Course Code & No. - Section:	CHEM 102/6 - Section 1
Course Title (Credits):	Chemistry and Lab (3+1)
Term & Year:	Spring / 2016
Course Ref. No. (CRN):	10068, 10069

Instructor:	Dr. Chuck Levitan
Phone(s):	775 831 1314 x7455
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Office:	2nd floor TCES – 224
Office Hours:	TTh 9-10, Th 11:15-12:30

Class Meeting Time:	T Th 4:00 – 5:15 p.m., Lab W 7:00-8:45 PM
Location:	TCES, room 202

Prerequisites (from Catalog)**:**	MATH 100
Corequisites (from Catalog)**:**	Lab, for lecture

Course Description

Continues the study of the structure and properties of matter. Topics include the behaviors of solids, liquids, and solutions, chemical kinetics, equilibrium phenomena, entropy and free energy, electrochemistry, and nuclear chemistry.

Student Outcomes

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

1. Understanding of fundamental chemistry concepts sufficient to solve complex word problems.
2. Ability to successfully answer questions regarding chemical nomenclature, reaction mechanisms and molecular properties in formats similar to common standardized tests such as the MCAT and GRE.
3. Competence in basic chemistry lab techniques and safety, including the ability to write and follow a laboratory procedure using standard operating procedures.
4. Competence in maintaining laboratory notebooks and ability to write laboratory reports.

Methods of Assessing Student Outcomes

Student outcomes will be assessed using the following:

1. Assignments of multiple levels of challenge ;
2. Writing assignment(s), submitted in stages, both based on library and lab work;
3. Written take-home, open-book examinations;
4. Projects done in the field.
5. Long-term lab reports with support from research work of side projects.

Instructional Strategies

Chemistry II and Lab will use texts oriented to understanding concepts and problem solving, lectures, assigned homework problems for each chapter, class problem solving sessions. In laboratory exercises, students must prepare a laboratory plan, keep a notebook of laboratory results, and compile a laboratory report to communicate a body of knowledge, concepts, and skills related to general chemistry and scientific research. Student study groups outside of class time are highly encouraged.

Required Texts and Materials

1. *Tro, N. Chemistry: A Molecular Approach. 3rd edition. (ISBN 0321809246)*
2. *Vincent, J. J. and Erica J. Livingston. Lab Manual for Chemistry: a Molecular Approach. 3rd edition. (ISBN 0321813774)*
3. Laptop computer (one that meets the published SNC Laptop Requirements) with MS Office or Open Office

Attendance

Attendance will be taken for scholarship purposes and it is recommended that you attend each class. Students are required to be in class promptly and ready to learn and participate at the scheduled meeting time. In-class assignments are only accepted during the class period.

Class Requirements

Attendance will not be graded. HOWEVER, any higher education course demands a substantial time commitment, chemistry courses more than most. Missing a lecture will result in forfeiture of credit for any in-class work. Laboratory reports will only be accepted from students who have completed the lab exercise. Laboratory exercises may be made up at the discretion of the instructor. Acceptable excuses include, but are not limited to, illness (of the student or a dependent) with a physician's note, military duty or family bereavement. Oversleeping or conflicting employment schedules are NOT acceptable excuses..

Class Submissions

Assignments submitted electronically must be in Microsoft Office format: doc, docx, xls, xlsx, ppt, pptx), using the "save as…" command or the format menu in the Save… dialog.
All data must be submitted as spreadsheets. All other assignments must be submitted as single word processing documents, with appropriate tables and graphs copied and pasted from the spreadsheet. Referring to tables and graphs in attached spreadsheets is not acceptable. Any web data must have the exact URL cited, not just the general domain (e.g. not www.census.gov). Submissions must be organized, attractive, and professional.
Any assignment's composition must be solely the author's or authors'. Group assignments must have serious contributions by all signatories. http://sncmoodle.sierranevada.edu/

Projects

A major project will involve several chapters' content, several weeks' lab time, and the compilation of class data. Analysis and lab authorship will be done individually.

Quizzes and Preparation Assignments

Students are required to turn in a total of 12 out of 14 quizzes, drills, or preparation assignments. These will be assigned each Thursday and are due the following Tuesday (see Class Schedule) except day 1. Students are welcome to do more than 10 at which point the best 10 grades will go towards your grade. They will focus on the readings.

Tests

A total of 4 tests, 3 during the semester and a last and cumulative exam, will be given during the semester. Tests are solo efforts and may be submitted electronically.

Grading Policy

Assignment	Points	Number	Total	Due
Tests	100	4	400	
Quiz	10	12	120	
Homework	12	12	180	
Project	100	1	100	
		TOTAL	800	
Complete lab + work	20	8	160	
Lab Report	20	4	80	
		TOTAL	**240**	

Sanctions for Cheating and/or Plagiarism

The Honor Code

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand. If writing is turned in by you, without citation or shared credit, it means you wrote it. Any shared work should be credited, paragraph by paragraph.

Consequences of Violating the Student Honor Code

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

3rd Offense: Student is expelled.

Data Integrity Responsibility

In science, data integrity is everything. Students should record data in a safe permanent form, for example in a notebook, rather than a sheet of paper or in electronic form. At the end of the field trip and/or lab, all members of the lab group should have the data. The lab's purpose is empiricism. Students are responsible for gathering data. If absent during data collection, this can't be done, and student must rely on and trust other's work. There is a 30% penalty for missing data gathering for any lab. Students in group where the data is lost will be treated as if they weren't in lab, and suffer the same 30% penalty. All members of data-gathering groups are responsible for data custody. Fabrication of data will be treated like plagiarism: you're claiming work that's not yours. First offenders will fail the assignment, plus have their grade lowered one point, plus be added to the school plagiarism database.

ADA Accommodations

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu or go to the OASIS offices on the third floor of Prim Library within the first week of the semester.

The SNC Email System, Moodle

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email account daily.

Moodle is at sncmoodle.sierranevada.edu . First time, every user's default password is the same as their username (first initial, last name)

Class Schedule

Date	**Week**	**Day**	**Tro**	**Project**	***Test*** **Quiz**	**Topics**	**Labs**
1/19	1	T	9		1	Review, Lewis	
1/21		Th	9		2	Lewis, VSEPR	
1/26	2	T	10			VSEPR	
1/28		Th	10,11		3	VSEPR, Liquids	
2/2	3	T	11	**Snow**		Liquids and Solids	
2/4		Th	**11**		4	Phase diagrams	
2/9	4	T	11		5	Intermolecular forces	Slurpees
2/11		Th	12			**TEST 1:9-12**	
2/16	5	T	12		6	Solutions	
2/18		Th	12		7	Solutions, Osmosis	
2/23	6	T	13			Kinetics	
2/25		Th	**13**		8	Rate Law	
3/1	7	T	13		9	Enzymes	
3/3		Th	14		10	Equilibrium	
3/8	8	T	14		11	Equilibrium and K	
3/10		Th	14			**TEST 2**	
3/12 -20						Spring Break	
3/22	9	T	14			Solution Equilibrium	
3/24		Th	15		12	Acids and bases, pH	
3/29	10	T	15		13	Weak Acids and bases, Lewis Acids	
3/31		Th	15		14	Acids, titrations and buffers	
4/5	11	T	16			Aqueous equilibrium	
4/7		Th	16		15	Solubility	
4/12	12	T	16		16	Equilibrium	
4/14		Th				**TEST 3**	
4/19	13	T	17		17	Entropy	
4/21		Th	17			Free energy	
4/26	14	T	18		18	Electrochemistry	
4/28		Th	18		19	Batteries and plating	
5/3	15	T	**19**			Radiation, half-lives	
5/5		Th	**X**				
Final							