UBSP – Physical Science Course Syllabus (tentative) Introduction to Physical Science, Summer 2019 American River College

Lecture Instructor:Dr. Ruben T. AlmarazE-mail:almarar@arc.losrios.edu or rtalmaraz@ucdavis.eduOffice Hours:By appointmentCourse website:https://ic.arc.losrios.edu/~almarazr/S19-SBSP/

Course Content:

This course covers the fundamental concepts of physics and chemistry. It is designed for the student with little or no science background.

Learning Outcomes and Objectives:

Upon completion of this course, the student will be able to:

- Test the validity of a hypothesis using the scientific method.
- Analyze and set up measurements of physical quantities and convert units of physical quantities via the use of dimensional analysis.
- Collect, analyze, and present experimental data.
- Tabulate, graph, and interpret various experimental measurements and calculated results.
- Use instruments such as a protractor, mass balance, timer, ohmmeter, and voltmeter.
- Write a well-organized and complete lab report.
- Describe the atomic theory and interpret the periodic table.
- Name and write formulas of elements, ions, and ionic and molecular compounds as well as organic molecules.
- Draw Lewis Dot Structures (LDS), describe chemical bonds, and solubility of substances.
- Classify, distinguish, and contrast the classes and structural features of organic and biological compounds.

Textbooks:

Physics: <u>https://openstax.org/details/books/college-physics</u> Chemistry: <u>https://openstax.org/details/books/chemistry</u>

Advisory: Algebra with a C grade or better

Class Website:

I will be using the following website, <u>https://ic.arc.losrios.edu/~almarazr/S19-SBSP/</u>, to disseminate information to the class. It is here that you will find class announcements, HW assignments, and course documents. I encourage you to check this site on a daily basis to keep up to date with the class.

Science Project:

A project will be assigned for those students demonstrating an interest in STEM fields. The project is designed to enhance the student understanding of a specific area of science or engineering.

HW Format:

- There will be homework assignments every week. I highly advise for assignments to be printed out. If you chose to handwrite your assignments, make sure it is readable. You may work with classmates, but you must type and print out your own assignment. You may not work together and print out two copies of the same file
- Staple multiple pages together.

• Answer each problem in complete sentences. Single word answers and/or incomplete sentences are not acceptable.

Worksheets:

There will be an in-class worksheet for you to work during each class period. After a lecture, you will break up into groups of no more than four to work together on a worksheet. The worksheets will test your understanding of the assigned reading and what was covered in the lecture.

Exams, Quizzes:

There will be two exams and four quizzes. The exact dates are shown on the Tentative Schedule (see below). Any changes to these dates will be given well in advance. Quizzes will cover pertinent material currently being covered in the text, lectures, and laboratories.

Laboratory Report:

- For each lab period, you will be given a handout that will instruct you on the experiment for that day. You are to perform the lab and answer the questions on the handout.
- You are encouraged to discuss issues about the experiment with members of your group. However, you should not discuss or share data with other groups.
- All data should be written in pen and staple all tables and graphs, with the correct format, to the back of your report in a sequential manner.
- Lab reports are due at the end of the lab period in which the lab is done unless otherwise specified.

Assessment:		Grading Policy:
Participation	5.0 %	This is a pass no pass grading
Homework	7.5 %	system.
Quizzes	5.0 %	
Worksheets	7.5 %	Pass ≥ (70%) > No pass
• 2 Exams	35.0 % (17.5 % each)	
 Laboratory 	40.0 %	
	100 %	

Extra Credit:

Limited extra credit will be available throughout the semester. Extra credit cannot be used to raise a grade from a "No Pass" to a "Pass" but will be applied in all other situations.

Make-up, Late Work:

- Homework no late homework will be accepted, no exceptions.
- In-class assignments there are no make-ups for these, no exceptions;
- Tests and lab make-up are not generally given unless there are extreme circumstances.

Attendance:

A critical component of this course derives from your active participation in class, your reading, and your participation on the group's worksheets. I reserve the right to employ the College's policy on attendance. Students are responsible for validating excused absences in writing within one week of the absence. "Excused" absences include the following:

- Illness or injury that is documented by a letter from a physician or health professional.
- "Mental duress" (divorce, the death of friend or family member) that is documented in writing.

- Officially sanctioned and sponsored university athletic, music, theater travel that is documented by a letter by the appropriate university official.
- Required court appearances that are documented by a letter from the clerk of the court.

Classroom Conduct:

While uncommon, every once in a while a student who is abusive and/or disruptive enrolls. I expect all my students to behave appropriately in a college classroom. This means that one must at all times show respect for fellow classmates and the instructor. Abusive and/or disruptive behavior may include willful disobedience, habitual profanity or vulgarity, personal attacks, disruption of instruction or class activity, dishonesty, cheating plagiarism, or any other violation of the official "Student Rights and Responsibilities" as established by the college. At my discretion, students who are abusive or disruptive may be excused for the remainder of the class period and for the following class period.

In addition to these academic sanctions, disciplinary action may be taken in any case of academic misconduct. Such action may include:

- Receive a warning that continued misconduct will result in further disciplinary action.
- Be placed on disciplinary probation for a specific period.
- Be removed from the class.

Please turn off all beepers, cell phones, and watch alarms that make noise before coming into class. They are a serious distraction in college classes and cannot be tolerated. The lecture and lab periods are "phone-free" zones. Please instruct relatives or friends to call campus security in case of an emergency. Security will look up the class in the system and then send someone to the class.

Week	Date	Lecture	Laboratory Activity
1	6/10/19	-Introduction -Measurements	
1	6/11/19		Measurements lab
1	6/12/19	-Sig figs. -Rules-SigFigs	
1	6/13/19		Graphs, velocity, acc. lab
2	6/17/19	Quiz 1, -Motion	
2	6/18/19		Motion lab
2	6/19/19	Electricity	
2	6/20/19		Electricity lab
3	6/24/19	Quiz2, -Magnetism	
3	6/25/19		Magnetism demos, Electrical Potential lab
3	6/26/19	-E1-Review, Atom & -Nuclear Physics	
3	6/27/19		Volume by water displacement lab
4	7/1/19	Exam1: Physics: Metric System to Magnetism -Nuclear Chemistry	
4	7/2/19		Nuclear Chemistry lab
4	7/3/19	-Nuclear Chemistry, Compounds & Nomenclature	
4	7/4/19		Nomenclature lab
5	7/8/19	-Bonding	
5	7/9/19		Bonding lab
5	7/10/19	-O-chem	
5	7/11/19		O-chem lab
6	7/15/19		
6	7/16/19	-Review	
6	7/17/19	Exa	am 2: Metric System to O-chem