Physics 1 Syllabus and Schedule Spring 2017

Section 5736 Tu, Th 9-10:30, **Section 5366**, Tu, Th 10:30-12, Shuhaw Hall 1784
Date begin/end 1/19 – 5/19
Instructor: Richard Gauthier
Office: Bech Hall 1974
Email: rgauthier@santarosa.edu , richgauthier@gmail.com
Homepage: http://online.santarosa.edu/homepage/rgauthier
Class website: All classwork and homework solutions will be on your Canvas account.

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

Physics 1: Introduction to Physics Problem Solving: An introduction to some basic concepts in physics with emphasis on the development of problem solving skills. This course is designed to assist students in preparing for enrollment in Physics 20 or Physics 40. Prerequisite: Math 155 or equivalent.

SRJC Course Outline of Record:
http://busapp02.santarosa.edu/SRweb/SR_CourseOutlines.aspx?CVID=21161&Semester=20107

Student Learning Outcomes:
Upon completion of this course students will be able to:
1. Define and identify basic physical laws, theories, and principles applicable to mechanics.
2. Interpret and generate the appropriate graphs and diagrams that represent the evolution of physical systems and events in mechanics.
3. Organize and interpret word problem information and apply the related laws and equations to generate and explain solutions to one and two dimensional problems in mechanics.
4. Work in groups to analyze, solve, and present solutions to problems in mechanics.

Required Text: *Essentials of College Physics*, Serway/Vuille, (Thompson), Physics 1 Reader: "Introduction to Physics Problem Solving" (from bookstore). There is only one edition.

Required Materials: Please bring to class: Your textbook and the Physics 1 Reader, a calculator (with trig functions), pencil, eraser and paper. We will be working problems in class so be sure to be prepared.

Work: Class work and homework will be assigned almost every day and will be due the following class day, completed fully. Class work counts 50% for attendance and 50% for the completed written class work. Homework includes *reading* the book and solving the assigned textbook problem sets. Chapters are assigned in the schedule. You need to read the chapter or material *before* coming to class. You can consult with each other on class work and on homework, but everyone will turn in their own work. Class work and homework turned in are expected to be correct. Check with others or available solutions if you are not sure. Posted class work and homework solutions are for checking and correcting your work, not for copying (it's easy to tell the difference).

Solving Problems: For each problem you must always provide the given information and indicate what is to

be found, and **include a diagram** before solving the problem mathematically. Always write the appropriate algebraic equations first and try to solve them algebraically before putting in numbers. Use ample space for each problem. I will return your graded class work, homework, quizzes and midterms the next class day. You can make up ½ of the missed points on quizzes and the 3 midterms (but not the final exam!) by correctly explaining your missed answers to conceptual questions and by redoing your missed calculation problems or parts on separate paper and turning them in with your quiz or midterm at the next class meeting. Homework solutions, classwork solutions, quiz solutions and practice midterm and practice final exam solutions will be available in class and on-line on Canvas for checking and correcting your work before turning it in. **HOMEWORK OR CLASS WORK MORE THAN ONE CLASS DAY LATE WILL NOT BE ACCEPTED (if unexcused).**

Quizzes: There are regular chapter quizzes. **Maximum credit for unexcused missed quizzes is 50%.**
Midterms and Final: There will be three midterms and a final exam. The final exam will be comprehensive.

Behavior: Everyone is expected to follow the SRJC Standards of Conduct and Academic Integrity as described in the course catalogue. Courtesy is the rule of the class! Please raise your hand to be called upon. Do not pack up bags before you are dismissed from class. Listen to your fellow students and above all be courteous and kind to each other. If you are late to class please enter quietly and do not cross in front of the class.

Attendance and Lateness Policy: Students are expected to attend all sessions of Physics 1. 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 1 course, *excessive absences* is defined as missing fifteen percent (15%) or more 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 for making up missed work for up to 15% missed classes, but the 15% rule for dropping still applies.

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 and classwork assignments will not be accepted (without permission) if they are more than one class day late.

NO CELL PHONES, MEDIA PLAYERS, SLEEPING, EATING OR CHEATING IN CLASS
Grading: Final grades will be based on the following percentages:

3 Midterms	45%
Final exam	15%
Quizzes	20%
Homework/Classwork	20%

If you have an A (89.5+) going into the final exam, you are still required to take the final but your minimum grade for the final will be 80. (Why not go for a 100?) Similarly for other grades going into the final exam. 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.

Final letter grades will be based on the following total percentages:
90-100**: A** 80-90: **B** 70-80: **C** 60-70: **D** below 60: **F**

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 on next page

Physics 1 Schedule, Spring 2017

Date	Reading Assigned Chapters/Topics/Examples	Classwork (to be completed in class)	Homework (to be completed in class or at home)	Due Date
Tues. Jan. 17	Lect: Intro, Math Review	CW #1		Thurs Jan 19
Thurs. Jan. 19	Lect: Chapter 1 Measurement	CW #2	HW#1: Ch 1: 3,7,21	Tues. Jan 24
Tues. Jan. 24	Lect: Chapter 1 Measurement	CW #3	HW#2: Ch 1: 25,29,33	Thurs. Jan26
Thurs. Jan. 26	**Quiz #1 on Measurement**, Chapter 2 Motion in One Dimension	CW #4	HW#3: Ch 2: 5,6,10	Tues. Jan 31
Tues. Jan 31	Chapter 2 Motion in One Dimension, cont.	CW #5	HW#4: Ch 2: 15,19,24	Thurs Feb 2
Thurs. Feb. 2	**Quiz #2 on Motion in One Dimension**, Chapter 2 Motion in One Dimension, cont.	CW #6	HW#5: Ch 2: 25,26,30	Tues. Feb 7
Tues. Feb. 7	Chapter 2 Motion in One Dimension, cont.	CW #7	HW#6: Ch 2: 36,37,39 Practice MT#1 questions	Thurs. Feb 9
Thurs. Feb. 9	**Midterm #1 on Measurement and Motion in One dimension**			
Tues. Feb. 14	Chap 3 Vectors and Two-Dimensional Motion	CW #8	HW#7: Ch 3: 2,5,7	Tues. Feb 21
Thurs. Feb. 16 No Classes				
Tues. Feb 21	Chap 3 Vectors and Two-Dimensional Motion, cont.	CW #9	HW#8: Ch 3: 9,14,18	Thurs Feb23
Thurs. Feb. 23	**Quiz #3 on Vectors and Two-Dimensional Motion** Chap 3 Vectors and Two-Dimensional Motion, cont.	CW #10	HW#9: Ch 3: 19,23,24	Tues. Feb 28
Tues. Feb 28	Chap 3 Vectors and Two-Dimensional Motion, cont.	CW #11	Midterm#2 Practice Questions	Thurs Mar 2
Thurs. Mar. 2	**Midterm #2 on Vectors and Two-dimensional Motion-Chap3**			
Tues. Mar. 7	Chap 4 The Laws of Motion	CW #12	HW#10: Ch 4: 6,10,11	Thurs Mar 9
Thurs. Mar. 9	Chap 4 The Laws of Motion, cont.	CW #13	HW#11: Ch 4: 13,14,15	Tues. Mar 14
Tues. Mar. 14	**Quiz #4 on Laws of Motion**, Chap 4 The Laws of Motion, cont.	CW #14	HW#12: Ch 4: 24,27,29	ThursMar16
Thurs Mar 16	Chap 4 The Laws of Motion, cont.	CW #15	HW#13: Ch 4: 31,32,39	Tues. Mar 28

Mar. 21, 23	**Spring Break**			
Tues. Mar 28	Chapter 5 Energy	CW #16		ThursMar30
Thurs Mar 30	Chapter 5 Energy, cont.	CW #17	HW#14: Ch 5: 5,9,18	Tues. Apr 4
Tues. Apr. 4	**Quiz #5 on Energy**, Chapter 5 Energy, cont.	CW #18	HW#15: Ch 5: 24,40,47 Midterm#3 Practice Q's	Thurs. Apr 6
Thurs. Apr. 6	**Midterm 3 on Laws of Motion, Energy (Chap 4-5)**			
Tues. Apr. 11	Chapter 6 Momentum	CW #19	HW#16: Ch 6: 2,14	Thurs Apr13
Thurs Apr 13	Chapter 6 Momentum	CW #20	HW#17: Ch 6: 20,22	Tues. Apr.18
Tues. Apr 18	Chapter 6 Momentum	CW #21	HW#18: Ch 6: 27,43	Thurs Apr20
Thurs. Apr 20	**Quiz #6 on Momentum** Chapter 7 Rotational Motion and Law of Gravity	CW #22	HW#19: Ch 7: 13,20,	Tues. Apr 25
Tues. Apr 25	Chapter 7 Rotational Motion and Law of Gravity	CW #23	HW#20: Ch 7: 24, 27	Thurs Apr27
Thurs. Apr 27	Chapter 7 Rotational Motion and Law of Gravity	CW #24	HW#21: Ch 7: 33,37	Tues. May 2
Tues. May 2	**Quiz #7 on Rotation and Gravity** Chapter 8 Rotational Equilibrium and Rotational Dynamics	CW #25	HW#22: Ch 8:3,5,6	Thurs May 4
Thurs. May 4	Chapter 8 Rotational Equilibrium and Rotational Dynamics	CW #26	HW#23: Ch 8:12,27,28	Tues. May 9
Tues. May 9	Chapter 8 Rotational Equilibrium and Rotational Dynamics	CW #27		
Thurs. May11	Chapter 8 Rotational Equilibrium and Rotational Dynamics		HW#24: Ch 8:36,40,41	Tues. May16
Tues. May 16	**Quiz# 8 on Rotational Equilibrium and Rotational Dynamics** Chapter 8 Rotational Equilibrium and Rotational Dynamics			ThursMay18
Thurs May 18	Review		Practice final	Due Final exam day
FINAL EXAM	9 am class**: Thurs May 25 7 am-9:45 am** 10:30 am class**: Tues May 23 10 am-12:45 pm**			