Faculty Web Page
The greensheet, other files, your Quiz/ test grades and useful links will be found on the Canvas course website. Please check Canvas regularly for updates.

Course Description
This course is a preparatory course for Physics 50. Physics 49 is designed to prepare students who are not well versed in math and physics skills during high school or earned less than C in their college math course. The focus of this course is to help students develop math and conceptual skills to analyze and solve problems in related topics, which will be then applied in analyzing and solving complex problems in the fast-paced physics 50 course. Physics 49 help students to build skills in how to:

- Read, understand, and interpret physical information. Describe and explain the sequence of steps in the analysis of a particular physical phenomenon or problem.
- Use mathematical reasoning in a problem. Also, this course will focus on developing students’ skills in mathematics/physics methods such as unit conversion, recognizing significant figures, vectors. Using “GUESS” method to analyze and solve physics problems. and interpreting graphs.

Course Goals and Student Learning Objectives
Upon successful completion of this course, you will be able to:

A. Demonstrate critical thinking
B. Assign the proper units and significant digits to solutions of physics problems
C. Interpret and provide position-time, velocity-time, and acceleration-time plots for different motion scenarios.
D. Describe the motion of objects using physics terms and concepts, such as velocity, acceleration, and force.
E. Use algebra, trigonometry, and vectors to solve mechanics problems.
F. Work with dimensionally consistent quantities and indicate appropriate units in written work.
G. Break complex physics problems into tractable steps.
H. Translate information between real world problems and the mathematical relationships that describe them.
I. Describe the solution to problems using clear logic and diagrams.
J. Understand the concept of error of experiment and its significance in results of an observation correctly solve basic problems in classical mechanics.

Required text and online learning system

Textbook: University Physics by Young and Freedman (The edition that includes content covered by Physics 50). This textbook will be used in your Physics 50 course too.

Mastering Physics for Homeworks / videos and tutorial:
This online learning system can be purchase along with your textbook or you can purchase it separately. Basically you will purchase an access code to the course specific learning and homework practice system available at www.MasteringPhysics.com, the online homework system, which is also required. MasteringPhysics is where you will get detailed feedback about your problem-solving abilities, and it also contains a lot of explanatory videos and interactive tutorials.
The link below is a tutorial on how to register for the online homework (and textbook) study tool http://www.youtube.com/watch?v=BCWgNu-kxi0&list=PLRpRY65o3rxaYHYB9UC-rOeB1yaU93wz

Mastering Physics Course ID # SIGARIPHS49F19

Course Requirements and Assignments
A homework activity will be assigned on “Mastering Physics”. Each homework activity will be given a “due date” and the homework will not be accepted after the due date. Additional homework problems will be assigned from the textbook. The homework will be assigned according to acquired knowledge during related class meetings. Plan to attend each lecture session in order to successfully complete your homework. Homework activities, material covered in the textbook, along with class discussions and reviews will prepare you for quizzes or exams.

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five minutes for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. You are expected to spend at least 6 hours a week outside of the class for reading, doing homework, and studying the material. For each lecture you skip, add another couple of hours to your study time. Remember, physics is a cumulative subject, missing a single class can set you behind for the entire semester.

Studying and problem-solving in groups is highly recommended, but you should also schedule time to solve problems on your own, because that is what your grade depends on. Three hours a week is a minimum to shoot for. Most importantly: Do not fall behind! Every week builds on what we did in the weeks before. Ask for help before it is too late.
Your physics textbook is filled with sample problems. Do them all and try to avoid looking at the answer keys or YouTube. Nothing better prepares you for an exam than working lots of problems. Try to solve as many practice problems as you can. The more physics problems you solve, the better you get in solving more complex problems.

Classroom Protocol

Attendance
Class attendance is crucial to your success. The class consist of lectures but mostly on solving problems on white boards and work sheets. It is not possible to make up for this kind of interactive class work and physics learning. The lecture power-points and other files will be posted in Canvas.

I understand that life’s events can occasionally make it difficult to attend every class meeting, so if you miss class once or twice during the semester, you will be OK as long as you put in an extra 2-3 hours of study time to cover the material you miss. If you find that you have a situation that causes you to miss more than one or two classes, please consider withdrawing, because you are not getting what you’re paying for and you’re very likely to fail anyway. If you already know that you will miss more than a total of two class meetings this semester, I would not recommend taking this course now.

Please arrive early to class. It is distracting to your fellow students when you arrive late and look for an empty seat, particularly during quiz or exam days. It is essential that you be on time. If you are late or leave early without legitimate excuse it will be counted as an absent.

Electronic devices
No Smartphones, or any electronic device. Laptops are allowed for taking notes only.

Please remember to bring your calculator to class, especially on quiz and exam days. If you forget, you will not be able to use your phones and points will be deducted for not completing a calculation if it involves numbers. You may use calculators on all assignments (in-class, homework, and exams. Cell phones are not allowed. Please remember to keep your cell phones quiet (and stored away!) during class. No e-mail, surf the net, or shop, etc. using your laptop.

Dropping and Adding
September 3rd is the last day to drop without penalty. Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. This information can be accessed at http://www.sjsu.edu/aars

Be aware that reasons such as court appearance, illness that does not require hospitalization, flat tires, death of an extended family member, are not adequate reasons to get a late drop.

Office Hours
I would be available during my office hours in my office (SCI303) to address your homework questions, classwork problems, and related general questions. The best way to reach me is via
email (Elahch.sigari@sjsu.edu). If you have other concerns (for instance, about how you’re doing in the course) please email me to set up an appointment.

Grading Policy

Quiz Midterm exams

There will be three midterm exams. The dates and topics are specified on the last page. Each exam constitutes 20% of your overall course grade. The tests entail solving problems similar to the example problems worked in class and homework problem sets. There will be weekly quizzes. These quizzes which constitutes 5% (total) of your overall course grade, will be administered the first 15 minutes on Fridays and will test material covered that week. If you are late for the quiz, you will have less time to do the quiz. You must show all steps (full explanation) of your work in any exam or quiz, to get credit for word problems.

Missing an exam is an extremely serious matter. THERE ARE NO MAKE-UPS GIVEN AFTER THE QUIZ and MIDTERM, FOR ANY REASON, EXCUSED OR NOT.

If you must miss an exam for reasons that are directly related to your academic curriculum at SJSU, you can take the exam before your originally scheduled midterm. Examples include band competition, military exercises, and intercollegiate athletes (not intramural) attending an away-game. These events typically have more than two week’s notice, so keep an eye on the exam schedule and let me know if you anticipate a conflict with an exam date. To take the exam early, you must let me know at least two weeks before the exam, email me a letter from the coach, conductor or faculty member who is responsible for the event and arrange with me to take the exam earlier than originally scheduled.

Sometimes students miss an exam for reasons that cannot be predicted more than 2 weeks in advance. Such examples are illness, family emergency, funerals, flat tires, etc. In these cases, taking the exam on a later date is not possible. If the unforeseen happens, and if the student is otherwise making adequate progress in the course, the fraction of the course grade that depends on exams will be split between the one midterm and the final but the opportunity for “grade improvement” is lost. You also must provide some kind of documentation of why you missed (e.g., doctor’s note in the case of a serious illness, military orders, etc). You must be making adequate progress in the course to continue on if you miss an exam.

If you feel that there was an error in grading your exam, you must notify me within one week of getting your exam returned. Here is the process: email me to make an appointment to review your work. You need to bring your original work, with nothing written in the paper that was not on the original exam (except for your name at the top. Any requests that do not follow these instructions will not be considered. You need to review carefully the solution which will be provided after the exam to make sure that your solution is correct before making an appointment with me. “My friend did the same thing but got more points than I did” is not a valid reason to ask for more points.
Missing a midterm is an extremely serious matter. If an illness or emergency causes you to miss an exam, you must let me know before (if possible) and schedule an appointment with me to discuss your progress in the course. This meeting must occur within one week of the missed exam, otherwise it is a WU in the course. If your circumstances prohibit this meeting from happening within one week, you should withdraw from the course. You also must provide some kind of documentation of why you missed (e.g. doctor’s note in the case of a serious illness, military orders, etc). You must be making adequate progress in the course to continue on if you miss an exam. If you miss a lab before exam 1 and then miss exam 1, you must withdraw from the course.

Final exam

The final exam will be comprehensive (it covers everything). You must take the final exam during the time specified by Academic Scheduling (Tuesday Dec 17th, 1215-1430 pm) in our classroom. If you miss the final exam, but you have at least a C in the course at that point, you will receive an incomplete. You will take the final during the next semester. If you miss the final and do not have at least a C (or have missed one midterm), you will receive a WU for the course.

Homework, Classwork

The majority of the assignments done outside of lecture will be conducted online, through the website http://www.masteringphysics.com. It is a requirement to sign up for the online homework. Also, off-line assignments will be given throughout the semester as your homework and classwork. Homework and classwork count for 5% of your overall grade.

Final grade determination for the course

Your final grade will be determined from your homework and classwork (5%), quizzes (5%), three midterm tests (60%) and your final test (30 %) final test. The homework and quiz grades will help decide the distinction in your grade (i.e. B, B-, or B+)

These letter grades are assigned based on your total score:

| A+ = 100-97% | A = 96-93% | A- = 92-90% |
| B+ = 89-87% | B = 86-83% | B- = 82-80% |
| C+ = 79-77% | C = 76-73% | C- = 72-70% |
| D+ = 69-67% | D = 66-63% | D- = 62-60% |
| = 59-0% Unsatisfactory |

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.

Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.
Campus Policy in Compliance with the American Disabilities Act
If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

Student Technology Resources
Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. Here in the Physics Department, we have a computer room (Sci 242) available during most business hours (except when a class is in session).
### Tentative Schedule

**Physics 49: Introduction to Physics, Section 3, Fall 2018**

This is a list of topics to be covered in class. This schedule is approximate but we will try to stick to it. The topics are listed below. There will be an online homework due shortly after we finish each chapter.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Exam dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug 21- Aug 23</td>
<td>General course introduction; Class overview, Ch.1: Unit Conversion, significant figures, vector</td>
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<tr>
<td>2</td>
<td>Aug 26 - Aug 28</td>
<td>Ch1 Cont., Ch2: Motion Along a Straight Line (Position, Displacement, Speed, Velocity and Acceleration)</td>
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<tr>
<td>3</td>
<td>Sep 2- Sep 4</td>
<td>Ch2 Cont. – Solving Problems</td>
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<tr>
<td>4</td>
<td>Sep 9- Sep 11</td>
<td>Ch2 Cont. – Solving Problems, More vectors</td>
</tr>
<tr>
<td>5</td>
<td>Sep 16- Sep 18</td>
<td>Ch2 Cont. - Solving Problems, More vectors</td>
</tr>
<tr>
<td>6</td>
<td>Sep 23- Sep 25</td>
<td>Ch, 3: Motion in two or Three Dimension</td>
</tr>
<tr>
<td>7</td>
<td>Sep 30- Oct 2</td>
<td>Exam 1: CH1, Ch2 (1- D motion and vectors, and chapter 1 basics) – Ch 3 Cont.</td>
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<tr>
<td>8</td>
<td>Oct 7- Oct 9</td>
<td>Ch3 Cont. - Solving Problems</td>
</tr>
<tr>
<td>9</td>
<td>Oct 14- Oct 16</td>
<td>Ch3 Cont. – Solving Problems</td>
</tr>
<tr>
<td>10</td>
<td>Oct 21- Oct 23</td>
<td>Exam 2: CH2, Ch3 Ch 4: Force and Newton’s Law of Motion</td>
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<tr>
<td>12</td>
<td>Nov 4- Nov 6</td>
<td>Ch 4 and Ch5 Cont. – Solving Problems</td>
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<tr>
<td>13</td>
<td>Nov 11- 13</td>
<td>Ch4 and Ch5 Cont. - Solving Problems</td>
</tr>
<tr>
<td>14</td>
<td>Nov 18 - 20</td>
<td>Ch 4 and Ch5 Cont. – Solving Problems</td>
</tr>
<tr>
<td>15</td>
<td>Nov 25 – 27</td>
<td>Ch 4 and Ch5 Cont. – Solving Problems</td>
</tr>
<tr>
<td>16</td>
<td>Dec 2 - 4</td>
<td>Exam 3: Chapter 4 and 5 Ch 6: Work and Energy</td>
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<tr>
<td>17</td>
<td>Dec 9</td>
<td>Quiz on Ch 6 and general review</td>
</tr>
<tr>
<td>Final</td>
<td>Dec 17 (Tues)</td>
<td>Cumulative exam (Chapter 1 through 5) (12:15-14:30 PM)</td>
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