

Student Learning Outcomes:

Upon successful completion of this course, you will be able to:

- ♦ test the validity of a hypothesis using the scientific method.
- ♦ identify the basic physical principles that apply in a particular situation (such as Newton's Laws, energy conservation, or momentum conservation).
- ♦ analyze conceptual problems that require the application of basic physical science concepts.
- ♦ solve simple mathematical problems that require the application of basic physical science concepts.
- ♦ define common scientific terms and physical laws.
- ♦ evaluate the pros and cons of topics such as nuclear power, release of greenhouse gases, and humanity's impact on the environment.

Course Outline:

The following is a tentative list of the topics covered and estimated dates of exams.

week 1	math, science, patterns in motion
week 2	changing motion, forces, Newton's Laws
week 3	gravity, satellite motion
week 4	energy, momentum, conservation laws, exam 1
week 5	temperature, heat, calorimetry, density, pressure, buoyancy
week 6	electricity, magnetism
week 7	exam 2 , waves, sound
week 8	light, optics, atoms, atomic spectra
week 9	quantum mechanics, nuclear decay
week 10	nuclear reactions, exam 3
week 11	molecules, chemical bonds, chemical reactions
week 12	the solar system, naked-eye astronomy
week 13	the Sun & other stars, exam 4
week 14	lightyears, life cycle of stars, galaxies, galaxy formation
week 15	big bang theory, dark matter, dark energy
week 16	exam 5 , review
week 17	final exam

Final Exam: Monday Dec. 13, 8:00 to 10:00 am

PS300 General Information

Keys to Success:

- Study everyday, not just on the weekends. The class moves very fast. Do not fall behind!
- Do all of the assignments. Start working on a new topic as soon as it is assigned.
- Do not give up if you do not understand something. Ask for help.
- Concentrate on understanding concepts rather than memorizing facts.

The Importance of Communication:

In this class, you will be evaluated on your ability to:

1. understand the questions I ask you,
2. determine the appropriate answers to those questions, and
3. communicate your answers in a clear and concise manner.

The last point is very important, but often overlooked. You cannot demonstrate that you understand a question and can answer it correctly if you do not communicate your answer clearly.

General Information:

- This class is language-intensive. You are expected to read and understand English, and to communicate in English with your instructor. If your English language skills are not up to speed then you will not succeed in this class, and you should consider taking the appropriate courses to prepare yourself for this course.
- There is no math pre-requisite for this course. However, since it is a college-level science course that uses some algebra, it is assumed that you have mathematical abilities equivalent to a typical California high school graduate.
- Any students requiring accommodation for disabilities need to contact me during the first few weeks of class so there is sufficient time to make the necessary arrangements.
- There are a number of campus resources available to help you succeed in this class.

LRC: The Learning Resource Center is a well-equipped, professionally staffed facility that offers students a personal approach to academic success through independent study, individualized tutoring, and alternate modes of instruction. (<http://www.arc.losrios.edu/LRC.htm>)

DSPS: Disabled Students Programs and Services provides specialized services and academic accommodations to meet the needs of students with disabilities. (http://www.arc.losrios.edu/Support_Services/DSPS.htm)

Science Skills Center: Work at your own pace on modules designed to help you improve your skills in note taking, paraphrasing, graphics reading, concept mapping, test preparation and test taking for science classes. (http://web.arc.losrios.edu/~biology/science_skills_center.htm)

PS 300 Attendance & Homework Policy

Daily Attendance:

Attendance is not required, but it is highly recommended if you intend to pass this class. Students who regularly show up late or skip class generally fail this class.

Athletes may miss a regular class to attend an athletic event if they bring a note from their coach and arrange to make up the work ahead of time. However, athletes may not miss an exam to attend an athletic event.

Tardiness:

Class starts on time. You are expected to show up sufficiently early to be in your seat and ready to go by the start of class. If you arrive to class late, please enter quietly to minimize the disruption.

Exam Attendance:

You are responsible to be in class on time and ready to go on exam days. Showing up late or missing an exam will affect your grade significantly. Plan ahead on exam days. Expect bad traffic. Expect to find no parking on campus. Get to campus early and show up to class early to get settled before the exam starts.

If you miss an exam and have a valid excuse, contact me on the same day to arrange a make-up time. Do not wait until next class to tell me you missed the exam and want to make it up. Make up exams will only be given with prior approval and are not guaranteed, even if you have a valid excuse.

Valid Excuses:

- Death (*yours, or an immediate family member*)
- Dismemberment
- Hospitalization or Illness Requiring Doctor's Visit (*if you show me a doctor's note*)
- Auto Accident (*if you show me a police report*)

Invalid Excuses:

- Oversleeping
- Transportation Problems (*e.g., ran out of gas, got stuck in traffic, couldn't find parking*)
- Illness Not Requiring Doctor's Visit (*e.g., bad cold, bad sushi, hangover*)
- Non-Emergency Appointments (*e.g., dentist, counselor, parole officer*)

Homework:

Homework will be collected at the start of class on the day it is due, and the answers will be discussed in class. **NO LATE HOMEWORK** will be accepted after the first 10 minutes of class, so come to class early and turn your homework in on time. Turn in your homework early if you know you will be missing class the day it is due.

Academic Misconduct Policy

Academic Misconduct:

Academic misconduct is an act of deception in which the student claims credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work. It occurs whenever students fraudulently attempt to show possession of a level of knowledge or skill that they do not possess.

Campus Policy:

Academic misconduct is a violation of the ARC "Student Standards of Conduct" and will not be tolerated. Ignorance of these academic and behavioral standards will not absolve any student from being held responsible for them or from any disciplinary action that may result. (Please see the ARC website or the current printed class schedule for the full details of campus policies.)

Academic sanctions and penalties may be applied in cases of academic misconduct depending on the seriousness of the infraction and those grading guidelines specified by the instructor of the class.

You may:

- receive a failing grade on a test, paper or exam.
- have your course grade lowered or possibly fail the course.

In addition to these academic sanctions, disciplinary action may be taken in any case of academic misconduct. Such action will be conducted by referral to the college Disciplinary Officer. You may:

- receive a warning that continued misconduct will result in further disciplinary action.
- be placed on disciplinary probation for a specific period of time.
- be removed from the class.
- be suspended from the college for a specific period of time.
- be expelled from the college permanently.

Instructor Policy:

Any student caught cheating on homework assignments – by copying solutions from another student, a solutions manual, the internet, or any other source of information – will receive no credit for that assignment and will receive a warning from the instructor. Repeated cheating will result in the lowering of the student's course grade at the end of the semester.

Any student caught cheating on a quiz or exam – by copying from another student, by illicitly obtaining information regarding test questions prior to taking the exam, or through the use of unauthorized materials during the exam – will receive no credit for that exam and will receive a warning from the instructor. Information regarding the student's misconduct will be passed on to the college Disciplinary Officer for further action. Repeated cheating on exams may result in a failing grade or the removal of the student from the class.