

**San José State University**  
**Department of Physics and Astronomy**  
**Physics 50W, General Physics: Mechanics Workshop, All sections, Spring 2019**

**Course and Contact Information**

**Instructor:**

**Office Location:**

**Telephone:**

**Email:**

**Office Hours:**

**Class Days/Time:**

**Classroom:** Science 326 or 319

**Prerequisites:** Completion of Math and English Remediation or a post baccalaureate; 3 or better on AP Calculus test or 'C' or better in Math 30 or Math 30P or Math 30PL; co-enrollment in Physics 50 lecture and lab.

**Faculty Web Page and MYSJSU Messaging**

You are responsible for maintaining contact with your lab instructor by checking with the messaging system through [MySJSU](http://my.sjsu.edu) at <http://my.sjsu.edu> and/or Canvas. Make sure that your email does not put anything from the sjsu.edu domain into your spam folder.

**Course Description**

Physics 50 is a calculus-based treatment of particle kinematics and dynamics, work, energy, momentum, rotational motion, equilibrium, and simple harmonic motion. The workshop meets for 1 hour and 50 minutes, once a week for the 15 week semester.

**Course Goals**

All accredited engineering degree programs in the US must include two semesters of calculus-based physics. Quantitative problem solving is the central skill of this course and to your major. The overall goal for Physics 50 Workshop is to help you develop and improve your quantitative problem-solving skills.

## Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to solve physics problems on every topic covered by this course. Specifically, students will be able to:

1. Draw a mathematically useful diagram (or schematic) of a problem
2. Interpret a problem to determine what quantities are given, which ones you are asked to solve for, and which quantities you may need to find before you can calculate what is asked for (in other words, you will be able to solve multi-step problems, not just plug and chug into equations off of an equation sheet)
3. Determine the physical principles that apply to a problem
4. Derive relationships between the physical quantities given in a problem, and set up a system of simultaneous equations relating these quantities
5. Solve systems of equations using algebra, geometry, trigonometry, and calculus (derivatives and a few simple integrals)
6. Draw and interpret graphs of various quantities with respect to time or position (e.g. velocity vs. time, force vs. position)

## Required Texts/Readings

### Workshop handouts

Each week, paper copies of the workshop problems will be available in Science 326. There is no textbook, or manual for the workshop. Just bring pencils, erasers, and your calculator.

## Course Requirements and Assignments

Participation is required in this course. The workshop instructor will hand out a problem set at the beginning of class. Spend about 15-30 minutes working quietly on your own, and identify the physics concepts and equations for each one without actually doing all the math (sometimes that can be really time consuming). After working independently, switch over to working in small groups (2-4 students) to solve the problems.

While you are working on your own and in small groups, the instructor will come around and see how you are doing, helping out as needed. The instructor is not there to lecture! Students are expected to be actively engaged in problem solving. When there is about a half hour remaining, the instructor may lead a whole-class discussion on some of the harder problems that not everyone was able to solve. The workshop room is equipped with whiteboards and markers; please feel free to use those as needed.

If you finish early, feel free to work on homework problems or ask the instructor for help on other topics.

### Final Examination or Evaluation

There is no final exam for the workshop because the final exam is administered in the lecture part of the course.

## Grading Information

### Determination of Grades

Since this course is graded credit/no credit (CR/NC), there will be no formal assignments or problems to turn in for a grade. However, participation is essential. If you do not put in adequate effort on a problem set, you will receive a 0 as a participation grade for that day. Examples of not putting in adequate effort include, but are not limited to: coming late to workshop or leaving early, not showing up at all, working on assignments from other classes, using your computer or mobile device in class, and any other activities that are distracting to the learning environment and/or are not pertinent to solving physics problems.

Your instructor has absolute discretion as to whether you receive a participation grade of 0 for that day. You will receive a course grade of No Credit if you have more than three days in which you received a 0 for participation. These can be three absences, but they can also be any days in which you did not adequately participate, as defined above.

There is no extra credit, and all of your participation grade is based on your work done during your assigned workshop time. If your life circumstances require that you have more than three absences, please see Dr. Kress ASAP to figure out how to proceed.

Your instructor may assign an exit problem that will be turned in at the end of class. The idea is to give you some feedback on exam-like problems, to give you an idea on how you're doing.

### Classroom Protocol

Laptops, mobile devices and other computers are not allowed during workshops, except if you finish the problem set and want to work on the homework for Physics 50.

### University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

Tutoring for Physics 50 is available from the College of Science Advising Center (COSAC), and Peer Connections. Check their websites for more info:

<http://www.sjsu.edu/cosac>

<http://peerconnections.sjsu.edu>

# Physics 50W, General Physics: Mechanics Workshop, Course Schedule

Workshops begin on Monday, January 28. If your Workshop meets on Monday or Tuesday, you may not have covered the material yet in lecture. If you want, Monday and Tuesday workshops can go over the previous week's problem set.

## Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	1/28 – 2/1	Chapter 1 problem set (adding vectors, math review)
2	2/4 – 2/8	Chapter 2 problem set
3	2/11 – 2/15	Chapter 3 problem set
4	2/18 – 2/22	Chapter 4 problem set
5	2/25 – 3/1	Exam week (Review previous problem sets, there will also be some more review problems assigned)
6	3/4 – 3/8	Chapter 5 problem set
7	3/11 – 3/15	Chapter 6 problem set
8	3/18 – 3/22	Chapter 7 problem set
9	3/25 – 3/29	Chapter 8 problem set
10	4/8 – 4/12	Exam week (Review previous problem sets, there will also be some more review problems assigned)
11	4/15 – 4/19	Chapter 9 problem set
12	4/22 – 4/26	Chapter 10 problem set
13	4/29 – 5/3	Chapter 11 problem set
14	5/6 – 5/10	Chapter 14 problem set
15	5/13	Final exam – no workshops this week

Please note that sometimes workshop might get a little bit ahead of the lectures. If this happens (usually Monday and Tuesday workshops), you can work on the previous week's problems. The main thing is to get problem solving practice.