

PHYSICS 152 Fall 2018**INSTRUCTORS---****T Th 10:00am SLH 200 – Grace Lu**

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| Office | SSC 215B |
| Office Hours | 2:00 pm on Mondays |
| Phone Number | 213-821-4328 |
| email | jialu@usc.edu |

T Th 2:00pm SLH 200 – Stephan Haas

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| Office | SSC 211A |
| Office Hours | 3:30 pm on Tuesdays & Thursdays |
| Phone Number | 213-740-4528 |
| email | shaas@usc.edu |

T Th 4:00pm ZHS 360– Chris Sutherland

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| Office | SHS 361 |
| Office Hours | 2:00 pm Tuesdays |
| Phone Number | 213-740-0848 |
| email | cjsuther@usc.edu |

Course Materials**Required for the Lecture**

Richard Wolfson, *Essential University Physics*, Volume 2, Pearson/Addison Wesley.

Other Books

There is no shortage of alternatives to the assigned textbook:

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).

Knight, *University Physics*, Second Ed. (Pearson/Addison-Wesley, 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, Fall 2018). 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. 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, Sept. 27 at 5pm. The second midterm will be Thursday, Nov. 8 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. If you miss a lecture, you might miss a problem that could be an exam question.

EXAM Final – The final exam is on Dec. 7 from 8:00am until 10:00 am. 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 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.

GRADING SUMMARIZED:

| Item | Percent towards total course grade |
|------------------|------------------------------------|
| Homework | 20 |
| Midterm One | 15 |
| Midterm Two | 15 |
| Final Exam | 30 |
| Laboratory Grade | 20 |
| Total | 100 |

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 face 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 TAs 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** <https://dornsife.usc.edu/phys-152/>

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. Regular review sessions are planned. For more information contact the Engineering Student Affairs Office, RTH 110. Other contacts: 740-3381, viterbi.tutoring@usc.edu.

OUTLINE OF TOPICS COVERED, APPROXIMATE WEEKLY SCHEDULE:

| Week | Dates | Chapters | Topics |
|------------|---------------------|--|--|
| 1-5 | Aug. 20 – Sep. 21 | Ch. 20-25 | Coulomb's Law Electric Fields Gauss Law Electric Potential Capacitance, Dielectrics Current, Resistance DC Circuits |
| 6 | Sept. 24 – Sept. 28 | Midterm One Thurs. Sept. 27 5pm Location TBA | Topics of Weeks 1-5 |
| 7-11 | Oct. 1 – Nov. 2 | Ch. 26-27 | Lorentz Force Magnetic Fields Ampere's Law Faraday's Law Inductance |
| 12 | Nov. 5 – Nov. 9 | Midterm Two Thurs. Nov. 8, 5pm Location TBA | Topics of Weeks 7-11 |
| 13-15 | Nov. 12 – Nov. 30 | Ch. 28-29 | AC Circuits Wave Review Electromagnetic Waves Poynting Vector |
| Final Exam | Dec. 7 | 8:00am – 10:00am Location TBA | Cumulative covering entire material |

Important Dates Fall Semester 2018

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| Aug. 20 | Fall semester classes begin in Session 001 |
| Aug. 20 - 24 | Late registration and change of schedule |
| Sept. 3 | Labor Day, university holiday |
| Sept. 7 | Last day to register and add classes for Session 001 |
| Sept. 7 | Last day to drop a class without a mark of "W," except for Monday-only classes, and receive a 100% refund for Session 001 |
| Sept. 7 | Last day to change enrollment option to Pass/No Pass or Audit for Session 001 |
| Sept. 7 | Last day to purchase or waive tuition refund insurance for Session 001 |
| Sept. 11 | 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 for Session 001 |
| Nov. 9 | Last day to drop a class with a mark of W for Session 001 |
| Nov. 21-25 | Thanksgiving recess |
| Nov. 30 | Fall semester classes end |
| Dec. 1- 4 | Study days |
| Dec. 5-12 | Final examinations |
| Dec. 13- Jan. 6 | Winter recess |