

PHYSICS 151: Mechanics for Scientist and Engineers
Section 2 , MWF 10-10:50am, LH 150
Office Hours: MWF: 9-10, PH1-221

- **Instructor** Galen T. Pickett, gpickett@csulb.edu, 562-985-4934, PH1-221.
- **Course Webpage** <http://www.csulb.edu/~gpickett/phys151/phys151.html>
- **Textbook and supplemental materials**
 1. *Matter and Interactions, 2nd edition* by Chabay and Sherwood. Each textbook comes with a radio-frequency (RF) clicker we will use in class. **YOU MUST BRING YOUR CLICKER TO EACH CLASS MEETING.** You can register your clicker in class on the first two days we meet, or you can register your clicker online at
 - <http://www.iclicker.com>Homework in the course will require you to access the world-wide at:
 - <http://session.masteringphysics.com/myct?productID=standalone> and pay a registration fee. The class number for this section is
 - **PICKETTPHYS151FALL09**
 2. Physics 151 laboratory manual. Both books are available in the bookstore.
- **Grading** There will be no curve in this course. Semester averages will determine your grades as follows: 100-A-90, 89-B-80, 79-C-70, 69-D-60, 59-F-0. Your semester average comes from:
 1. **Graded problem solving** 20 (homework) + (clicker response in class) 5.
 2. **Laboratory** 25.
 3. **Hour Exam I, Friday, Oct. 9** 20.
 4. **Hour Exam II, Friday, Nov. 13** 20.
 5. **Final Exam, Wednesday, Dec. 16, 10:15-12:15 LH 150** 10.
- **Graded problem solving** You will be working assigned sets of problems approximately every two weeks in the course. You must submit your answers to the assigned problems via the world-wide web by 9 AM on the Saturday in the week the problems are due. These problems will be machine-graded, with results reported to me, and will determine 20% of your semester grade.

The “in-class” portion of your grade is worth 5% of your overall grade, and is determined by your performance on in-class exercises throughout the semester. You can only prepare yourself for these exercises by **READING THE ASSIGNED CHAPTERS BEFORE CLASS.** Portions of these exercises will involve cooperative work between you and your classmates, so *your classmates will be depending on you.* **If you miss a class meeting, you will only get credit for these exercises by seeing me individually as soon as possible after the absence.** University-approved absences with appropriate documentation entitle you to a make-up assignment. Your make-up will typically involve working a similar problem individually, to be turned in and graded by me.
- **Exam I, and II** You will need **TWO BLUE BOOKS** for each of these exams. These exams will consist of 1-2 problems for you to work out. During the first 30 minutes of the exam, you will be required to work individually, without communicating electronically or otherwise, with closed books, closed notes the assigned problems. Your papers will be turned in at that time. In the last 20 minutes of the exam period, you will be given the opportunity to collaborate *at will* as you complete the same set of problems. Your exam grade will be the numerical average of the scores you achieve in both parts of the exam.
- **Final Exam** The final exam will be a traditional, 2-hour comprehensive exam. You will not be allowed to collaborate in any way during the final. **The final may involve the use of the clicker device.**

- **Laboratory** Without a grade from your laboratory instructor, you will earn an F. If you fail to turn in two laboratory reports, the instructor will **not assign a grade, and you will get an F for the overall course grade.**
- **Absences** I will abide by the University policy on absences. Any university-approved absence with appropriate documentation entitles you to a reasonable make-up assignment.
- **Accommodation** If you require accommodation through the DSSC, please see me.
- **Credit by examination** Some of you have already mastered the material in this course as the result of advanced classes in engineering statics and dynamics. If you wish to receive credit for this course by examination, I urge you to read the relevant section of the university catalog. To take advantage of this process, you must register for the class as a **CR/NCR** student, and this has to be approved by your undergraduate advisor. I will provide interested students an examination in the 3rd week of classes. Acceptable performance on that exam will earn you a “CR” grade for this course, and you will not be required to complete any further work in the class (laboratory, homework, exams). If you do not perform acceptably, you have the option of withdrawing with a “W” grade, or completing the class as a normal “CR/NCR” student.

Schedule

1. **Aug. 31-Sept. 4** Position, Vectors, Geometry, Momentum. Chapter 1.
 2. **Sept. 7-11** First Law. Momentum Principle. Constant Net Forces. Conservation and Collisions. Chapter 2 (start). **Problem Set 1 due Sat. Sept. 12 9AM.**
 3. **Sept. 14-18 Sept. 14, last day to drop without a “W” grade.** Chapter 2 (cont.)
 4. **Sept. 21-25 Sept. 21, last day to petition for CR/NCR option.** Non-constant forces, gravitation, electric forces. Chapter 3.
 5. **Sept. 28-Oct.2** Contact forces and the momentum principle. Tension, stress, forces and rate of change of momentum. Chapter 4 (start). **Problem Set. 2 due Sat., Oct. 3 at 9AM.**
 6. **Oct. 5-9** Chapter 4 (end). **EXAM I, Friday Oct. 9.**
 7. **Oct. 12-16** Energy Principle, conservation of energy, kinetic and potential. Work, work-energy theorem. Chapter 5 (start).
 8. **Oct. 19-23** Energy principle and Energy principle in macroscopic systems. Sliding friction. Chapter 5 (end), Chapter 6 (start). **Problem Set 3 due Sat., Oct. 24 at 9AM.**
 9. **Oct. 26-30** Energy quantization. Multiparticle system. Chapter 7. Chapter 8 (start).
 10. **Nov. 2-6** Chapter 8 (end). **Problem Set 4 due Sat. Nov. 7 at 9AM.**
 11. **Nov. 9-13** Collisions, chapter 9. **Exam II Friday, Nov. 13**
 12. **Nov. 16-20 Nov. 20 Last day to drop without a Dean’s signature.** Angular momentum, Chapter 10 (start)
 13. **Nov. 24-28 No class Nov. 24-28, Fall break / Thanksgiving.**
 14. **Dec. 1-5** Angular momentum, angular momentum-principle. Chapter 10. (end) **Problem Set 5 due Sat. Dec. 5, 9AM.**
 15. **Dec. 7-11** Entropy. Chapter 11. **Problem Set 6 due Sat. Dec. 19 at 9AM.**
- FINAL EXAMINATION Wednesday, Dec. 16, 10:15-12:15 LH 150.**