

CHAMINADE UNIVERSITY
PHY-130L: PHYSICS OF HUMAN MOTION LABORATORY
COURSE SYLLABUS – Spring 2015

Instructor: Eric Dodson
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Office Phone: 739-8363
Office Hours: MWF 2:30-3:20 PM,
TuTh 9:30-10:20 AM, and by appointment
Course Time: Th 2:30 AM-5:20 PM
Course Room: Henry Hall Lab 10
Prerequisites: Concurrent enrollment in PHY-130 is assumed.
Required Text: None. Handouts will be provided.
Other Materials: Calculator and Lab Coat

COURSE DESCRIPTION:

This is an introduction to laboratory techniques and experiments that illustrate and apply basic physics principles presented in lecture. Students will have the opportunity to apply the scientific method in collecting and analyzing data. Students will investigate fundamental principles of physics and their application to human motion.

COURSE OBJECTIVES:

Upon successful completion of the course, students will be able to:

- Make careful measurements of physical quantities.
- Apply principles of physics in the analysis of human motion.
- Present results graphically and make calculations using a calculator or computer as appropriate.

EVALUATIONS AND GRADING SCALE:

Worksheet Lab Reports 70%
Quizzes 30%

90%	–	100%	.....	A
80%	–	90%	.....	B
70%	–	80%	.....	C
60%	–	70%	.....	D
0%	–	60%	.....	F

Incomplete grades (I) will be given in accordance with college regulations as outlined in the college catalog. Withdrawals (W) from the class are the responsibility of the student and deadlines are set by the college.

LAB REPORTS:

There are fourteen labs during the semester. They will be in the form of worksheets and should be completed in class and turned in at the beginning of the next class

Although students will work in groups on experiments, lab assignments are individual preparations. Each student is responsible for their own interpretation of results.

QUIZZES: We will have a short quiz at the beginning of each lab (5-10 minutes). The quiz will be based on your understanding of the previous weeks lab. No make-up quizzes will be given. At the end of the semester I will drop your lowest quiz score.

ATTENDANCE:

Each students is expected to attend every lab. Arrive on time. Makeup labs will only be given under extenuating circumstances beyond the student's control. If a student knows in advance of an absence, inform the instructor as soon as possible.

SAFETY:

No food or drinks are allowed in lab. In addition, student must wear lab coats and closed-toed shoes at all times. Slippers are not allowed. At times we will be doing physical activities. You do not have to do anything that you do not feel comfortable or safe doing, see your instructor if that is the case.

TENTATIVE SCHEDULE:

Week	Lab
1	Intro, General Education Survey
2	Units (mks) and Measurement
3	Position, Velocity and Acceleration
4	Running Speed: Stride length and frequency
5	Projectile Motion
6	Force Plate I (Squats and Pushups)
7	Force Plate II (Vertical Jump)
8	Energy I
9	Energy II
10	Torque
11	Center of Mass
12	Specific Heat
13	TBA
14	TBA
15	TBA