San José State University  
College of Science/Physics and Astronomy  
Physics 2B, Fundamentals of Physics, Section 4, Class 28181, Spring, 2019

Instructor: Dr. Rengachary Parthasarathy

Office Location: Science Building, Room 262

Telephone: (408) 924 – 5271 Please use my Email for all correspondence; do not leave any Voicemail.

Email: parthaphys@gmail.com

Office Hours: MWF: 12:30 – 13:20 or by appt.

Class Days/Time: MWF 11:30 – 12:20

Classroom: SCI 258

Prerequisites: A grade of C or higher in Physics 2A and Algebra

GE/SJSU Studies Category: B1

Faculty Web Page and MYSJSU Messaging

Everything important will be found on our class link in Canvas. The green sheet (syllabus), ppts, review sheets and any other class related information will be found link on Canvas with some of the mentioned files in the Files link. Announcements will be posted on Canvas.

Course Description

Physics 2B is the second semester of the 4 unit algebra based (algebra, geometry, trigonometry, and vectors) introduction to physics course for students majoring in biological sciences, physical therapy, environmental science, aviation, and any other technical and liberal arts course study. The emphasis of Physics 2B is on electric and magnetic forces, optics, and modern (atomic, nuclear, and fundamental particles) physics.

Course Learning Outcomes (CLO)

Upon completion of this course the students will understand the basic principles of electricity, magnetism, optics, and modern physics and will learn to apply these concepts to solving problem relevant to their majors. Students will be able to communicate scientific ideas with their peers and faculty, and apply various concepts of physics to other sciences.
Required Texts/Readings

Textbook

The required textbook is *College Physics* 3rd edition by Knight, Jones and Field. You can purchase Vol. 2 which contains chapter 17 through 32, the chapters we cover in Physics 2B. Please note that not all sections within the chapters will be covered.

Course Requirements and Assignments

Students will be expected to attend the lectures regularly and participate in class discussions. Attendance per se shall not be used as a criterion for grading according to Academic Policy F-69-24, but it is strongly encouraged! Laptops/tablets are to be used for note taking only and not for any distraction.

There is an additional online learning system called Mastering Physics. You are required to sign up for this. The login URL is:

http://www.masteringphysics.com/site/login.html

The link below is a tutorial on how to register for the online homework and textbook study tools:

http://www.youtube.com/watch?v=BCWgNu-kxi0&list=PLRpRY65o3rxAYHYB9UC-_rOeB1yaU93wz

The e-text is about $49.00 and can be purchased online after you’ve registered with Mastering Physics. You will be able to purchase a hard copy version from the Spartan Bookstore at about $105 + markup. Of course, you have the option of renting the book, too, at your favorite rent-a-book place.

*I cannot stress enough the importance of having the textbook.* The academic material covered in class is the first step in learning about the physics; the textbook will provide a good detailed description. This textbook is very good and if you want to succeed in this class, this book will serve as an excellent support.

Registering for Mastering Physics requires two codes (please note that this code is case sensitive):

1. the course ID:

   MPPARTHASARATHY96646

2. the student ID:

Homework: Students are required to register on line to access the homework website, and do homework on line. The grades for your homework will factor into your overall grade. I encourage you to form small groups for discussing the materials presented in the class, in the book and homework on line. Try to explain to each other; explaining to others is the best way to clarify your understanding. But do not split the work load. The final home work solutions and their entries should be done individually. Your aim toward your homework grade should be to accumulate from the beginning as many points as you can. The best way to do this is to attempt all the problems, and submit the homework before it is due. No extension of due dates for homework will be entertained. **Students not completing 50% of the home work will receive an F grade in the class.** You will need the Mastering Physics access code for this volume of the text to access the homework on line. It is strongly recommended that students go through the following steps before attempting the homework problems: Read the lecture notes and the relevant chapter of the textbook. Study problems that are worked out in the lecture and those in the textbook. Not getting the access code in time is no excuse for missing the homework deadlines. **Class Participation and Mini Quizzes:** Attending classes and participating in the class discussions regularly is a very good idea. The exams will consist of questions and concepts that we have discussed in the class and also from the homework. Occasionally, additional problems / mini quizzes to turn in as hardcopies will also be assigned during the class. The grades for these will factor into your overall homework grade. Please do not miss any class. Missing a class or two will end up missing quizzes, lowering your performance level and your acquiring a lower letter grade.
Laboratory: All students are required to sign up for one laboratory session concurrently with the lecture part, and attend that lab session regularly. Lab grade will be counted toward the semester grade.

Classroom Protocol

Attendance
As mentioned previously, class participation and attendance is more for your benefit to be able to do a lot of learning in the moment. Your class attendance is important because this class will not be purely a “talking head” lecture. We will be having class activities that will enhance your learning the concepts.

Please arrive on time to class. The class will consist of lectures, in-class group discussions with work sheets, and occasional white boards work. It is not possible to make-up this kind of interaction with problems and physics learning. You are responsible for the material that was covered in class. Either get that information form a fellow classmate or check with me. The lecture PowerPoints and other files will be posted in the Files link in Canvas.

Electronic devices
Using a laptop or your cell phone to connect with shopping, social activities, and any other links during class is distracting to other students and will not be allowed. If you are having any problems with the course material feel free to see me.

Final Examination or Evaluation
The final exam will take place in our usual lecture room (SCI 258) on May 17 Friday 9:45 am – 12:00 noon. The final is a cumulative exam.

Office Hours

Please do come by during office hours or make an appointment with me by email given above. The best way to get in touch with me outside of class or office hours is via email. I am happy to address homework questions in detail during class or right after class if you have specific questions.

Additional Help

The Physics Tutoring Center will start up again this semester. Room and time schedule will be announced as soon as the physics department has it set. The Tutoring Center is an informal setting where you can get help from your fellow SJSU physics majors. The schedule of tutoring hours will be posted at http://www.physics.sjsu.edu/index.php?q=node/3.

Also, there are Academic Excellence Workshops for your core courses, including this one. These workshops are open to all students, but you have to register for them. Students who participate in these workshops typically earn almost a whole letter grade higher than those who do not. Contact Dr. Singmaster in DH16 or singmast@aol.com for more information.

Dropping and Adding
Monday, February 5 is the last day to drop without penalty. Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. This information can be accessed at http://www.sjsu.edu/aars.
Exams and Grading Policy

Exams and Quizzes
There will be 2 midterm tests and one final examination. The tests will entail solving problems similar to the example problems worked in class and homework problem sets. I will provide the equation sheet. There will be weekly quizzes. These quizzes will be administered the first 10 - 15 minutes of class and will consist of 1 or 2 questions related to physics material covered that week. If you are late, you will have less time to do the problem(s). There are no make-ups. At the end of the semester, the average of these quizzes will be equivalent to an exam and will be on an equal value of an exam when computing your semester grade.

Final exam
The final exam will be comprehensive (it covers everything). You must take the final exam during the time specified by Academic Scheduling, which is Friday May 17, 9:14 am – 12:00 noon in our usual classroom, SCI 258.
If you miss the final exam, but you have at least a C in the course at that point, you will receive an incomplete, which must be made up before the end of the following semester. If you miss the final and do not have at least a C, you will receive an F for the course.

Final grade determination for the course

There will be 2 midterms, a semester full of quizzes, and a comprehensive final exam. All the quizzes will be averaged and will count as 5%. Your semester grade will be computed by getting the sum of points of your exams, quizzes, laboratory and homework.

Determination of Grades

Grading:

Homework: 15%, Laboratory 10%, Quizzes 5%, Midterm 1 20%, Midterm 2 20%, and Comprehensive Final exam 30%

No letter grades will be assigned until the end of the semester. Letter grades are given based on the class average grade of C+ and the position of each student grade on the class distribution curve.

University Policies
Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs’ Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/

PHY 2B: Spring 2019. Tentative Schedule: Not all sections in the book will be covered

<table>
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<td>INTRO 02/03</td>
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<td>Jan 30, Feb 01, 04</td>
<td>Electric Charge and Electric Fields</td>
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<td>Review for Mid Term 1 CH: 20,21,22,23,24</td>
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<td>Mar 08</td>
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<td>Mar 11,13,15</td>
<td>EM Induction and EM Waves</td>
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<td>May 10, 13</td>
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<td>May 17 FRIDAY</td>
<td>Final Examination 09:45 to 12:00 Same class Room 258</td>
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<td>NOTE EXAM TIME</td>
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A. Academic Integrity Statement

"Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University's Integrity Policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Conduct and Ethical Development. The policy on academic integrity can be found at: http://sa.sjsu.edu/judicial_affairs/index.html

B. Campus policy in compliance with the Americans with Disabilities Act:

"If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 9.7-03 requires that students with disabilities register with the DRC to establish a record of their disability."