



Lecture Syllabus (Ticket #1213& 1226), MTWTH, 12:30pm-02:35pm

Office Hours: MTWTH, 07:50pm-08:50pm SB241

INSTRUCTOR: Dr. Ali Jabalameli

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Office: SB241

OFFICE HOURS: Office Hours: **MTWTH, 07:50pm-08:50pm** in SB241. The purpose of office hours is to set aside a block of time where the instructor is available to answer student questions and act as a resource for students.

COURSE SCHEDULE:

Lectures: Section # 1133 & 1140 MTWTH, 12:30pm-02:35pm SB243

Laboratory: Section # 1214 MTWTH, 08:00am-12:15pm AS201 (Professor Oganesyan)

Laboratory: Section # 1227 MTWTH, 02:50pm-07:05pm AS201

COURSE DESCRIPTION:

This class is directed toward providing students with the fundamentals of chemistry. This will include the study of atomic theory and structure, chemical bonding, molecular structure, and basic types of chemical reactions. We will study basic principles of chemistry including, thermodynamics, and oxidation-reduction. This course requires the knowledge of basic algebra since the course involves solving equations. Exams will be given to determine students' level of mastery of the material and will cover 2-3 chapters. A cumulative final exam will be given at the end of the course. **Prerequisite:** 1) Eligibility for ENGL 120 or ESL 151. 2) MATH 101 or 120 or 220B or 1.5 years of high school Algebra. 3) CHEM 110 or 1 year of high school chemistry (laboratory included) and satisfactory score on the Math/Chem Placement Exams.

REQUIRED MATERIALS:

- 1) Lecture Textbook: Chemistry: The Central Science (1), Vol 1, Brown and others, Custom edition for GCC. "or", : Chemistry: The Central Science, 12th Ed., Brown, LeMay, and Bursten, Pearson/Prentiss Hall, 2010, ISBN 0321696727.
- 2) Lab Manual: Chemistry in the Laboratory, 6th edition Postma, J. M.; Roberts, J.L.Jr.; Hollenberg, J.L.
- 3) OSHA approved eye protection for chemistry lab(NOT safety glasses).
- 4) Non-Programmable scientific calculator with log and exponential functions (This will be used for both lab and lecture).

Textbook Loans: *If you are unable to purchase your textbooks because of temporary financial difficulties, student loans are available. These loans require only a simple statement of need and do not charge interest. Contact either of the following:*

1. *Student Affairs Office, SC 2nd Floor, X5913 or 5592; M - F 8 am - 5 pm*
2. *Ms Jeanette Stirdivant, SR 220, X 5424*

STUDY GROUPS: One of the best resources for learning is a student-organized study group. If a group of students work on a problem together, the participants will usually combine their information knowledge. If one person gets stuck, someone else in the group will usually know the next step. This is an excellent method of learning, as long as everyone participates and the goal of the group is to share knowledge. Students should get to know other people in class and form study groups on their own. One caution about study groups: they shouldn't be used as a resource



to get the homework answers without also getting the knowledge of how to solve the problems! How to be successful in this class? All students can achieve success in this course by taking charge and challenging themselves to learn the material. The key is to stay current and not get behind. Arrive on time, prepared with textbooks, etc., for each scheduled class meetings. All assigned materials should be read BEFORE class. Prepare questions about topics that are not clearly understood. Be sure to ask those questions in class. Participate in all activities. Complete all Homework assignments and practice problems posted on Moodle. Students simply occupy a seat, copying down what is written on the board and do not prepare before class will have less chance for success. **Use of dimensional analysis to solve quantitative problems is a must for this course.** Feel free to email me if you have any question.

CHEATING: Any form of cheating and/or plagiarism will not be tolerated. When a student engages in academic dishonesty, faculty have the option of requiring the student to see a college counselor, assigning a lower or failing (F) final grade in the course (or denying promotion from a non-credit course). Violations of this policy will be reported to the Vice President of Instruction and will become part of the Glendale College Cheating Incident file, unless the instructor finds compelling reasons not to report a violation. The Executive Vice President of Instruction may then impose sanctions authorized by Administrative Regulation 5420. The sanctions include, but are not limited to, issuing a reprimand, suspending the student for up to ten days of instruction, and/or requesting a hearing by the Campus Judicial Board to see if the student should be suspended, or permanently expelled from the college. For more information, please refer to the following webpage to review the policy on academic honesty Glendale Community College:

<http://www.glendale.cc.ca.us/index.aspx?page=2596>

In addition to this policy, please note the following:

Collaboration with other students in this course is encouraged for homework, lab reports and in-class activities. This means that you are encouraged to **verbally** discuss your thoughts, arguments, etc. on these assignments. You may **not**, however, copy another student's work directly or submit the exact same answers as another student. For individual assignments, all problems must be worked out by you (work shown) and written answers must be in **your own words**. Failure to follow this policy will result in a zero for the assignment.

- ❖ Collaboration of any kind is NOT allowed on quizzes or exams.
- ❖ Any form of cheating (this includes copying lab reports, "dry-labbing", copying or allowing some one to copy answers on a lab report, quiz, test, or giving information about the quiz or test to another student) is not tolerated.

ELECTRONIC DEVICE POLICY: GCC Administrative regulations prohibit "the use of any electronic listening or recording device in any classroom without the prior consent of the instructor, except as necessary to provide reasonable accommodations for students with disabilities."

ATTENDANCE: Attendance in lecture and laboratory is mandatory. Excessive absences will generally result in the student being dropped from the course. If unforeseen circumstances cause you to want to drop the course, it is your responsibility to file the necessary paperwork. It is also student's responsibly to find out the last day to drop the class without being on the record and the last day to drop the class without receiving a letter grade. If a student should decide to drop the class during the semester, be sure to drop through the Admissions Office. **If you choose to stop participating in the course, it is your responsibility to drop the course.**



TARDYS: Arriving late disrupts the class. Please arrive on time; it is rude and inconsiderate to your instructor and fellow students to interrupt the lecture by coming in late or leaving early. I expect all students to arrive on time and ready to work. If you are unavoidably detained, respect your fellow students and instructor by entering the classroom quietly from the back. If you are late to a quiz or exam, no extra time will be granted. Showing up on time is especially important in the laboratory section as important safety information is discussed at the beginning of the lab period. For this reason, students arriving more than 5 minutes late to lab will receive a 10% penalty on their lab report.

HOMEWORK: Chapter homework for the semester will be posted. Assigned homework comes from your text (odd and even problems). There will be no graded homework; however, students should recognize a direct relationship between the number of homework problems worked and his or her own grade. The working of every problem in the appropriate chapters is encouraged. A list of assigned homework problems has been provided. Many problems listed in the homework will exemplify exam questions. Some problems will have answers at the back of the book, but others will not. You may want to consider forming a study group with other class members to work out the homework problems. If you have any question, you may email me. Please as specific as possible for your email questions. I will check my email each day and attempt to answer your question via email as quickly as possible.

QUIZZES and EXAMS: Quizzes or Exams will cover recent materials from lecture, and lab. They will be given in lecture and lab. **There are no make-ups for missed quizzes or Exams.** You may not share a calculator with another student on a quiz or an exam, so bring your calculator to class and lab each day. Exams will be administered during the lecture and lab. All quizzes and exams will be closed book. Appropriate supplemental materials such as periodic tables will be provided. You may use a calculator on quizzes and exams but it must not have any stored information (no Visors, Palms, language translators, or cell phones). Exams and Quizzes will consist of multiple choice type questions, numerical problems, and short essay/answer. Exam questions will focus on lecture material, but may also include material covered in the laboratory. For numerical problems, the majority of the points assigned are for showing your work (the actual answer will be worth only a point or two). For all numerical problems, make sure you show any formulas or equations that you use and write all numerical values with their associated units and correct number of significant figures. I **may** decide to give occasional quizzes if I feel the class is not keeping up with the course work on a reasonable time bases. These quizzes may be announced or by surprise and they will usually consist of 10 points and will be added to your lecture grade.

MAKE UP POLICY: All exam dates will be announced in the Lectures. It is important that you take each exam on the announced date. Four exams will be given during the semester (not counting final exam). **None of the exam scores will be dropped. There are no make-ups for missed exams.** However, if you miss one of the hour exams, the missed score will be determined during the final exam period with valid and verifiable documents for the missed exam. **At your instructor's discretion**, you will either: 1) take a make-up exam (significantly harder than the original) during the final exam period, or 2) have the missed score replaced by the percentage earned on the final exam or other exams.

Students with disabilities and special needs should notify the instructor on the very first day of the class about their circumstances. This information will be kept strictly confidential and the instructor will attempt to accommodate to the student's needs to provide full

***learning experience for all students.***

Grading: Grades will be assigned based on the following percentages:

		<u>Grading Scale:</u>
Exams	45%	90-100% = A
Laboratory	25%	80-89% = B
Final Exam (comprehensive)	30%	70-79% = C
		60-69% = D
		59 and below = F

NOTE: The grading scale will be restricted to the above limits and will be implemented and applied with no leniency. However, in some exceptional cases, students whose end-of-semester grade is borderline (less than %1) between two letter grades, **MAY** be considered for the higher grade **at your instructor's discretion**. This will be based on attitude, cooperation, attendance, lab skills, and improvement during the semester.

Disruptive, discourteous, or uncooperative behavior can result in a grade reduction or temporary or permanent dismissal from the class; be reported to the Dean of Students; and/or earn disciplinary action according to GCC policies stated in the Student Handbook and in the GCC college catalog

Chemistry Course Student Learning Outcomes (SLO):

At the end of the Chemistry 101 course the student will be able to:

- 1) Interpret the fundamental principles of chemistry.
- 2) Apply IUPAC naming rules to acids, salts and molecular compounds.
- 3) Use dimensional analysis to solve quantitative problems and check answers to make sure that they are physically reasonable as applied to areas such as unit conversions, Stoichiometry, and gas laws. Clearly explain qualitative chemical concepts and trends.
- 4) Write and predict the products of chemical reactions. Classify chemical reactions as to type. Apply math skills to solve scientific problems and/or situations.
- 5) Draw a Lewis Structure from a molecular formula, draw resonance structures, predict and rationalize molecular shapes with the VSEPR and hybridization.
- 6) Recognize and apply that thermodynamic functions are state functions to solve for these quantities.
- 7) Construct program graphs from raw data.
- 8) Demonstrate correct laboratory techniques and apply safety rules in the practice of laboratory investigations.
- 9) Analyze data collected during laboratory investigations
- 10) Perform laboratory techniques correctly using appropriate safety procedures, and analyze the results of laboratory experiments, evaluate sources of error, synthesize this information, and express it clearly in written laboratory notebooks and reports.

Available Academic Assistance on Campus

- 1- The Math Discovery Center (first floor, south side of AS building).
- 2- The Learning Center in AD-232: math tutors
- 3- Student Services on the second floor of the San Rafael Building: classes to maximize study skills.
- 4- Library: Complete Student Solutions Manual (at the reserve desk); copies of the textbook and other chemistry texts (on the shelves).

**TENTATIVE LECTURE SCHEDULE***

*This Lecture schedule is tentative and subject to change as the class progresses.

Dates	Chapter
01/05	Ch1: 1.1-1.6
01/06	Ch2: 2.1-2.9
01/04	Ch3: 3.1-3.7
01/08	Ch4: 4.1-4.3
01/12	Exam 1 (Chapters 1 through 3)
01/13	Ch4: 4.4-4.6
01/14	Ch5: 5.1-5.4
01/15	Ch5: 5.5-5.58
01/19	Martin Luther King, Jr. Day (Campus closed)
01/20	Exam 2 (Chapters 4 through 5)
01/21	Ch6: 6.1-6.4
01/22	Ch6: 6.5-6.9
01/26	Ch7: 7.1-7.4
01/27	Ch7: 7.5-7.8
01/28	Ch7: 8.1-8.4
01/29	Ch8: 8.5-8.8
02/02	Exam 3 (Chapters 6 through 7)
02/03	Ch8: 9.1-9.5
02/04	Ch9: 9.6-9.8
02/05	Ch10: 10.5-10.9
02/09	Exam 4 (Chapters 8 through 9)
02/10	Ch10: 11.1-11.6
02/11	Ch11: 12.1-12.4
02/12	Final Exam (Chapters 1 through 12)

*This Lecture schedule is tentative and subject to change as the class progresses.

Read Before You Come to Class!

THERE WILL BE NO MAKE UP!

***Important Dates:*****Winter Intersession 2015**

Jan. 5 (M) Instruction begins for the winter intersession

Jan. 19 (M) Martin Luther King, Jr. Day—Campus closed

Feb. 12 (Th) Last day of winter intersession (Final Examinations)

Feb. 13 (F) Lincoln Day—Campus Closed

Chemistry 101 Homework Assignments

Chapter	Assignment
1	Problems: 12, 18, 20, 24, 26, 28, 30, 40, 66, 72
2	Problems: 10, 14, 18, 26, 54, 62, 68, 74, 92, 105
3	Problems: 12, 14, 20, 28, 34, 40, 52, 54, 66, 78
4	Problems: 16, 18, 24, 40, 44, 54, 68, 82, 88, 108
5	Problems: 16, 28, 38, 44, 50, 66, 70, 74, 80, 100
6	Problems: 18, 32, 40, 44, 46, 52, 66, 70, 80, 88
7	Problems: 16, 24, 32, 40, 46, 64, 68, 72, 74, 82
8	Problems: 20, 24, 32, 42, 46, 56, 70, 74, 91, 106
9	Problems: 24, 26, 32, 40, 56, 64, 66, 74, 80, 109
10	Problems: 16, 18, 22, 26, 28, 30, 32, 36, 38, 42, 44, 54, 56, 58, 62, 72, 74, 86, 98, 106, 112
11	Problems: 22, 28, 40, 44, 46, 92, 94
12	Problems: 14, 34

Check Moodle for additional assignments and practice problems!
(You are responsible to check Moodle for additional assignments)

Textbook: Chemistry: The Central Science (1), Vol 1, Brown and others, Custom edition for GCC.
“or”, : Chemistry: The Central Science, 12th Ed., Brown, LeMay, and Bursten, Pearson/Prentiss
Hall, 2010, ISBN 0321696727.

**ABSOLUTELY NO BEEPERS OR CELL PHONES WILL BE
TOLERATED IN LECTURE OR LABORATORY SECTIONS!
YOU MUST COME TO CLASS ON TIME!**



LAB Syllabus

Chemistry is an experimental science and thus, the laboratory portion of this course is of high importance. The laboratory section is an essential component of the course and worth 25% of your grade. This is your chance to get “hands-on” experience with the topics covered in lecture and to learn/practice important laboratory skills that you will need in future science courses or employment involving laboratory work. Our goal is to make the laboratory a true learning experience and not just a test of your ability to follow directions. Wearing goggles and laboratory safety procedures will be strictly enforced. If you don't follow safety regulations, you will be excused from lab and no points will be given towards that laboratory experiment/activity. Protective footwear is required at all times – sandals are not permitted. **Students must keep the lab work areas clean.** If you leave a mess, you will lose lab points. Work areas include assigned lab drawer, lab bench top, reagent shelves, sinks, balance areas, equipment cart, and fume hoods. **No late lab assignments accepted.** The instructor during the course of the lab period will check your experimental work and calculations. Because important safety information is discussed at the beginning of the period, you must show up on time to lab. Laboratory reports are due on the dates stated by the lab instructor. For your safety and the safety of your classmates, it is very important that you follow proper lab procedures at all times. Also for safety reasons, we will follow an English-only policy in lab. In order for instructor to effectively monitor the lab and potential safety issues, it is required that all conversations in the laboratory be conducted in English. Students who do not follow directions or otherwise engage in unsafe behavior in the lab will be dismissed from the laboratory and will be given a zero for that lab assignment. **RETAKING A LAB:** Students retaking a class cannot transfer their lab grade from a previous semester; they must retake the lab along with the lecture.

Required Materials:

- 1) Approved safety goggles: OSHA approved chemical and impact resistant lab goggles (NOT safety glasses).
- 2) Non-Programmable scientific calculator with log and exponential functions (This will be used for both lab and lecture)
- 3) Lab Manual: Chemistry in the Laboratory , 7th edition, Postma, et. al., W. H. Freeman and Co, NY, 2000, ISBN 1-4292-1954-8.
- 4) Lab Fee: The lab fee for this course is \$16.00. This is included in the GCC tuition and fees statement that is paid at the beginning of the semester.

Attendance:

Regular attendance in the laboratory is required. You will be dropped from the course if you have excessive absences. There are NO LAB MAKE-UPS, NO EXCEPTIONS! If you are absent, no credit will be given to *any component of the lab experiment or activity that is missed*. Completion of the lab work consists of performing the experiment AND handing in the lab report. All work is to be done INDIVIDUALLY unless otherwise instructed. Even if you work with a partner, each person must contribute to the lab work and **must turn in his/her own lab report**. No points will be credited to a student for lab work completed by another student.

THERE WILL BE NO MAKE UP LAB!

**Makeup Policy:**

There is no make up for lab experiment! If you find that you must be absent from lab for a justifiable reason; sickness, jury duty, death of a close family member, natural disaster, etc., it may occasionally be possible to make up the lab assignment if you ask for permission well in advance, if there is space available in the lab for you to work, and if the same assignment is scheduled for lab on the day you wish to make up the assignment. Documentation of the reason for your absence may be required. If you are absent, no credit will be given to any component of the lab experiment or activity that is missed.

Laboratory Safety:

Safety must be a primary consideration for all persons entering and working in a chemistry laboratory. Students have the responsibility to preview the experiment, learn and understand the appropriate safety precautions for each experiment, and to consult with the instructor when you think the safety procedures are not clear.

For safety purposes, students must dress appropriately when working in the laboratory. Goggles and closed-toed shoes must be worn during all laboratory work. If you frequently wear sandals to school, you may leave a pair of close-toed shoes in your locker. Body parts facing the lab bench must be covered. This may be accomplished by wearing a lab coat or apron. Long hair must be tied back. Students who are not appropriately dressed for laboratory work will be dismissed from class and given a "0" for the scheduled experiment.

Safety must be a primary consideration for all persons entering and working in a chemistry laboratory!

Goggles and closed-toed shoes must be worn during the laboratory work

Students are required to wear safety goggles during laboratory. Failure to comply will be reflected in your laboratory grade. Food, Gum, or Drinks are not allowed in the laboratory at any time.

Any verbal or written instruction from your lab instructor is viable part of the lab syllabus

If you come unprepared to lab, with pre-lab incomplete, you will not be allowed to perform the lab. **Pre-lab must be signed and approved by your instructor before you start that day experiment.**

**Safe Use of Chemicals: (Report any accidents to laboratory instructor!)**

1. Clean up all chemical spills. To the unsuspecting person who comes after you, most acids and bases look like water.
2. To avoid contamination, never put your spatula or other instrument into a reagent bottle and never return unused chemicals to their bottles. Give extra reagents to your neighbor if possible.
3. Do not taste chemicals. If instructed to smell a chemical, do so by carefully fanning the top of the test tube or bottle so that a little of the vapor is directed towards your nose.

Cleanings Rules:

1. Keep your bench top clear. Put backpacks and books on shelves and purses and wallets in your lab drawer.
2. Each student is responsible for keeping his desk area and equipment clean.
3. Put capped reagent bottles back where they belong.
4. Clean your bench top before leaving lab.
5. Clean spills on and around the balances immediately and thoroughly.

Lab Report:

A laboratory report must be completed for each lab experiment. Your report should be legible. For the most part Lab Reports must be written on the **original lab report pages taken from your lab manual**. No photocopies are accepted. Pages for each lab report must be stapled together in upper left corner in the *correct numerical* order. Your data sheets must be signed and approved by your instructor for every experiment when you are done. **Lab Reports are due end of each lab period**. Any lab reports handed in after this deadline are considered late. Late lab reports will not be collected and if collected due to some verifiable excuse, it will be penalized.

Pre-Labs

Pre labs are for the lab manual or handouts (H/O) are due at the beginning of lab and **must be signed by your instructor at the beginning of the laboratory prior to the experiment/activity**. You *and* your lab partner will NOT be allowed to start the laboratory activity if your Pre-Lab materials are not signed and approved by your instructor. **Each person's pre-laboratory materials must be unique**. Pre-lab materials include: 1- Title, 2- Safety Section, and 3- Procedural Notes; *briefly summarize the procedure to be followed, preferably either as an outline or as a **flow chart***. *You do not need to write out the procedure in complete sentences and do not copy from the lab manual. All you need is a brief but complete listing of what you **plan** to do in the lab. **The most important part of any pre-lab is the safety section. In the safety section you must note all the safety related issues. This includes handling and managing all the toxic, poisonous, combustible and hazardous materials. See MSDS!*** Late pre-lab reports will be penalized a letter grade.

You WILL NOT pass this course if you do not have 60% or higher total percentage in the laboratory section of the course!

Inappropriate Behavior: Mutual respect is expected in the classroom. Disruptive behavior in the classroom (ex. persistent talking, cell phones etc.) will not be tolerated. It is disrespectful to fellow students and me! Repeat offenders will be excused from the Lab or classroom!

**Lab evaluation:****Lab reports:** %50 →**2 exams or 4 quizzes:** %50 → from the experiments, H/O and SI's**TENTATIVE LABORATORY SCHEDULE ****

#1214 MTWTH, 08:00am-12:15pm AS201

#1227 MTWTH, 02:50pm-07:05pm AS201

Week 1		Week 2	
M 6/22	Introduction & Assessment, Safety & MSDS	M 6/29	Check in , Expt. # 1 Scientific Measurements
T 6/23	Math Drill, Manual Graphing (H/O)	T 6/30	Expt. #2 (H/O) Mass & Vol. Relationship
W 6/24	Excel (H/O)	W 7/1	Expt. #8 Determine Formula of I ₂ + Zn
TH	Study Assignment A: Nomenclature	TH 7/2	SI#1 Quiz 1
Week 3		Week 4	
M 7/6	Expt. #5 (H/O) A Cycle of Copper Rxns	M 7/13	(H/O) Volumetric Analysis
T 7/7	(H/O) Conductivity	T 7/14	Expt. #14 The Heat Capacity of Metals
W 7/8	(H/O) Analysis of Unknown Solutions	W 7/15	Expt. #15 Hess's Law
TH 7/9	SI#3 Quiz3/Midterm Exam	7/16	(H/O) Atomic Emission Spectra
Week 5		Week 6	
M 7/20	Study Assignment B: Writing Lewis Structures	M 7/27	Expt. #7 The Chemistry of O ₂
T 7/21	Expt. #19 VSEPR	T 7/28	(H/O) Molar Vol. of Hydrogen
W 7/22	Expt. #19 continued Hybridization	W 7/29	(H/O) Crystal Structure
TH 7/23	SI#4 & SI#5	TH 7/30	Final Exam Check out

**This Lab schedule is tentative and subject to change as the class progresses.

(Instructor may ask students to work on additional exercises if there is any free time available)

LAB CHECK OUT IS MANDATORY***<<<<<Handouts will be posted on Moodle>>>>>*******You need to print them before coming to the lab!**