Physics 135-2 **Syllabus** **Fall 2017**

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Textbook: Fundamentals of Physics, Extended 10th Edition, by Jearl Walker
Web Site: **http://courses.physics.northwestern.edu/Phyx135/**

Date	Reading	Material Covered
Wed, Sept 20	Chap 21	Electric Charge, Sec 21.1 – 21.3
Fri, Sept 22	Chap 22	Electric Fields, Sec 22.1 – 22.3, 22.6, 22.7
Mon, Sept 25	Chap 22	Electric Fields, Sec 22.4, 22.5
Wed, Sept 27	Chap 23	Gauss' Law, Sec 23.1 – 23.3
Thu, Sept 28	Quiz 1	quiz covers lectures 9/20 – 9/25
Fri, Sept 29	Chap 23	Gauss' Law, Sec 23.4 – 23.6
Mon, Oct 2	Chap 23	Gauss' Law, Sec 23.4 – 23.6
Wed, Oct 4	Chap 24	Electric Potential, Sec 24.1 - 24.3
Thu, Oct 5	Quiz 2	quiz covers lectures 9/27 – 10/2
Fri, Oct 6	Chap 24	Electric Potential, Sec 24.4 – 24.8
Mon, Oct 9	Chap 25	Capacitance, Sec 25.1, 25.3
Wed, Oct 11	Chap 25	Capacitance, Sec 25.4 – 25.6
Thu, Oct 12	Midterm 1	exam covers lectures 9/20 – 10/11
Fri, Oct 13	Chap 26	Current & Resistance, 26.1 – 26.5
Mon, Oct 16	Chap 27	Circuits, Sec 27.1
Wed, Oct 18	Chap 27	Circuits, Sec 27.2
Thu, Oct 19	Quiz 3	quiz covers lectures 10/13 – 10/18
Fri, Oct 20	Chap 27	Circuits, Sec 27.3 – 27.4
Mon, Oct 23	Chap 28	Magnetic Fields, Sec 28.1 – 28.4
Wed, Oct 25	Chap 28	Magnetic Fields, Sec 28.5 – 28.8
Thu, Oct 26	Quiz 4	quiz covers lectures 10/20 – 10/25
Fri, Oct 27	Chap 28	Magnetic Fields, Sec 28.5 – 28.8
Mon, Oct 30	Chap 29	Magnetic Fields due to Currents, Sec 29.1, 29.2
Wed, Nov 1	Chap 29	Ampere's Law, Sec 29.3 – 29.5
Thu, Nov 2	Midterm 2	exam covers lectures 10/13 – 11/1
Fri, Nov 3	Chap 30	Induction & Inductance
Mon, Nov 6	Chap 30	Induction & Inductance
Wed, Nov 8	Chap 31	AC Current, Sec 31.1 – 31.6
Thu, Nov 9	Quiz 5	quiz covers lectures 11/3 – 11/8
Fri, Nov 10	Chap 31	AC Current, Sec 31.1 – 31.6
Mon, Nov 13	Chap 31	AC Current, Sec 31.1 – 31.6
Wed, Nov 15	Chap 32	Magnetism, Sec 32.1 – 32.4
Thu, Nov 16	Quiz 6	quiz covers lectures 11/10 – 11/15
Fri, Nov 17	Chap 32	Magnetism, Sec 32.6 – 32.8

Mon, Nov 20	Chap 33	Electromagnetic Waves, Sec 33.1 – 33.2
Wed, Nov 22	Chap 33	Electromagnetic Waves, Sec 33.3 – 33.4
Thu, Nov 23	Thanksgiving	
Fri, Nov 24	Thanksgiving	

Wed, Dec 6 **3:00 – 5:00 PM, Final Exam**

Course Grade: This is determined by the Pop-Up Quizzes (7%) + Weekly Quizzes (13%) + Thurs Homework (4%) + Midterms (18% *each*) + Final Exam (40%).

General Information

There are no quizzes or laboratories in the first week. After that, there are weekly quizzes (or midterms) held every Thursday.

Each weekly quiz will typically cover three lectures. (The exact dates covered by each weekly quiz are given above.) The quizzes will typically contain two problems, at least one of which will be similar to the assigned homework for the lectures. As the quarter goes along, I will begin to mix in review questions from earlier in the quarter.

I drop the lowest quiz score. This is so everyone can miss a quiz for any reason, from a wedding to the year-end clearance sale on humming-bird food at Petco. This is *not* an entitlement. It is not a free drop *in addition* to a second drop for your wedding or the clearance sale at Petco. Your reason for missing one quiz is exactly the reason that this drop covers. If illness or other issues mean that you must miss multiple quizzes, please discuss the situation with me.

The "Pop-Up" quizzes are little quizzes that I will hand out at the *beginning* of class, and you will be able to work on them as I lecture. (In fact, I will probably give you a few minutes at the end of the class to chat about them with your neighbor.) The Pop-Up quizzes will occur at random, perhaps once a week, but I will send you an email the night before we have one so that you will know they are coming. As with the weekly quizzes, I will drop the lowest Pop-Up score.

Homework

The homework comes in two versions: the suggested homework (which is assigned on MWF to correspond with the lectures), and the Thursday homework. The MWF homework is NOT collected, and solutions for that homework are posted on-line. The Thurs homework IS collected, at the beginning of each quiz period. The assigned homework problems for any day can be found on the class website: h**ttp://courses.physics.northwestern.edu/Phyx135/**

The essential idea behind the MWF homework is that you should read the indicated sections in the textbook, come to the lecture, then work on the homework problems *that night* while the ideas are still fresh in your mind. It is a good idea to work on as many homework problems as you have time for, but you should certainly work out *at least* the ones posted on the class website. It is not a good idea to just fiddle with the assigned homework for a few minutes and then look at the posted solutions. You really need to be able to work out the problems for yourself, and the best way to learn how to do that is to struggle with them. The MWF homework is not collected or graded; it is a study aid.

The Thurs homeworks are graded. Each homework set consists of three problems, often somewhat more advanced than the MWF homework. The problems are graded on a three-point

scale: 3 points if the problem is done perfectly, 2 points if it is basically OK but has some errors, 1 point if you turn something in, and 0 points for a blank page. You must show all your work to gain any credit; just turning in an answer is a zero. Late homework will not be accepted unless you have permission in advance to turn it in late.

Labs

Please note that the physics laboratories are a *separate* registration (Phyx 136-2) so you will receive a separate grade for the labs. Your grade in Phyx 135-2 will be determined solely by the written quizzes/exams as indicated above. I have essentially nothing to do with the labs, so any questions about lab registration, make-up labs, lab grading, and so on should be addressed to the Director of the Undergraduate Laboratories, Dr. Arthur Schmidt (aschmidt@northwestern.edu).

Office Hours

The office hours for myself and the graduate tutors are listed on the class website. Please make use of them. I have noticed over the years that many students seem to have the very peculiar notion that office hours are something you use if (and only if) you are having severe difficulties with the course. Nothing could be further from the truth. You are very welcome to drop by and discuss the physics ideas behind anything in the textbook, whether covered within Phyx 135-2 or not, regardless of how well you are doing in Phyx 135-2. Do feel free to chat with the tutors about the physics behind homework problems that haven't been assigned, or to chat with me about the physics behind anything you are simply curious about. Our office hours are anything but "remedial".

Discussion Sections

You should have registered for a discussion section at the time when you registered for the lecture. Here is a schedule of the sections:

Section	**Room**	**Time**	**Instructor**
03	L211	Thu 10 am	Wei-Ting Lin
04	M177	Thu 10 am	Eve Chase

You must take your weekly quiz in the section that you are registered for. Also, your Thursday homework must be handed in at the beginning of the period.

Athletics And Other University Sponsored Activity

Students who participate in athletics and other official University activity (research conferences, debates, and so on) sometimes have travel plans which conflict with quizzes and exams. The first option in such cases is for me to email a PDF of the quiz/exam to a faculty sponsor who will then administer it to the student "on the road". If this is not possible for some reason, then the back-up option is for me to give the student an ORAL exam at a later date, in place of the written exam. The oral exam usually consists of the student standing at a blackboard while I toss questions and problems at them, and the student does their best to answer.

However -- the pop-up quizzes, by their very nature, cannot be taken later or in an alternate location. If you must be out of town due to official university activity on the day of a pop-up quiz, then provide me with appropriate documentation and I will just drop that quiz.

How To Make A Good Grade In My Class

Do the homework. Come to the lectures. Read the assigned pages in the textbook. Don’t skip the quizzes.

You were expecting perhaps a map to the secret vault where we hide the formula for success? In my classes, the homework problems are recycled into the quizzes, and the quizzes are recycled into the exams. If I talk about it in class, then it is highly likely to show up on a quiz, midterm, or the final. Do the homework. Don’t skip class. Read the textbook.