Valencia College • West Campus
PHY 1007C • Spring 2017

COURSE OUTLINE

Instructor: Marcien Dentey
Office: WC 002 209 **Hours:** Thursdays, During Recitation.
Class Location and Class Times: **WC-001 154 TR 1730 1845 and WC-001 154 R 1900 1950**
Phone: (407) 582-1766 (message) **Email:** mdentey@valenciacollege.edu

Course Information:

Common Course Number: PHY1007C(GE)

Course Title: Physics with Medical Applications

Prerequisite(s): Minimum grade of C in MAC 1105 or higher

Contact Hour Breakdown: **CR** 4 **CLASS** 3 **LAB** 3

Discipline: Physics

Catalog Description: One-semester course for health-related majors, primarily those entering Valencia's Cardiovascular Technology and Respiratory Care programs. Survey of topics in physics related to health field. Applications of physics to principles of mechanics, heat, light, sound, electricity and magnetism, and radioactivity as they apply to health field. May not be taken for credit subsequent to receiving grade of C or better in any higher physics course. This course fulfills the general education science core course requirements.(Special Fee: TBD)

Recitation: All students are required to attend the scheduled recitation section. During recitation, an effort will be made to address most student difficulties and concerns pertaining to the course. More information about the recitation will be given in due course.

Textbook: College Physics by OpenStax . Free copies can be obtained from http://openstaxcollege.org/textbooks/college-physics. Students can request printed PDF version for a nominal fee.

Calculator: A scientific calculator is required for this course. The TI-83 or TI-83 Plus model is recommended.

Laboratory: There is a laboratory component to this course. A **lab report** is required for each experiment. This report must be written **in your own words and must be according to the following format:**

Page 1: Title Page. This page must show the course, followed by the number and title of the experiment It must also have your name, group members (if any) and the date the experiment was performed. This is all that the Title page must have.

Example: PHYSICS 1007C
T-5: PRESSURE and VOLUME
Performed by: John Adams and Jennifer Scott.
Report written by: John Adams
Date: August 31, 2016.

Subsequent pages: The subsequent pages must follow the following format:

(i) Introduction: Must include background/theory behind the experiment. This means that you must provide a brief description of the physics concepts being investigated and how they are being investigated.

(ii) Equipment: List all relevant apparatus and give a brief description of each.

(iii) Procedure: Describe *in your own words* how the experiment was conducted.
NOTE: Reproducing the instructions under Procedure in the student handout carries zero (o) points.

(iv) Data Analysis and Graphs: In this section Include

(1) Raw Data: This is the Validated (Stamped) Data Sheets that you received when you completed the experiment.

(2) Processed Data: For each quantity calculated on your data sheets, you must show an example of the calculation by

(a) providing the formula that you used;

(b) substitute appropriate values for the variables in the formula to obtain a value for the variable of interest.

For repeated calculations, you only need to show your calculation once and state that the other values are obtained using in like manner.

(v) Conclusion: Using your data, **state** and explain whether you have accomplished your goal in performing the experiment as stated in the introduction. Identify sources of error in your experiment and calculate % errors/uncertainties as appropriate.

The **sections of the report – (i) through (v) above – must be clearly shown and underlined**. Points will be deducted if on distinction is made between the sections

Due dates for Lab Reports: Refer to the Assigned Experiments handout sheet for the due dates for each experiment**.** The experiment handouts sheets are available during lab orientation or from the science website: http://science.valenciacollege.edu.
Note: All students are required to attend the Lab Orientation. The place and time for the orientation will be announced on the first day of class.

Homework: Homework will be assigned but will not be collected and graded. It is important however that students attempt all homework because problems on the tests and quizzes are similar to the homework problems. Homework problems that students have difficulty with should be brought to my attention so that we will go over it during recitation.

Final Grade Computation: There will be at least four (4) quizzes, three (3) Tests/Exams and a comprehensive final exam. **A final comprehensive exam is required of all students**. Final grades will be computed using one of the two options below. For students who have done well on all quizzes and tests but do poorly on the final exam, option 1 will be used to determine their final grades. For all others, option 2 will be used to compute the final grade.

Option 1

Course Component	# of this component	%
Quizzes (3 out of 4)	3	30
Tests/Exams (3 out of 3)	3	45
Lab Reports	9	25

Final Exam (comprehensive)	1	0
Total		100

Option 2

Course Component	**# of this component**	**%**
Quizzes (3 out of 4)	3	30
Tests/Exams (2 out of 3)	2	30
Lab Reports	9	25
Final Exam (comprehensive)	1	15
Total		100

Note:
There will be **No** make-ups. If you miss a Quiz, that's the one that will be dropped. If you miss a test, then the only option available to you is Option 2. If you miss two tests, one will be dropped and zero (0) will be recorded for the other missed test. The only exceptions to this policy are major medical (hospitalization and bereavement of an immediate relative or guardian). Exceptions are determined on a case-by-case basis with proper documentation.

Grade Scale: Letter grades will be awarded according to the scale below:

90 and above	**A**
80 - 89	**B**
70 - 79	**C**
60 - 69	**D**
59 and below	**F**

Attendance: Attendance is strongly recommended. 100% attendance is expected in order to do well in the course.
A student can improve his/her final grade by attending classes. Perfect attendance can earn a student **4 bonus** points towards the final grade computation. Attendance bonus will be awarded as follows:

# of absences	**Attendance bonus**
0	**4**
1-2	**3**
3	**2**
4	**1**
5 or more	**0**

Attendance bonus can improve a student's grade in the following way: Let's say a student's final grade computation comes to 56 which is an F. If he/she has 100% attendance, he/she has the 4 bonus points to his/her advantage. In this case his/her final grade improves to 60 (56+4) which is a D. So you see, attendance can make a difference between passing and failing!

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Attendance Bonus Policy: Attendance bonus is **not** a requirement for the course; it is a reward for perfect or near perfect attendance. The purpose of the attendance bonus is to encourage students to attend classes as I believe that a student's chances of passing a course are greatly improved through class attendance. So, **NO EXCUSES (LEGITIMATE OR NOT)** are accepted. As far as attendance bonus is concerned, **ONLY LIVE BODIES** count – a student is either present or absent.

Withdrawal Policy: The withdrawal deadline for the Spring 2017 Semester to receive a grade of "W" is **March 31, 2017**. I withdraw students who do not show up during the first week of school for reason of **"NO-SHOW"** per Federal Financial Aid Regulations. Before the withdrawal deadline, I also withdraw students who are absent for four consecutive class meetings and have not notified me of what their situation is. **After the withdrawal deadline, I do not withdraw students except for documentable health and other family emergencies. I do not withdraw students because they are failing – that's the student's decision and responsibility. I would provide advice to a student who is in danger of failing the course as to whether to withdraw or not, if the student asks for such advice before the withdrawal deadline. The student must withdraw himself/herself should he /she decide to withdraw and not just stop coming to class after the withdrawal deadline and expect that I withdraw him/her. So please, do not send me email after the withdrawal deadline to withdraw you because you are failing.**

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Tentative Schedule of Topics

Block	Body of Knowledge		Chapters	Duration (Approximate)	Quiz	Test
1	Mechanics	Kinematics	1, 2, 3	4 days	Quiz 1a	Test 1
		Dynamics	4, 5, 6	4 days	Quiz 1b	Test 2
2	Work and Energy		7, 9, 10	4 days	Quiz 2	
3	Fluids		11, 12	4 days	Quiz 3	Test 3
4	Heat and Temperature		13, 14, 15	4 days	Quiz 4	Test 4
5	Waves and Sound		16, 17	4 days	Quiz 5	
6	Electricity and Magnetism		Parts of 18, 19, 20, 21, 22, 23, 24	4 days	Quiz 6	Test 5
7	Atomic and Nuclear Physics		30, 31, 32	4 days	Quiz 7	
FINAL EXAM			**Thursday, 4/27/2017; 1700 – 1930; In Classroom.**			

Notes:

1. Quizzes will be posted on Blackboard and students will have at least 4 days to complete the quiz. Quizzes access conceptual understanding of the topics. As we complete the material on the quiz, announcements will be made in class and on Blackboard about the dates and times that the quiz will be available.
2. Tests involve problem solving. These are written tests scheduled for an entire class period. **Work must be shown on all tests to receive credit. The test dates will be announced as we get close to completing the block.**
3. Note that Test #2 includes Dynamics from block 1 and Work and Energy from block 2.
4. Test 3 will be a Take Home Test.
5. The days allocated to each topic is based on the amount of material to be covered in the course and the amount of time available to cover it. Depending on the class, some topics may take less time while others may require more time. This schedule is tentative and will be adjusted accordingly.

DISCLAIMER: The Course Syllabus and/or the Planned Schedule of topics may be altered at the discretion of the instructor.