

# PHYS 205B: UNIVERSITY PHYSICS

SYLLABUS (Fall 2014)

*Department of Physics, Southern Illinois University–Carbondale*

Last updated: August 17, 2014

## 1 General information:

Instructor: K. V. Shajesh  
Office: Neckers 491, Tel.: +1-618-453-5212.  
Email: shajesh@siu.edu

Web-page: <http://www.physics.siu.edu/~shajesh>  
Class meetings: TR 9:35-10:50 AM, in Neckers 440.  
Office hours: MWF 10:00-11:30 AM, R 11:00 AM-12:30 PM.

## 2 Prerequisites:

A strong aptitude for basic mathematical techniques will be necessary for the course. The following is a partial list of the mathematical techniques that will be used in the course: algebra, vector algebra, analytic geometry, differential and integral calculus.

Completing PHYS 205A and MATH 150, each with a grade C or better, is an official prerequisite for the course.

## 3 Course description

The course will broadly cover topics on Electricity and Magnetism, Light and Optics, and Modern Physics. These are covered in the later part of the textbook starting from Chapter 23. We will cover a fair amount in the limited time available.

### Textbook

*Physics: for Scientists and Engineers* by Raymond A. Serway and John W. Jewett, Jr.  
9th Edition, Brooks/Cole Cengage Learning.

### Web-page

SIU Online, powered by Desire2Learn, at

<https://online.siu.edu>,

a password protected site, will be used to post grades and necessary materials for the course. Homework will be administered by an online service at

<http://www.webassign.net>,

which requires the student to register and make a payment. The class key needed to enroll with webassign for this course is

siuc 0850 5753.

## 4 Course work

### Evaluation

Homework	30 %
In-class Quizzes	20 %
Midterm Exams (3 × 10 %)	30 %
Final Exam	20 %

## Homework

Homework will be assigned on every chapter covered, at <http://www.webassign.net>. Homework will be based on the concepts covered in the classroom and will mostly be problems from the textbook. The web based system allows students to take multiple trials to get the right answer and gives instant feedback on the correctness of their final answer. Note that the web based software does not grade the detailed steps of your work, instead it only checks your final answer. Nevertheless, students will be expected to show detailed steps of their thought process in quizzes and exams. Further, answers should have appropriate units and significant figures.

Students are encouraged to discuss the homework with their classmates and everyone around them. Since the web based system is designed such that each student gets a slightly different version of the question, it reduces the chance of outright cheating.

## Quizzes

A quiz consisting of problems based on textbook material, similar to the homework problems, designed after having had the feedback on the homework, will be frequently administered. If a student has put in the necessary effort and time on the homework, it should be a sufficient preparation for the quiz. Homework is graded by the web based system, but the quizzes will be graded manually, and will be used to get a general notion of the students progress in the course.

## Exams

Four examinations (including the final exam) will be administered.

Midterm Exam 01	September 11 (Thursday, in class)
Midterm Exam 02	October 9 (Thursday, in class)
Midterm Exam 03	November 6 (Thursday, in class)
Final Exam	December 11 (Thursday, 08:00 AM-09:45 AM)

The midterm exams will assess you on concepts covered in lectures, textbook material, and homework. All the midterm exams will be cumulative, but you are advised to concentrate more on topics covered in the later part of the semester. There will be no make up exams, unless your absence from the exam is properly authorized with an appropriate “University form for Excused Absences”, which usually needs to be given to the instructor before the absence.

## Grading

The grading will be done on a scale of 0-100. This raw score should be used to assess your knowledge in the subject. The raw score will be converted to the official score, that will be submitted to the university, using the formula

$$(\text{Official Score}) = \frac{(\text{Raw Score})}{2} + 50. \quad (1)$$

For example, a Raw Score of 60 will lead to Official Score of 80.

## 5 Syllabus Attachment

The Provost Office has put together a “Syllabus Attachment” to assist the student. It lists and provides web links for many elements that are important for a student. Kindly find it appended.

*"We emphasize student achievement and success because achievement and success are essential if we are to shape future leaders and transform lives." <sup>1</sup>*

<http://pvcaa.siu.edu/>

## IMPORTANT DATES \*

<u>Semester Class Begins</u> .....	<b>08/18/2014</b>
<u>Last day to add a class</u> (without instructor permission): .....	<b>08/24/2014</b>
<u>Last day to withdraw completely and receive a 100% refund</u> : ....	<b>08/31/2014</b>
<u>Last day to drop a course using SalukiNet</u> : .....	<b>10/26/2014</b>
<u>Last day to file diploma application</u> (for name to appear in Commencement program): .....	<b>10/31/2014</b>
<u>Final examinations</u> : .....	<b>12/8–12/12/2014</b>

Note: For outreach, internet, and short course drop/add dates, visit

Registrar's Academic webpage <http://registrar.siu.edu/>

## FALL SEMESTER HOLIDAYS

Labor Day 09/01/2014

Fall Break 10/11—10/14/2014

Veterans Day 11/11/2014

Thanksgiving Vacation 11/26—11/30/2014

## WITHDRAWAL POLICY ~ Undergraduate only

Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit <http://registrar.siu.edu/pdf/ugradcatalog1314.pdf>

## INCOMPLETE POLICY~ Undergraduate only

An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student's grade point average. For more information please visit:

<http://registrar.siu.edu/grades/incomplete.html>

## REPEAT POLICY

An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A,B,C,D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy at <http://registrar.siu.edu/pdf/ugradcatalog1314.pdf>

## GRADUATE POLICIES

Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit <http://gradschool.siu.edu/about-us/grad-catalog/index.html>

## DISABILITY POLICY

Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.

<http://disabilityservices.siu.edu/>

## PLAGIARISM CODE

[http://pvcaa.siu.edu/\\_common/documents/Plagiarism/Guide%20to%20Preventing%20Plagiarism.pdf](http://pvcaa.siu.edu/_common/documents/Plagiarism/Guide%20to%20Preventing%20Plagiarism.pdf)

## SALUKI CARES

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-5714, or [siucares@siu.edu](mailto:siucares@siu.edu),

<http://salukicare.siu.edu/index.html>

## EMERGENCY PROCEDURES

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the **SIU Emergency Response Plan** and **Building Emergency Response Team (BERT)** programs. Emergency response information is available on posters in buildings on campus, available on BERT's website at [www.bert.siu.edu](http://www.bert.siu.edu), Department of Safety's website at [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and the Emergency Response Guideline pamphlet. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. *It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.*

## INCLUSIVE EXCELLENCE

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well as an essential preparation for any career. For more information please visit: <http://www.inclusiveexcellence.siu.edu/>

## MORRIS LIBRARY HOURS

<http://www.lib.siu.edu/about>

## LEARNING AND SUPPORT SERVICES

Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:

**Tutoring** : <http://tutoring.siu.edu/>

**Math Labs** [http://tutoring.siu.edu/math\\_tutoring/index.html](http://tutoring.siu.edu/math_tutoring/index.html)

## WRITING CENTER

The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit <http://write.siu.edu/>

## AFFIRMATIVE ACTION & EQUAL OPPORTUNITY

Our office's main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit:

<http://diversity.siu.edu/#>

## Additional Resources Available:

**SALUKINET**: <https://salukinet.siu.edu/cp/home/displaylogin>

**ADVISEMENT**: <http://advisement.siu.edu/>