

Engineering Physics 2 (PHYS 214)

Syllabus, Fall 2009 (see also [studio syllabus](#))

Text: Fundamentals of Physics by Halliday, Resnick, and Walker (7th edition) + I-clicker

Instructor: Prof. Mick O'Shea, Office: CW331, e-mail mjoshea@phys.ksu.edu

Office Hours: Tues. 2:20 PM – 3:30 PM; Thurs: 9:30 – 10:30 A.M. ; other times by appointment
[Additional offices hours on weeks of lecture quiz: Fri. 12:30 – 1:30 p.m.]

Website: If you are enrolled in this class, go to K-State Online to find the website.

Point Allocations:	Lecture Quiz Scores	450 Points
	Class participation	50 Points
	Studio	300 Points
	Final Exam	200 Points
Grade Assignment:	900-1000	A
	800-899	B
	700-799	C
	600-699	D
	0 -599	F

Lectures: The goal of this course is to teach the main concepts of physics and how to apply these ideas in solving physics problems. My lectures will help you develop a conceptual understanding of physics while the studios will help you integrate conceptual understanding with problem solving skills and concepts of measurement. Lectures in this class are important; attend all lectures, and get notes from a friend if you have to miss one. Class participation via I-clickers will be worth 50 points and will begin with the second (8/26) lecture - see '[I-Clicker](#)' handouts.

Studios: You must be enrolled in a studio. You must bring a studio manual (available at the Arts and Science Copy Center in the basement of Eisenhower Hall) and a 5 × 5 Quad Ruled (**not** spiral bound) lab notebook (available at the Student Union or Varney's) to the first studio. **In the studio part of the course you will be graded on homework assignments, in-studio quizzes, and studio labs. Your grade for the studio is determined by your studio instructor (see Studio syllabus – distributed in your studio).**

The emphasis in studios will be to strengthen your conceptual foundation in physics by integrating problem solving with a direct comparison to experiments. Your goal here should not be just to learn how to solve *particular* homework problems, but rather to understand how to apply physics concepts to solve *any* problem you might encounter in this course.

It is important that you attempt all of the assigned homework problems and questions before you come to the studios. Homework assignments will be collected in studios. In trying to solve problems you should develop a strategy of first visualizing the physical situation (e.g. draw a diagram, make links to similar and more familiar situations etc.). You should then perform the algebraic calculations without substituting numbers for symbols for as long as possible. This allows for better trouble shooting, reveals dependencies and possible cancellation effects, and enhances your physical intuition. In order to obtain numerical solutions, you can substitute numbers at the end.

Help with homework and other questions you might have:

- Show up in your studio instructor's (or my) office with questions.
- The physics department staffs a work-room in Cardwell Hall, for students who want extra help with this course. This is a good place to work on homework problems. I will announce details later.
- After every lecture, you should go over the checkpoints and sample problems listed in the *extended study guide*. You should also go over the lecture notes. You should do this before starting to work on homework problems.
- **Answers to homework problems and questions will be posted on K-State Online.**
- Attend the work session on the Friday of each lecture quiz, see syllabus
- **Working with other students:**
Feel free to discuss the Homework questions and problems and possible ways to solve them with other students. When it comes to writing down the solution, this must be done by you by yourself. Note that:
Copying someone else's solution is plagiarism – see below.
Copying a solution from a solution manual is plagiarism – see below.

Examinations (lecture quizzes and final exam):

There will be five lecture quizzes (Exams 1 – 5) during the semester, each worth 100 points. All lecture quizzes will be given in CW 101 or 102 on Fridays (see schedule) from 4:30 to 5:45 PM.

There will be no make-up lecture quizzes. Of these five quizzes, your lowest quiz score will be dropped. Your 4 highest lecture quiz scores will then be added up and multiplied by 1.125 to get a total of 450 points for the quizzes. A comprehensive final exam worth 200 points will be given at the end of semester. The final exam is mandatory and will be given only at the scheduled time. All lecture quizzes and the final exam will consist of problems and multiple-choice questions. These will be related to lecture materials including in-class demonstrations, worked-out examples and checkpoints in the textbook, and to homework and lab assignments for studios.

You must bring a working calculator to the quizzes and the final exam.

An equation sheet will be provided at the time of each quiz and the final exam.

No notes (includes electronic notes) or books may be used in the lecture quiz or final exam.

Policy on taking exams: See online file entitled 'Exam, Studio policy' in the 'Information' folder on the course website.

Studio: See studio syllabus – this will be distributed on the first day of studio.

University policy requires that the following be included on this syllabus:

I. STATEMENTS FOR ACADEMIC ACCOMMODATIONS FOR DISABLED STUDENTS

If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it or which will require academic accommodations, please notify me and contact the Disabled Students Office (Holton 202), in the first two weeks of the course.

II. STATEMENT REGARDING ACADEMIC HONESTY

Plagiarism and cheating are serious offenses and may be punished by failure on the exam, paper or project; failure in the course; and/or expulsion from the university. For more information refer to the "Academic Dishonesty" policy in K-State Undergraduate Catalog and the Honor System Policy on the Provost's home page at <http://www.ksu.edu/honor/>.

HW and Extended Study Guide for Fall, 2009 Engineering Physics 2 (Phys. 214)

Date	Lecture	Checkpoint	Sample Prob.	HW	Studio Lab
8-24	Ch. 21:sect 1-4	21: 1-4	21: 1-3	Ch.21 Q 2; P 7,13, 29, 65 (Don't turn in these problems – solutions will be posted)	No studios Aug 25,26

Date	Lecture	Checkpoint	Sample Prob.	Studio HW (Turn in at start of studio)	Studio Lab
8-26	Ch. 22:sect 1-5	22: 1,2	22: 1,2	Ch.21; Q3 P 6, 17 <u>and</u> Ch.22 Q2, 3; P 2, 6, 8, 10 ,13	21.1, 22.1
8-31	Ch. 22:sect 6,8,9	22: 3-5	22: 4-6	Ch.22 Q 7,11; P 19, 23, 25, 27, 36, 52	22.2
9-2	Ch. 23:sect 1-6	23: 1-4	23: 1-3	Ch.23 Q 1, 3; P 2, 4, 7, 9, 12, 13, 15	23.1, 23.2
9-7	No class			No studio [Sep. 8 th /9 th]	No studio
9-9	Ch. 23:sect 7-9	23: 5	23:4,5	Ch.23 Q 5,8; P 20, 27, 38, 39, 48, 49	23.3

Sept 11th: Quiz 1 4:30 – 5:45 pm. Chapters 21,22, 23. Work session 9/11, 12:30 pm.

Date	Lecture	Check-points	Sample Prob.	Studio HW	Studio Lab
9-14	Ch. 24:sect 1-7	24: 1,4	24: 1-4	Ch.24 Q1, 5; P 4, 6, 12, 13, 17, 18	24.1
9-16	Ch. 24:sect 9-12	24: 5,6	24: 5-7	Ch.24 Q 4, 8; P 21, 22, 23, 31, 40, 41	24.2
9-21	Ch. 25:sect 1-4	25: 1-4	25: 1-3	Ch.25 Q 1,2,3; P 2, 6, 9, 10, 12	25.1, 25.2
9-23	Ch. 25:sect. 4,5	25:5	25: 4,6	Ch.25 Q5, 6, 10; P 15, 17, 19, 26, 31, 63	25.4
9-28	Ch. 26:sect 1-7	26: 1-5	26: 1-4,7	Ch.26 Q 2,5,8; P 1, 9, 17, 18, 23, 25, 42	25.3
9-30	Review			Review: Ch.24 Q3, P28,81; Ch.25 P28,30; Ch.26 P41,81	Review

Oct. 2rd Quiz 2 4:30 – 5:45 pm. Chap.24, 25, 26. Work session 10/2, 12:30 pm.

Date	Lecture	Check-points	Sample Prob.	Studio HW	Studio Lab
10-5	No Lecture	-	-	No studio [Oct. 6, 7]	No studio
10-7	Ch. 27:sec 1-7	27: 1,3	27: 1-3	Ch.27 Q 3,4,5; P 5,6, 18, 19, 22, 58	27.1,27.2,27.3
10-12	Ch. 27:sec 9	27: 5		Ch.27 Q10,11; P27,42,49,51,52, 53(a-f)	27.4, 27.6
10-14	Ch.28:sec 1-3,6,8	28: 1,4,5	28: 1,3,6	Ch.28 Q 1,3,5; P 3, 8, 16, 24, 25,79	28.1
10-19	Ch. 28:sect. 9,10	28: 6	28: 8	Ch.28 Q 9; P 35, 37, 39, 40, 49, 53	28.2
10-21	Ch. 29:sect 1-3	29: 1,2	29: 1,2	Ch.29 Q 1,2,6; P 5, 9, 11, 15, 33, 42	29.2

Oct 23rd Quiz 3 4:30-5:45 pm. Chap.27,28,29(part). Work session 10/23, 12:30 pm.

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Date	Lecture	Check-points	Sample Prob.	Studio HW	Studio Lab
10-26	Ch. 29:sect 4,5	29: 3	29: 3,4	Ch.29 Q 9,10; P 35, 37, 39, 41, 44, 91	29.1,29.3
10-28	Ch. 30:sect 1-6	30: 1-3	30: 1-3	Ch.30 Q 1,3; P 2, 3, 5, 14, 15, 24, 29	30.1,30.2
11-2	Ch. 30:sect 7-11	30: 5-7	30: 5-8	Ch.30 Q 7,8; P 49, 52, 55, 62, 67, 89	30.3
11-4	Ch. 31:sect. 1-7	31: 1-3	31: 1,2	Ch.31 Q 2, 3, 4; P 4, 13, 15, 17, 19, 22	31.1
11-9	Ch. 31:sect 8-10	31: 5-8	31: 4-8	Ch.31 Q 9,10,12; P31, 33, 36, 39, 41, 44	31.2
11-11	<u>Review</u>			Review: Ch.29 P 92; Ch.30 P 31,79; Ch.31 P 18,32	Review

Nov. 13th Quiz 4 4:30-5:45 pm. Chap.29(part),30,31. Work session 11/13, 12:30 pm.

Date	Lecture	Check-points	Sample Prob.	Studio HW	Studio Lab
11-16	Ch.33:sect 3,5,7-9	33: 2,4-6	33:1,3-5	Ch.33 Q1,3,7; P8,31,34,37,55,59,62	33.1,33.2
11-18	Ch. 34:sect 1-5	34: 1,2	34: 1	Ch.34 Q 1, 3; P 4,7,20,24,29,42,104	34.1,34.2
11-23	Ch. 34:sect 6-8	34: 4	34: 3,4	Ch.34 P 82,89,98,124 [In lecture- <u>do not turn in</u>] No studio [Nov 24/25]	No studio
11-25	No lecture	-	-	No studio [Nov 26/27]	No studio
11-30	Ch.35:sect. 2-4	35: 1-3,5	35:1,2, 5-7	Ch.35 Q2 ,4, 6; P 2, 4, 9, 12,13,19,27	34.3,34.4,34.5
12-2	Ch.35 sect 7, and <u>Review</u>	-		Ch35: Q10, P37,43,70 <u>and</u> Review Ch33:P33,51; Ch34:P19,125	35.1, 35.2

Dec. 4th Quiz 5 4:30-5:45 pm. Chap. 33, 34.35. Work session 12/4, 12:30 pm

Date	Lecture	Check-points	Sample Prob.	Studio HW	Studio Lab
12-7	Ch. 36:sect 1-3,6-8	36: 1,4-6	36:1,3,5	Ch.36:Q 1,2; P5,7,8,17,21,29,33	36.1.36.3
12-9	Ch. 38:sect 1-3,6	38: 1,2,4	38: 3,5	Ch.38:Q3,4; P3,8,16,17, 21,39, 42 Second hour – Review	Review

Dec. 18th, 2009 Final Exam 7:30 – 9:20 AM Comprehensive. All work sessions in EP2 studio.