

Physics 21 Syllabus and Schedule, Spring 2017

Section 5739 T&Th 3:30 – 5:00, Shuhaw Hall 1786

Date begin/end 1/17 – 5/18 Final exam: 5/23

Instructor: Richard Gauthier

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Homepage: <http://online.santarosa.edu/homepage/rgauthier/>

Class website: Homework solutions, Practice Quiz, Practice Midterm and Practice Final solutions: All homework solutions, practice quiz solutions and practice test solutions will be on your Canvas account.

Office Hours: Tu, Th: 12-1:30 pm, 1974 Bech Hall

Required Text: *Physics* by Cutnell & Johnson 10th edition.

Topics: Chapters 17-30 (not in that order, see schedule below). Please read the chapter before coming to the class where that chapter will be discussed.

SRJC Course Outline of Record:

https://portal.santarosa.edu/SRweb/SR_CourseOutlines.aspx?CVID=24189&Semester=20135

Student Learning Outcomes:

1. Define the concepts of electrical charges and the forces between them, electric/magnetic fields, electrical resistivity and resistance, capacitance, inductance, impedance, atomic/nuclear phenomena and relativity.
2. Solve problems related to static charges, AC/DC circuits and calculate the force on a moving charge, units/components and modern physics.

Homework: Homework problems are assigned for each chapter and will be due (as indicated on the schedule) the week after they are assigned. Quizzes (open book and notes) are based on the homework problems and the practice quiz. See the schedule for more details. **Homework includes reading the chapter BEFORE coming to class. You should also make notes on the chapter for use on class quizzes, AND carefully work through the sample solved textbook problems before coming to class.** I will assume that you have read the chapter and gone through the worked textbook problems and are familiar with the concepts of the day. This class moves fast and you absolutely **MUST** read/study the textbook and keep up with the homework. Physics is fun and satisfying but it can also be very challenging and takes a lot of hard work. I want you to **master** this material— this course is a foundation for many other courses. Depending on your skill level you can expect to spend at least 8 hours per week on text reading and homework!! Most importantly, do not fall behind!

Late homework assignments will not be accepted (without permission) if more than 1 class

day late. Homework solutions will be posted on Canvas before homework is due the following week, to **CHECK** and **CORRECT** your work, so that the homework you turn in is **correct and complete.** **Honor System:** do not check the posted homework solutions until you have **sincerely attempted** the homework problems and completed as many as possible. Study the homework solutions of problems you can't solve by yourself (or with friends), and write the solutions in your own words as a learning exercise. I encourage you to assist each other on homework as necessary, but do your own work. Just copying the posted homework solutions is easy to spot and **NOT OK—don't do it.** **Make use of MESA and SRJC library tutorial sessions and my office hours** for homework help when necessary and for studying for midterms and the final.

Homework Guidelines: In order for you to develop a habit of explaining and/or answering physics questions and solving physics problems in an organized and logical manner and to enable you, me or another student to easily read and review your work, please use the following format for your homework problem solutions:

1. The first page must show your name, homework number, chapter number, and problem numbers assigned. Please put your name in the upper, right hand corner on page 1.
2. Questions and problems should be shown in correct numerical order.
3. Staple pages together at the top left corner only. All pages must be placed together in order.
4. Use 8 1/2" x 11" paper or lined paper. Leave the problem set flat; do not fold.
5. Write the chapter and number of each problem in the left-hand margin (for example, chapter 20, problem 9 would be written as 20.9).
6. When your solutions result in numerical answers, please enclose the answer in a box as shown below. Always include the algebraic variable, the numerical answer, the units, and, where necessary, the direction.

$a = 7.8 \text{ m/s}^2 \text{ east}$

7. Present all work, including algebra and intermediate steps, in a neat, logical and orderly fashion. **Do not leave out calculation steps**, even if they are left out in the published solutions.

Class Reader – You will need to buy the Physics 21 class reader from the bookstore. It contains the syllabus and schedule, 11 practice quizzes, 3 sets of midterm practice questions, and final exam practice questions. The practice quizzes count 3 points each and are turned in with the homework at the time of each quiz. Each set of midterm review questions counts as 2 homework assignments while the final exam review questions count as 1 homework assignment. They are turned in on the day of the midterm or final. These are great preparation for the actual quizzes, midterms and final.

Quizzes: Regular open-book and open-notes quizzes will be given on the days that homework is due and will be similar to the practice quizzes and homework problems. Half of the points

missed on regular quizzes can be made up by correcting the quiz on a separate sheet of paper and turning in the corrections with the original quiz, stapled together, at the following class after you get your corrected quiz back. Maximum grade for an unexcused missed quiz: 50%.

Midterms and final exam: There are three midterm tests and one final exam. The final exam will be comprehensive. Each test will include multiple choice conceptual questions and short problems where work must be shown. You are permitted to bring one or more 8 ½ x 11 pages of formulas and definitions (both sides), to be shown with your test (you'll get it back). For the 3 midterm tests, you will also be permitted to make up **half** of the points missed by providing **by the next class after you get your graded paper back, attached to your test paper**, your own short written explanations of the correct answers (for conceptual questions) and corrected solutions to missed calculation problems or parts of problems. If you have an A (89.5+) going into the final exam, your minimum final exam grade will be 80, but you still must take the final (aim for 100%). If you have a 91.2 or better going into the final exam, you are guaranteed an A in the class (but you still have to take the final exam.) Similar for going in to the final with a B, C etc.

Attendance and Lateness Policy: Students are expected to attend all sessions of Physics 21. Attendance will be taken at every class. Students who fail to attend the first class meeting may be dropped by the instructor. Instructors are required to drop all No-Show students immediately following the second class meeting. A No-Show is an enrolled student who has not attended any class meeting of the course.

According to SRJC policy, a student may be dropped from the class when the student's absences exceed ten percent (10%) of the total hours of class time. In this Physics 21 course, *excessive absences* is defined as missing fifteen percent (15%) of the total hours of class time, and a student with excessive absences may be dropped. Unless state or federal law requires than an absence be deemed excused, the instructor is not required to make a distinction between excused and unexcused absences. In this class, in addition to excused absences required by state or federal law, an illness or a medical emergency is treated as an excused absence.

An excellent attendance and class participation record may be helpful if your grade is on the borderline between B and A, or C and B etc. If you are late to class, please enter the class quietly. As mentioned above, homework assignments will not be accepted (without permission) if they are more than one class day late.

Grading: Homework	20% of the total grade
Quizzes	20% of the total grade
Midterm-exams	45% of the total grade
Final exam	15% of the total grade

Each student's class grade will be based on the following grade range

90 to 100 **A** 80 to 90 **B** 70 to 80 **C** 60 to 70 **D** less than 60 **F**

Important Dates:

February 5 -- Last day to drop a class without "W" symbol

February 26 -- Last day to opt for P/NP

April 23 -- Last day to drop a class with "W" symbol

CONTINUED BELOW

Physics 21 Schedule Spring 2017 Cutnell 10e

DATE	CHAPTER	PROBLEMS	HW DUE DATE
Jan 17 Jan 19	Tu Ch 18 Th Ch 18	SET #1: 6, 8, 10, 29, 30, 33, 38, 47, 72, 79	Jan 24
Jan 24 Jan 26	Tu Quiz 1 , Ch 19 Th Ch 19	SET #2: 1, 2, 4, 14, 17, 42,44, 45, 61, 63	Jan 31
Jan 31 Feb 2	Tu Quiz 2 , Ch 20 Th Ch 20	SET #3: 1, 2, 4, 7, 8, 10, 12, 16, 22, 30	Feb 7
Feb 7 Feb 9	Tu Quiz 3 , Ch 20 Th Ch 20	SET #4: 42, 44, 45, 50, 52, 64, 65, 70, 74, 104 Classwork problems	Feb 4
Feb 14 Feb 16	Tu Quiz 4 Th NO CLASS		
Feb 21 Feb 23	Tu Th MT# 1	Review problems (ch 18,19,20) CHs:18,19,20	Feb 23
Feb 28 Mar 2	Tu Ch 21 Th Ch 21	SET #5: 1, 2, 3, 4, 5, 7, 12, 54, 57, 59	Mar 7
Mar 7 Mar 9	Tu Quiz 5 , Ch22 Th Ch 22	SET #6: 1, 3, 4, 11, 13, 14, 18, 22, 34, 38	Mar 14
Mar 14 Mar 16	Tu Quiz 6 , Ch 20.5 Th Ch 23.1-23.5	SET #7: Ch 20: 33, 34, 35, 39 Ch 23: 1, 3, 10, 12, 17, 33	Mar 28
Mar 28 Mar 30	Tu Quiz7 , Ch25.1-.3 Th Ch 26.1-.3	SET #8: Ch 25: 2, 3, 6, 8 Ch 26: 1, 6, 9, 10, 27, 28	Apr 4
Apr 4 Apr 6	Tu Quiz 8 Th Review	Review problems (ch 21,22,23,25,26)	Apr 11
Apr 11 Apr 13	Tu MT# 2 Th Ch 25.4-.6	CHs: 21,22,23,25,27 SET #9:Ch 25: 19,20,22,26,30 Ch26: 49,50,53,58,59	Apr 20
Apr 18 Apr 20	Tu Ch 26.6-.8 Th Quiz 9 , Ch27.1	SET #10: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Apr 27
Apr 25 Apr 27	Tu Ch 27.2 Th Quiz10 , Ch26.10	SET #11: 74, 76, 81, 82	May 2
May 2 May 4	Tu Review Th MT# 3	Review problems (ch 25,26,27) CHs: 25,26,27	May 4
May 9 May 11	Tu Ch28.1-4, Ch29.1 Th Ch 30.3, Ch 31.6	SET #12: Ch 28: 2, 8 CH 29: 5,11 CH 30: 12, 13 CH 31: 33, 38	May 16
May 16 May 18	Tu Quiz 11 , Ch 32 Th Review	Review problems (ch 18-23, 25-27)	May 23
May 23	Final Exam	Comprehensive Tuesday, May 23, 1-3:45 pm	

