

Course learning outcome:

At the end of this course successful students will be able to reason using multiple models simultaneously to make sense of, and clearly communicate their understanding of novel problems.

I. Course Basics

A. Lecture Times:

“A” sections Thursday 7:30am-8:50am

“B” sections Thursday 9:00am-10:20am

“C” sections Friday 7:30am-8:50am

“D” sections Friday 9:00am-10:20am

B. Discussion Lab [DL]: varies

C. Office hours EPS 2314:

R: 11:00am-noon (A/B precedence)

F: 11:00am-noon (C/D precedence)

D. Add the class or changing sections

Do *not* use SISWEB to add/drop a lab or discussion if you wish to remain enrolled in the class! Instead, go to the DL Discussion/Lab) you wish to attend and talk to the instructor. If s/he has space for you, s/he will give you a PTA. Do not ask me for a PTA, I will not give you one the limiting factor is space in the DLs, so all additions are done by the DL instructors.

E. Materials

1. **Text:** *College Physics, a Models Approach (Part I)*, by W. Potter et. al.

Available at the bookstore. This includes your activity sheets for DL, model summaries, as well as an **access code for the online text**.

Online text available at: physics7a.ucdavis.haydenmcneil.com

2. **iClicker**

A device used for participation in lecture. It can be purchased at the UCD Bookstore. You can use either iClicker1 or iClicker2. V1 is designed for individuals with visual impairment. V2'd design features a screen that shows confirmation your submission was received. At your earliest convenience, you need to register it under your name at this site (we don't use a learning management system):

www1.iclicker.com/register-an-iclicker

II. Course Structure

The time allocation of the course, spending 3.5 times as long in DL as lecture is indicative of where your learning will happen. Take lecture seriously, and DL more so.

A. Lecture

Lecture is the place where the tone of the course is set. I will provide large scale overview and context for what happens in DL. Lecture will have ample opportunity for you to participate with your iClickers. Questions will be asked throughout each lecture. You will get credit for *answering* questions, not for your correctness. Beyond context, lecture will occasionally provide strategies for problem solving and thinking in physics terms. Lecture will also have demonstrations from time to time that can support your learning but are not available to be done in DL.

B. DL

Discussion Labs [DL's] are the core of Physics 7. They are a place for you to figure out how to solve problems and answer questions you have not seen before.

1. **Attendance:**

There is so much material covered in every DL that you can't afford to miss even one. If missing your scheduled DL is unavoidable, you should make every effort to attend a make-up. See the document "Physics 7 DL Make-up Procedure" for details on how to do this. It can be found at SmartSite in Resources/Course Policies.

2. **Participation:**

The idea of the DL is to learn by engaging your brain to figure out things for yourself. This can only occur if you are an active participant, rather than a passive observer. So active participation in both the small groups and whole class discussions is doubly rewarded directly by possibly getting you a better DL grade, and indirectly (and more dramatically) by helping you learn the material so that you score better on quizzes.

3. **Homework:**

These are referred to as "FNTs" ("For Next Time"). These serve the dual purpose of solidifying material you just covered in DL and preparing you for the next DL. Like participation, this affects your DL grade in a direct way your DL instructor will count your completion of these assignments toward your DL grade; and in an indirect way these will better prepare you for learning that occurs in DL and for taking the quizzes.

III. Assessment

A. **Quizzes**

Quizzes will be primarily conceptual but you may be required to do some calculations so bring a calculator. *Cell phones are not allowed.* Quizzes will be in lecture and on:

Oct 9/10 through FNTs gone over in DL 2

Oct 16/17 through FNTs gone over in DL 4

Oct 23/24 through FNTs gone over in DL 6

Oct 30/31 through FNTs gone over in DL 8

Nov 6/7 through FNTs gone over in DL 10

Nov 13/14 through FNTs gone over in DL 11

Nov 20/21 through FNTs gone over in DL 13

Dec 4/5 through FNTs gone over in DL 16

B. **Clickers**

Clicker questions will be asked in every lecture. If you answer a question during lecture you will earn credit for that lecture. Your clicker participation over the whole term counts is the equivalent of one quiz. If you do not have a clicker the first day (only) of class you will not be penalized, but you will not be able to participate as fully.

C. **DL**

Because of the importance of your participation in DL, your DL instructor will be assessing your participation. While there are non-verbal, non-visual ways to participate they are much harder to assess. Given the importance of communication your active participation will be assessed. Your DL instructor will assign you a DL grade. This DL grade is like extra credit, though it can be positive or negative.

D. **Final**

The final is cumulative and will be on Tuesday December 16th 8am-10am.

IV. Grades

A. **Grading Philosophy**

Responses that have a correct numerical answer but no explanation will receive lower grades than ones with some correct explanation. It is your responsibility to earn points from the clear communication of your answer, not the grader's responsibility to discern where you have gone awry. Thus even a response you know is wrong with an explanation as to how you know is preferable to blank or simply a numerical answer.

B. **Academic Dishonesty**

You are welcome and encouraged to work together in DL and on your FNTs. However due to the necessity of assigning individual grades your quizzes are your responsibility alone. All cases

of suspected academic dishonesty are reported to Student Judicial Affairs. Cheating is an affront to the dignity of UC Davis and a slight to the effort your classmates have put in, and an insult to your instructor as well.

C. Grade Descriptions

Each quiz will be graded out of 10 points. Fractional points are possible. Below is a rough outline of the meaning of various point values. Grades are earned by the understanding you clearly communicate to the grader. Given the below scale it is always advantageous to write something down for you quizzes

10pts: Complete and correct answer addressing all the relevant physics

9 pts: Correct answer either omitting or incorrect in some insignificant details

8 pts: Conceptually correct

7 pts: Has some correct physics

1-5pts: minimal progress within model

0 pts: Blank

D. Grade Scale

9.5 pts: a “middle” A

8.5 pts: a “middle” B

7.5 pts: a “middle” C

6.5 pts: a “middle” D

< 6 pts: F

E. Quiz and Clicker Grade

Your clicker participation in *all* lectures counts as one quiz. Your lowest quiz or lecture grade is dropped. This will be done automatically. If you do not have an iClicker on the first lecture, your clicker grade will be based on the other 9 lectures.

F. DL Grade

Your DL instructor will assign you a DL grade based on your participation *not* the correctness of your answers.

1. **High Pass** Truly exceptional individuals who consistently and substantially enrich the entire class by their preparation, small group work and whole class contributions. Receives +0.4 on a 10 pt. scale when calculating course grade.
2. **Mid Pass** Exceptional students who consistently make meaningful contributions to both small group and whole class. discussions. Receives + 0.1 on a 10 pt scale when calculating course grade.
3. **Pass** Students who regularly participate in both small group and whole class discussions. To earn a “pass” students must have no more than 1 unexcused absence. Receives no change when calculating course grade.
4. **Low Pass** Students whose participation is occasionally absent from or detrimental to the small or whole class discussions. Or may have two un-excused, unmade-up DL meetings. Receives -0.4 on a 10 point scale when calculating course grade.
5. **Unsatisfactory** Rare individuals who consistently disrupt class or who are frequently absent or late. Individuals with three un-excused, unmade-up DL's automatically receive an unsatisfactory. Receives -1 on a 10 pt. scale when calculating course grade.
6. **Fail** Exceptionally rare students who are largely absent from DL and when present are detrimental to the class either through action or inaction. Students with four or more unexcused or unmade-up DLs will automatically receive a Failing grade. Students who fail DL automatically fail the course.

G. Course Grade

Your course grade will be whichever is better for you. Either

Course Grade = 40% Quiz and Clicker Grade + 60% Final + DL Grade

or

Course Grade = 60% Quiz and Clicker Grade + 40% Final + DL Grade

v. policies

- A. **Email** All emails to the instructor must abide by the following rules:

1. All email must have the text “7A” in the subject line.
2. No emails that ask procedural questions that this syllabus or other resources on smartsite answer will be answered.
3. Physics questions, often need pictures and are best answered *in person*.
4. All physics questions that are appropriate for email will get posted to the course chat-room for crowdsourcing.

B. Students with Disabilities

Extra time will be given to all students who present a letter from the Student Disability Center (sdc.ucdavis.edu) in the amount prescribed in the letter.

VI. External Resources

A. Student Academic Success Center

The Student Academic Success Center provides a number of *free* services for students including drop-in tutoring (success.ucdavis.edu/academic/dropin.html) on Physics 7A. Note some tutors are more familiar with Physics 7's teaching philosophy than others.

B. Physics Club Tutoring

The Physics Club offers *free* drop in tutoring in room Physics 388. As above, some tutors are more familiar with Physics 7's teaching philosophy than others. The schedule can be found here: maxwell.physics.ucdavis.edu/phyclub/tutoring.html

- C. **A cool word** I, your instructor, think acatalepsy is a cool word. Congratulations on reading the syllabus all the way though.