

Fall 2015

PHYS 1032

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Recommended Citation

Seab, C. Gregory, "PHYS 1032" (2015). *University of New Orleans Syllabi*. Paper 868.
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PHYSICS 1032

Fall 2015 Syllabus

CLASS MEETS: 10:00 - 10:50 am MWF SC 2120

TEXT: Cutnell, Johnson, Young & Stadler: **Physics**, 10th Ed. (9th Edition is OK)

ALSO REQUIRED: SaplingLearning access and clicker from iClicker

INSTRUCTOR: Dr. C. Gregory Seab Science Bldg 2014. 280-6341 cseab@uno.edu

OFFICE HOURS: 11:00 – 12:30 and 2:00 – 2:30 pm MWF or by appointment

This is the second semester of an introductory Physics sequence for biology majors and others who do not need calculus-based physics. Credit with a C or better in Phys 1031 and Math 1116 or 1126 is required. Co-registration in the accompanying lab course PHYS 1034 is strongly recommended.

Subject matter: This semester deals with a variety of subjects beginning with the nature of waves and sound. The major part of the course studies electricity and electric fields, circuits, magnetism and magnetic fields, induction, AC circuits, and the propagation of electromagnetic waves. This leads into a section on geometric optics and other phenomena of light including refraction and interference. Finally, the course touches on a number of modern subjects such as relativity, elementary quantum mechanics, and nuclear physics.

Objectives: At the conclusion of the course, students are expected to be able to:

- Calculate sound wave speeds, intensities, refraction and interference effects.
- Find electric fields, forces, and potentials for simple charge distributions.
- Analyze simple circuits to find currents through and voltages across circuit elements.
- Find magnetic forces and magnetic fields as related to moving charges and currents.
- Analyze the propagation of light including reflection, refraction, diffraction, and focusing.
- Use concepts of atomic energy level structure to understand the nature of atoms and of spectroscopy.
- understand nuclear reactions and radioactive decay.

Class participation: Science is an active pursuit; understanding cannot be passively acquired. An important part of this class will be the *concept questions* presented in class as a challenge to the thinking and understanding of the student. Students are expected to not only attend class, but to participate actively in the discussion of the concept tests with their classmates and with the instructor. To this end, we will use *clickers* in the class to record responses to questions. The clicker total will count toward a part the final grade.

Homework problems: Physics cannot be learned without doing problems. Homework assignments and grading will be done through the SaplingLearning website. SaplingLearning has a two-week grace period in which you can access the course assignments prior to paying; all students should use this. *For Fall 2015 only*, access will be free for the entire semester for Phys 1032 students. The total of all homework grades will nearly equal one exam grade. These assignments constitute the primary means of meeting the problem-solving goal of the course. Group work is *strongly encouraged*, as this has been found to be an effective way to learn. Problems are assigned to help students learn techniques for working a class of problems and to illustrate the types of problems that will appear on exams. The object is to learn *how* to work a type of problem, not just to get the “right” answer. Late

homework is scored at reduced credit until after the exam on that section; *no credit* after the exam.

Exams: There will be three hourly exams during the semester, plus a comprehensive final exam. The exams will consist of a mix of concept questions and problems. The concept questions will be similar to the concept questions done in class and the Checkpoint questions in the text. Exam problems will be similar to the assigned homework problems and examples given in the class. *No makeup exams* will be given. Instead, the lowest hourly exam grade will be dropped.

Pace of work: We will cover one chapter every week. Because of the rapid pace, it is imperative that class attendance be regular and that students keep up with the work. Students are responsible for getting class notes to cover any absences.

Final grade: The final grade in the course will be based on a weighted numerical score:

Hourly exams: 2 @ 20%	44%	see schedule
Comprehensive final exam:	31%	see schedule
Graded homework	15%	on SaplingLearning
Clicker grade	<u>10%</u>	Daily clicker questions
	100%	

Preliminary grading scale is: 85-100 A; 75-85 B; 65-75 C; 55-65 D; <55 F. This is preliminary and subject to change by announcement in class.

Communication: The preferred method of communicating simple issues is via email to cseab@uno.edu using the *email protocol* given on moodle. This involves putting “**Phys 1032**” in the subject line, your full name at the end, and clearly identifying anything relevant, e.g., HW#, and problem #. I am almost always available during my office hours, or at any time by appointment, and at other times as circumstances dictate.

Academic Integrity: Students are expected to conduct themselves according to the principles of academic integrity as defined in the statement on Academic Dishonesty in the UNO Judicial Code. Any student or group found to have committed an act of academic dishonesty shall have their case turned over to Judicial Affairs for disciplinary action which may result in penalties as severe as indefinite suspension from the University. Academic dishonesty includes, but is not limited to: cheating, plagiarism, fabrication, or misrepresentation, and being an accessory to an act of academic dishonesty.

ODS Services: It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact their instructors and/or the Office of Disability Services to discuss their individual needs for accommodations.

UNO Physics 1032: General Physics II						
Fall 2015 10:30-10:30 am MWF						
Week	Class Date			Topic	HW	Notes
1	1 Aug	19 W		Waves & Sound		
	2	21 F				
2	3	24 M				Add date 8/25 Tues midnight
	4	26 W		Interference	HW16	
	5	28 F				
3	6	30 M				
	7 Sep	2 W		Electric fields & forces	HW17	
	8	4 F				
4		7 M		Labor Day		14th day Tues 9/8 drop w/o W
	9	9 W				"W" for drops
	10	11 F		Electric Potential	HW18	
5	11	14 M				
	12	16 W		Electric circuits	HW19	
	13	18 F				
6	14	21 M			HW20	
	15	23 W		review		
	16	25 F		Ch 16-20		File for commencement
7	17	28 M		Magnetic fields & forces		
	18 Oct	30 W				
	19	2 F				
8	20	5 M		Electromagnetic induction	HW21	midterms
	21	7 W				
	22	9 F		AC circuits	HW22	
9	23	12 M				mid-term grades Tues 10/13 9am
	24	14 W		Electromagnetic waves	HW23	Drop Day 11:59pm
		16 F		Fall Break		Fall Break Th-F
10	25	19 M			HW24	
	26	21 W		Reflection of light		
	27	23 F			HW25	
11	28	26 M		Ch21-26		
	29	28 W		Refraction of light		
	30	30 F				registration for spring
12	31 Nov	2 M		Interference	HW26	
	32	4 W				
	33	6 F				
13	34	9 M		Particles and waves	HW27	
	35	11 W				
	36	13 F				
14	37	16 M		Nature of the Atom	HW29	
	38	18 W				
	39	20 F		Radioactivity	HW30	
15	40	23 M				
	41	25 W				
		27 F		Thanksgiving		Thanksgiving Th-F
16	42 Dec	29 M		Nuclear energy	HW31	
	43	2 W		Ch27, 29-31		
	44	4 F				
		11 F	10:00 am - 12:00 noon COMPREHENSIVE FINAL EXAM			

UNO Syllabus Attachment Fall 2015

Important Dates*

Last day to adjust schedule w/out fee..... 08/18/2015
Semester Classes Begin 08/19/2015
Last day to adjust schedule w/fee,
or withdraw with 100% refund..... 08/25/2015
Last day to apply for December commencement..... 09/25/2015
Final day to drop a course or resign 10/14/2015
Mid-semester examinations..... 10/05-10/09/2015
Final examinations 12/07-12/11/2015
Commencement..... 12/18/2015
**Note: check Registrar's website for Saturday and A/B sessions, and
for items not listed here: <http://www.registrar.uno.edu>*

Fall Semester Holidays

Labor Day 09/07/2015
Mid-semester break 10/15-10/16/2015
Thanksgiving..... 11/26-11/27/2015

Withdrawal Policy – Undergraduate only

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates on the Registrar's website, <http://www.registrar.uno.edu>. Please consult The Bulletin for charges associated with dropping and adding courses.

Incomplete Policy – Undergraduate only

The grade of I means *incomplete* and is given for work of passing quality but which, because of circumstances beyond the student's control, is not complete. The issuance of the grade of I is at the discretion of the faculty member teaching the course. For all graduate and undergraduate students, a grade of I becomes a grade of F if it is not converted before the deadline for adding courses for credit (as printed in the Important Dates Calendar) of the next regular semester including summer semester.

Repeat Policy

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

Graduate Policies

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook:
<http://www.uno.edu/grad/documents/GraduateStudentHandbook2014.pdf>

Academic Dishonesty Policy

<http://www.uno.edu/student-affairs-enrollment-management/documents/academic-dishonesty-policy-rev2014.pdf>

Safety Awareness Facts and Education

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here:
<http://www.uno.edu/student-affairs-enrollment-management/>

UNO Counseling Services and UNO Cares

UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. Find out more at <http://www.uno.edu/counseling-services/>. First-year students often have unique concerns, and UNO Cares is designed to address those students succeed. Contact UNO Cares through <http://www.uno.edu/fye/uno-cares.aspx>.

Emergency Procedures

Sign up for emergency notifications via text and/or email at E2Campus Notification: <http://www.uno.edu/ehso/emergency-communications/index.aspx>. All emergency and safety procedures are explained at the Emergency Health and Safety Office: <http://www.uno.edu/ehso/>.

Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for the people from all walks of life, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities. <http://diversity.uno.edu/index.cfm>

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LA 334, or learn more at <http://www.uno.edu/lrc/>.

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its Policies and Resources website: <http://www.uno.edu/human-resource-management/policies.aspx>