PHY 201 – Physics for Engineers I w/ Lab (4 units)

Instructor: Mel Campbell, M.S.
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Office hours: via ZOOM; by email appointment
Meeting room: **ZOOM ID**: 479 622 1152
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Laboratory: James 122

Meeting time: Sec. G → MWF Lecture 5:00 – 6:00 pm; Lab 6:30 – 7:30 pm
Sec. H → MWF Lecture 5:00 – 6:00 pm; Lab 7:45 – 8:45 pm

Course Description

This course covers topics such as units, vectors, motion (in one, two and three dimensions), Newton's laws of motion, work, kinetic and potential energy, momentum, impulse, collisions, conservation laws, dynamics of rotational motion, equilibrium, gravitation, and periodic motion. This enquiry based class encourages students to tackle problems in a hands-on way during class, to better encourage understanding. Homework and tests are designed so that students may apply what they learn during lecture.

Prerequisites

MAT 145 or MAT 245; or EGR 182 (with B- or better)

Required Texts and Resources

1. Giancoli, *Physics for Scientists and Engineers,* 4th edition.
2. **Quest Online Homework Service** account.
3. Scientific calculator (bring one to all sessions/labs/exams).

Note: This syllabus is tentative and subject to change for the betterment of the course.

University Outcome Objectives

University Goal 4: "Demonstrate competence in mathematical, scientific, and technological skills."

Homework

The web-based **Quest Homework Service** provides mandatory instructional material for this course. Homework will be assigned online through **Quest**. The online homework service requires a $30 charge for its use. *Each student is responsible for purchasing a homework account*.

Go to http://quest.cns.utexas.edu and login to the Quest system to establish an account for this class. **The course "Unique ID" is 74974**. During the beginning of this course, when you log into Quest, you will be asked to pay via credit card on a secure payment site. You have the option to wait until Monday February 15, 2021 at 10 am to pay while continuing to use Quest for your assignments. After this day/time your account will be frozen until payment is made. For payment questions, email quest.billing@cns.utexas.edu.

Office Hours

Office hours are appointment times requested by you in order to answer any questions you have about the course. If you feel you are struggling with the course material in any way, office hours are your first line of defense and responsibility! I am here to help you understand the material, and will work with you for as long as it takes to reach that goal. Once I confirm your appointment request, you have officially booked time that I will set aside to meet with you via ZOOM so *please show up!*

Grade Weighting

Assignments	**Percentages**
Attendance, Attitude & Participation	5%
Homework	10%
Quizzes	20%
Labs and Tutorials	15%
2 Mid-Term Exams	30%
Final Exam	20%

Grade Scale

A 90-100%	A- 87-89%	B+ 84-86%
B 74-83%	B- 71-73%	C+ 68-70%
C 63-67%	C- 60-62%	D+ 57-59%
D 53-56%	D- 50-52%	F Below 50%

Attendance:

1) Attendance at all class sessions is required and will be monitored.
2) If you are absent, regardless of the reason, you are responsible for anything you missed. You can hand in assignments through a friend, but you will still be docked for any unexcused absences.
3) Excused absences include campus-approved events and illness, but *in either case I need to be informed in advance* of *the start* of *the class via e-mail.* I must be informed *by you,* not just your coach. You must take responsibility for your own learning process. If you do not inform me in advance, your absence is automatically unexcused.
4) On your sixth unexcused absence, you earn an automatic F for the course.
5) The course schedule informs you what topics will be covered on a given day. You are expected to read the sections in the book prior to coming to class.

There may be unannounced quizzes to encourage you to do this.

Guidelines for Success:

For many students, PHY 201 is the most difficult class thev have ever taken thus far in their academic careers. I strongly advise you to consider the following suggestions in order to excel in this course:

1) The purpose of homework is to apply the concepts learned in class, as well as the problem solving skills/examples from class to a variety of scenarios, in order to build your problem solving skills and familiarity with the formulas and concepts in physics. Although it only counts for 10% of your grade, *without going through this process, it is very unlikely that you will master the material enough to pass the course!* (Study groups **PLUS** individual effort leads to success)

2) Due to the format of this course, there will be time during the lecture portion of the class for you to attempt to work through problems on your own, often immediately after learning new concepts. Many physics courses do not offer this *invaluable opportunity* to practice applying what you have just learned with the professor immediately available to clarify any confusion and give you hints on how to approach the problems. Take full advantage of these opportunities!

3) There *will be unannounced quizzes during class*. These serve as an excellent means of simulating a high-pressure test environment. If you continually do poorly on quizzes, you should take this as a sign that you need further assistance in the course.

4) If, for any reason, you feel that you are falling behind in the course (regarding homework, quizzes, in-class concepts, midterm performance, or any other reason) be responsible, not embarrassed, and set an appointment to see me for assistance.

California Baptist University
Physics 201 G, H – Tentative Course Schedule – Spring, 2021
Text: Giancoli, Physics for Scientists and Engineers, Vol 1, 4th edition

Date	Chapter	Topic	Date	Chapter	Topic
Jan 25, M	1	ALL	Mar 19, F	9	**Conservation of Momentum Lab**
Jan 27, W	2	2.1 - 2.5	Mar 22, M	7 - 9	Midterm 2 REVIEW
Jan 29, F	2	2.6 - 2.7	Mar 24, W	**7 - 9**	**Midterm 2 Exam**
Feb 1, M	3	3.1 - 3.7	Mar 26, F	10	10.1 - 10.3
Feb 3, W	3	3.8	Mar 29, M	10	10.4 - 10.7
Feb 5, F	3, 4	3.9 - 4.1	Mar 31, W	10	10.8 - 10.10
Feb 8, M	4	4.2 - 4.6	**Apr 2, F**	**No Class**	**GOOD FRIDAY**
Feb 10, W	4, 5	4.7, 4.8, 5.1	Apr 5, M	10	**Rotational Motion Lab**
Feb 12, F	5	**Newton's 2nd & 3rd Laws Tutorial**	Apr 7, W	11	11.1 - 11.3
Feb 15, M	5	5.2 - 5.6	Apr 9, F	11	11.4 - 11.6
Feb 17, W	6	6.1 - 6.3	Apr 12, M	12	12.1 - 12.3
Feb 19, F	6	6.4 - 6.6	Apr 14, W	14	14.1 - 14.2
Feb 22, M	1 - 6	Midterm REVIEW	Apr 16, F	14	14.3 - 14.5
Feb 24, W	**1 - 6**	**Midterm 1 Exam**	Apr 19, M	14	**Pendulum Lab**
Feb 26, F	7	7.1 - 7.4	Apr 21, W	1 - 6	FINAL REVIEW pt. 1
Mar 1, M	7	**Work & Work Energy Theorem Tutorial**	Apr 23, F	7 - 12, 14	FINAL REVIEW pt. 2
Mar 3, W	8	8.1 - 8.4	Apr 26, M	No Class	
Mar 5, F	8	8.5 - 8.8	**Apr 28, W**	**1-12,14**	**FINAL EXAM**
Mar 8, M	8	**Conservation of Energy Lab**			
Mar 10, W	9	9.1 - 9.5			
Mar 12, F	9	9.6 - 9.8			
Mar 15, M	9	**Conservation of Momentum Tutorial**			
Mar 17, W	9	9.8 - 9.10			

* **Review these sections in the book BEFORE coming to class in order to be prepared.**

RED TEXT denotes a Tutorial Lab during class time (print it out ahead of time!)
BLUE TEXT denotes an Experimental Lab during class time (print it out ahead of time!)

Expectations

Professionalism - As a professional, you are expected to collaborate with your colleagues during in-class activities or out-of-class group projects, and to respect one another with exemplary listening skills during all interactions, presentations, and class discussions. This also requires supporting your classmates with positive body language and appropriate verbal communication.

Late Assignments - Late work is very detrimental to students learning the material; courses moves too quickly through new and challenging material. Therefore, while there is no formulaic deduction of points for late work, *late work will invariably receive a lower grade* than work turned in on time.

Study Groups - Working on homework and studying in groups is *highly* recommended, as active group interactions are very beneficial to the learning process. However, all work you turn in *must be your own original work.* Copying of any kind is considered academic dishonesty (see below). In addition, beware of relying too heavily on other students while completing assignments. If you are continually incapable of completing assignments on your own, please come to my office hours and seek assistance!

Academic Honesty - Any incident of academic dishonesty (cheating, plagiarism, copying, and other forms) must be reported to the Dean of Students. A first incident of cheating may be handled at the discretion of the instructor in consultation with the Dean. Judicial sanctions may include, but are not limited to, loss of a letter grade or failure in the course in which the offense occurred, suspension, and/or dismissal from the University. A detailed discussion of academic dishonesty appears in the CBU *Student Handbook.*

Students with Disabilities - Students who have qualified disabilities and wish to arrange the appropriate accommodations, in addition to the general academic support services coordinated by the Academic Resources Center, must identify themselves to the Director of Disability Services. Disabled students who wish to arrange appropriate accommodations must complete and submit a Request for Accommodations form and provide recent (not older than 3 years) diagnostic test results.