

## ***PHYSICS 152 Spring 2013***

### **INSTRUCTORS---**

#### **T Th 12:00pm SLH 102 – Stephan Haas**

Office	SSC 211
Office Hours	4-5 pm Tuesdays
Phone Number	213-740-4528
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#### **M W 2:00pm SLH 102 – Eric Wilson**

Office	SHS 360
Office Hours	4-5 pm WTh
Phone Number	213-740-2386
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### **Course Materials**

#### **Required for the Lecture**

KNIGHT. *PHYSICS FOR SCIENTISTS AND ENGINEERS (USC CUSTOM PKG)*, ISBN: 9781256830764. We will not be using MasteringPhysics.

#### **Other Books**

There is no shortage of alternatives to the assigned textbook. Some of these will be in Leavey Library including:

- Tipler and Mosca, *Physics for Scientists and Engineers*, Sixth Ed. (Freeman, 2008).
- Ohanian and Markert, *Physics for Engineers and Scientists*, Third Ed. (Norton, 2007).
- Halliday, Resnick, Walker, *Fundamental of Physics*, Eighth Ed. (Wiley, 2008).
- Resnick, Halliday, Krane, *Physics*, v.1, Fifth Ed. (Wiley, 2001).
- Serway and Jewitt, *Physics for Scientists and Engineers*, Seventh Ed. (Brooks/Cole, 2007).
- Young and Freedman, *Sears and Zemansky's University Physics: with Modern Physics*, 12<sup>th</sup> Ed. (Pearson, 2008).

Each of these texts is calculus-based and is used in numerous universities throughout the country.

**Required for the Laboratory**

- (a) **Science Notebook** (National Notebook 43-645). Any equivalent notebook with quadrille ruled pre-numbered pages bound into the notebook, with identically numbered pages for copies (either carbon copies and carbonless forms) is acceptable.
- (b) **Laboratory Manual** (Dept. of Physics & Astronomy, Spring 2013). The *Laboratory Manual* is provided on the lab's Blackboard site. You do not need to print it, though, of course, you can if you want to. While you will need to read the Manual in advance of your lab meeting, online reading is sufficient because a copy will be provided for your reference in the lab meeting room.
- (c) **Calculator** with linear and statistical functions

**NOTES on LABORATORY** – *The laboratory is run by Dr. Gokhan Esirgen. His email is [esirgen@usc.edu](mailto:esirgen@usc.edu). Office is KAP-B19 and his office phone is 213-740-1138. The laboratory grade is worth 20% of your total course grade. The labs meet in the first week of classes. It is very important that you report to lab in the first week because this is when you will learn everything you need to know like getting your lab manual, lab notebook, and how to do your lab reports, where and how to hand them in etc...you will meet your lab TA who will have an email, office, office hrs. etc...*

**HOMEWORK** – The homework will consist of written problems designed by the instructors. The homework will be posted on Blackboard in the assignments section and collected during the last lecture of every week unless otherwise specified in class. Late homework is not accepted. Homework is not accepted before it is due. Homework can only be handed in during lecture. You may not scan it and email it. You may not slide it under your professor's door. If you cannot come to lecture to hand in your homework, you can have a friend hand it in for you.

**MIDTERMS** – There will be two midterms. The first midterm will be Thursday, Feb. 21 at 5pm. The second midterm will be Thursday, Apr. 11 at 5pm (locations TBA). Each midterm will be worth 15% of your total course grade. There are no make-ups for exams. Do not miss a midterm. The exam questions are based on the lectures and the homework. Again if you miss a lecture, you might miss a problem that could be an exam question.

**EXAM Final** – The final exam is on May. 15 from 7:00pm – 9:00 pm. The location will be announced. The final will cover the entire course and will be worth 30% of your total course grade. The final is an opportunity to show your understanding of material that you may not have shown mastery on in your midterms. If you do unusually well on your final exam it will help you in the total course grade by virtue of the fact that it is worth 30% of your course grade. You must receive a passing grade on the final exam in order to pass the course.

**GRADING SUMMARIZED:**

Item	Percent towards total course grade
Homework	20
Midterm One	15
Midterm Two	15
Final Exam	30
Laboratory Grade	20
<b>Total</b>	<b>100</b>

**LECTURE NOTES** – One of the best ways of learning physics is to copy your lecture notes over neatly and clearly and see if you can understand them without the instructor filling in the narrative. This combined with reading your book is a tremendous exercise for learning the material. If you do this you will find that the homework is a lot easier. The problem you are faced with is that this takes time. You have to set a lot of time aside to study your physics. It simply takes time on your part. There is no way to get around that fact. However the material is very exciting once you begin to gain confidence in understanding it.

**DISABILITIES** – The inclusion of the following statement has been requested by the DSP office: “Students who need to request accommodations based on a disability are required to register each semester with the Disability Services and Programs. In addition, a letter of verification to the instructor from the Disability Services and Programs is needed for the semester you are enrolled in this course. If you have any questions concerning this procedure, please contact the course instructor and Disability Services and Programs at (213) 740-0776, STU 301.”

**ASSISTANCE** – In addition to lecture, the instructor and Lab TA’s have office hours that can be used to answer questions you may have about concepts or particular homework problems. Also the solutions to written homework problems are posted on Blackboard after the homework is turned in.

**ADDITIONAL ASSISTANCE:**

(a) **Supplemental Instruction Program** <http://www.usc.edu/dept/LAS/si>

Supplemental Instruction (SI) is an academic program organized by the College of Letters, Arts, and Sciences, designed to improve student performance in this course and in several other traditionally difficult courses. It is free and does not require academic credit. Each week there will be several sessions led by an SI leader who will be working together with the instructor and attending the same lectures as you do. For further information, contact Judy Haw at 740-5295.

**(b) Study Groups**

One of the most effective ways to learn new material is to teach it to others. To this end, we encourage you to work together in learning the material, and in doing homework assignments. If you have friends also enrolled in the course, in any section, feel free to discuss homework problems, *approaches* to solutions, and even solutions, though again you are cautioned not to simply copy each other's solutions.

**(c) Viterbi Academic Resource Center** <http://viterbi.usc.edu/tutoring>

The Viterbi Academic Resource Center office is located in the Ronald Tutor Hall of Engineering, Room 222, and provides two kinds of services. It provides free individual and group tutoring with tutors screened by the School of Engineering. Its hours are posted at [viterbi.tutoring@usc.edu](mailto:viterbi.tutoring@usc.edu). Regular review sessions are planned. For more information contact the Engineering Student Affairs Office, RTH 110. Other contacts: 740-3381, [viterbi.tutoring@usc.edu](mailto:viterbi.tutoring@usc.edu).

**(d) Tutors**

The Department of Physics and Astronomy does not recommend tutors. The principal function of a tutor is to enforce a regular study of course material. This function, however, is served as well by working together with other students in the course.

**OUTLINE OF TOPICS COVERED, APPROXIMATE WEEKLY SCHEDULE:**

Week	Dates	Chapters	Topics
1-5	Jan. 14 – Feb. 15	Ch. 26-32	<b>Coulomb's Law</b> <b>Electric Fields</b> <b>Gauss Law</b> <b>Electric Potential</b> <b>Capacitance, Dielectrics</b> <b>Current, Resistance</b> <b>DC Circuits</b>
6	Feb. 18 – Feb. 22	Midterm One Thurs. Feb. 21, 5pm Location TBA	<b>Topics of Weeks 1-5</b>
7-11	Feb. 25 – Apr. 5	Ch. 33-34	<b>Lorentz Force</b> <b>Magnetic Fields</b> <b>Ampere's Law</b> <b>Faraday's Law</b> <b>Inductance</b>
12	Apr. 8 – Apr. 12	Midterm Two Thurs. Apr. 11, 5pm Location TBA	<b>Topics of Weeks 7-11</b>
13-15	Apr. 15 – May. 3	Ch. 36, 20, 21, 35	<b>AC Circuits</b> <b>Wave Review</b> <b>Electromagnetic Waves</b> <b>Poynting Vector</b>
Final Exam	May 15	7:00pm – 9:00pm Location TBA	<b>Cumulative</b> <b>covering entire material</b>

**Important Dates Spring Semester 2013**

Jan. 14	Fall semester classes begin
Jan. 14-18	Late registration and change of program
Jan. 21	Martin Luther King Day, university holiday
<b>Feb. 1</b>	<b>Last day to register and add classes for Session 001</b>
<b>Feb. 1</b>	<b>Last day to drop a class without a mark of "W," except for Monday-only classes, and receive a 100% refund for Session 001</b>
<b>Feb. 1</b>	<b>Last day to change enrollment option to Pass/No Pass or Audit</b>
<b>Feb. 1</b>	<b>Last day to purchase or waive tuition refund insurance</b>
<b>Feb. 5</b>	<b>Last day to drop a Monday-only class without a mark of "W" and receive a 100% refund or change to Pass/No Pass or Audit</b>
Feb. 18	Presidents Day, university holiday
<b>Apr. 12</b>	<b>Last day to drop a class with a mark of W</b>
Mar. 18-23	Spring recess
May. 3	Spring semester classes end
May. 4-7	Study days
May. 8-15	Final examinations