LOS ANGELES MISSION COLLEGE-SPRING 2020

CHEMISTRY 51

Lecture: M,W 8:20 Am -10:25 Am ; Room: CMS –28

Laboratory: M,W 10:35 Am-12:00 Pm; Room CMS–201 and CMS--203

INSTRUCTOR (Lecture): Jesus Iniguez

E-MAIL: inigueja@lamission.edu or jesusiniguez28@ucla.edu

WEBSITE: www.profpaz.com

Lab hours: 10:35 Am – 12:00 Pm

INSTRUCTOR (CMS 201): Anjum Qureshi OFFICE & PHONE: CMS AREA & EXT. 4315

E-MAIL: TBA OFFICE HOURS: (CMS) TBA

INSTRUCTOR (CMS 201): Isaac Koh OFFICE & PHONE: CMS AREA & EXT. 4347

E-MAIL: TBA OFFICE HORUS: (CMS) TBA

CLASS DESCRIPTION:

Chem 51 is an introductory class in general chemistry and is designed for students in the following majors: Nursing, Allied Health Sciences; Dietetics, Physical Therapy, Food Science & Environmental & Occupational Health. This course may also be taken to satisfy the Physical Science requirement for General Education. Chemistry 51 at LA Mission College is equivalent to Chemistry 103 or Chemistry 105 at CSUN.

PREREQUISITE:

Mathematics 115 (Elementary Algebra) with a grade of “C” or better, or appropriate Math placement results.

REQUIRED MATERIALS

1. Textbook: “General, Organic, and Biological Chemistry”, by Timberlake, 4th Edition.

 A copy of the textbook is available on Reserve in the Library.

2. Lab Manual: “LABORATORY CHEMISTRY FOR THE HEALTH SCIENCES”,

2nd Edition (1999) by Maria Fenyes. Available in the LA Mission College Bookstore.

3. Lab Notebook: This is a quadrille paper, hard cover “Comp Book”, available in the L.A.Mission College Bookstore and in the C.S.U.N. Bookstore. You must have the Laboratory Notebook by the second class meeting.You are required to report all laboratory work in your Laboratory Notebook (See Appendix II for the proper use of the Laboratory Notebook)During the Laboratory Activities you are not permitted to take notes on any kind of loose paper or any

notebook, other than the Laboratory Notebook. You may not perform an experiment if you do not have your Laboratory Notebook with you.

4. Periodic Table of Elements: This is available in the LAMC bookstore and in the CSUN bookstore. You must have one Periodic Table with you during all class sessions.

5. Scientific Calculator: Need not to be an expensive type, but it must perform the following operations: Multiplication, Division, Addition, Subtraction, square root, 1/x, and log.You are required to have your calculator with you during all class sessions (both lectures and labs).

6. Safety Goggles: Unless specifically instructed otherwise by your instructor, you must wear safety goggles during laboratory work. Safety goggles are available in the LAMC Bookstore and in the CSUN Bookstore. You are required to have your safety goggles by the fourth class session. You may keep your goggles locked in your laboratory locker.

 Failure to wear goggles when directed by the instructor is grounds for dismissal from the laboratory.

Notebook: A spiral notebook is recommended for taking lecture notes.

WELCOME TO CHEMISTRY 51 AT LOS ANGELES MISSION COLLEGE!

LET US WORK TOGETHER TOWARD YOUR ENJOYABLE AND SUCCESSFUL LEARNING EXPERIENCE!

HOW TO SURVIVE AND EVEN EXCEL IN CHEMISTRY 51

• Chemistry 51 is a demanding course. It demands much time due to the sheer volume of work you must process for laboratory and lecture. It demands much effort to understand and learn the many new concepts presented in the course. You can have a successful, even interesting semester if you practice some of the following hints.

• Work on chemistry every day. Do just 2 or 3 problems or read just a few sections of the current chapter. You will often need to try a problem several times before you fully understand it. You will need to read the text several times before you really know the material.

• You cannot cram Chemistry! Don't try! Try to stay ahead of lecture. Skim the anticipated lecture topic the day before class. Then you know what is in the book and need not take so many notes. You then can listen and think during lecture. Carefully read the examples and solved problems in the text. Cover the author's solution and work them yourself immediately after reading the text. Do the suggested end-of -chapter problems. You cannot solve test problems quickly and efficiently without lots of practice. If you cannot solve a suggested problem, or don't understand it, reread the appropriate section in the text and review your lecture notes. Look for a similar problem among the text's examples. Think about it for several days.

• Ask for help to get started from your instructor, a tutor, or a fellow student.

• Look for connections between the current lecture topic and previous topics or your prior knowledge of chemistry or physics. Look for practical applications of what you are learning.

• Finally, don't panic. Take the course one step at a time and let your understanding grow. You will be amazed at how much material you have assimilated by semester's end.

Resources

ME!!! I am your number one resource.

www.profpaz.com This site has all of the lectures, lab manual, practice exams, and many other resources that will assist you through the material in this course.

LAMC Chem 51 on FACEBOOK I will post course material, answer questions and place Chem 51 related information (websites, pictures, and videos) to enhance your educational experience. Also, this provides a forum for student:professor and student:student interaction. I encourage students to answer questions for their peers. Log on to facebook search for LAMC Chem 51 and add.

Science Success Center: Laboratories for Learning, Writing, Math & Science. Walk-in and appointment services offered. Call 818-364-7754 or visit www.lamission.edu/learningcenter

USE ANY OTHER RESOURCE THAT YOU HAVE AVAILABLE TO SHARE WITH CLASS, SPEAK WITH ME AND I WILL ANNOUNCE THE RESOURCE TO THE CLASS.

MANAGEMENT OF STRESS AND MENTAL HEALTH:

As a student, not only do you have the pressure of succeeding in school, you may also be contending with work, financial issues, relationships, managing time effectively, getting enough sleep, etc. The staff and faculty of Los Angeles Mission College are here to provide support that will help you to be successful in your academic pursuits. You can learn more about the broad range of confidential student services offered on campus, including counseling and mental health services, by either visiting the Student Health Center (SHC), which is currently located in the Bungalow just east of the Collaborative Studies Building*, checking out the SHC webpage at: https://www.lamission.edu/healthcenter/ or calling: 818 362-6182.

I also encourage you to enter the National Suicide Prevention Lifeline number (1-800-273-8255) into your cell phone in case you or someone you know is in distress and needs someone with whom to talk.

*Please note that the SHC is slated to move into its new location, between the President's Office and Administrative Services, in the spring 2016 semester."

• Laboratory safety is everybody's responsibility. As a student in the chemistry lab you are responsible for understanding and following the guidelines below.

• Failure to do so may result in a reduction in your laboratory grade.

GENERAL PRACTICES:

- Plan and conduct lab experiments in accordance to established directions and SAFE PRACTICES.
- Report unsafe practices, conditions and injuries to instructor or department chair.
- Maintain awareness of current safety or environmental practices.
- Exercise reasonable neatness as one of the best ways to avoid accidents and injuries.

SAFE PRACTICES IN THE LABORATORY:

- Know location of exits, fire extinguishers, fire blanket, fire alarm, safety shower, eye-wash stations and broken glass container in the laboratory.
- Wear eye protection whenever working with flames, concentrated acids and bases or instructed by the instructor.
- Restrain long hair, loose clothing and dangling jewelry.
- Shoes must always be worn .
- Clean your workstation at end of laboratory from spilled chemicals, used matches, and other debris.
- Close reagent bottles after use, and wipe bottles clean if spill occurs.
- Clean up spilled chemicals immediately, using appropriate procedure.
- Keep containers of flammable liquids away from open flames.
- No eating, drinking, smoking or applying cosmetics in the laboratory.
- Do not perform unauthorized experiments, or use equipment without instructions.
- Do not return unused chemicals to the stock bottle. Share excess chemicals with other students or disposed of properly.
- Never leave heat sources such as hot plate or Bunsen burner unattended.
- Do not pipette by mouth. Use mechanical pipetting devices.
- Never work alone in the laboratory.

INCIDENTS:

- Report all spills and accidents, no matter how minor, to the instructor immediately.
- Wash your hands immediately and thoroughly if they come in direct contact with chemicals.
- In case of a chemical spill, use the emergency spill kit to contain and neutralize the substance.

• In case of broken glassware, do not touch the broken glassware with your bare hands. Always use a broom and dust pan and discard them in designated broken glass container.

UPON COMPLETION OF YOUR LABORATORY EXPERIMENTS:

• Return all items to their proper locations. These items may include ring stands, clamp rings, wire gauzes, matches, etc. Nothing should be left on the laboratory counter top.

• Dispose of all used chemicals according to the instructions provided by your instructor.

• Shut off all gas, water and vacuum fixtures.

• Return all reagent bottles and sample vials to the instructor bench.

• Clean up workstation from spilled chemicals, used matches and other debris.

• Secure locker on your station.

• Wash hands thoroughly before leaving laboratory.

"LAMC students with verified disabilities who are requesting academic accommodations should use the following procedure:

Step 1: Obtain documentation of your disability from a licensed professional. You may contact DSPS to request a Disability Verification Form.

Step 2: Make an appointment to meet with a DSPS Specialist to review your documentation and discuss reasonable accommodations. To schedule a meeting, please call DSPS at (818) 364-7732.

Step 3: Bring your disability documentation to your DSPS appointment. The DSPS office is located in room 1018 of the Instructional Building.

Step 4: Each semester, reach written accommodation agreement with the DSPS Specialist and your instructor.

TENTATIVE LECTURE SCHEDULE:

Week	Dates	Chapter Notes	Lecture Topic	Text Reference
1	Feb 10th	1	Introduction to class; scientific method	1.2 – 1.5
	Feb 12th	2	Unit conversion; SI units; Significant figures	2.1 – 2.4
2	Feb 17th	----------	PRESIDENTS DAY	----------
	Feb 19th	2	Unit conversion; problem solving; Density	2.4 – 2.7
3	Feb 24th	3	Matter classification; energy &heat	3.1 – 3.6
	Feb 26th	3	Changes of state: review for exam 1	3.7
4	Mar 2nd	----------	Exam 1 (Chapters 1 – 3)	----------
4	Mar 4th	4	Periodic table: Atomic theory	4.1 – 4.3
5	Mar 9th	4	Atomic structure; isotopes; modern atomic theory	4.4 – 4.5
	Mar 11th	4	Periodic trends; electron configuration	47 – 4.8
6	Mar 16th	6	Ionic compounds: naming and writing formulas	6.1 – 6.3
	Mar 18th	6	Covalent compounds: naming and writing formulas	6.4 – 6.5
7	Mar 23rd	6	Molecular shapes and polarity	6.6 – 6.8
	Mar 25th	7	Types of chemical reactions/Balancing equations	7.1 – 7.2
8	Mar 30th	---------	Exam 2 (Chapters 4 & 6)	----------
	April 1st	7	Redox reactions; concept of the mole	7.3 – 7.5
9	April 6th	Spring Break	NO CLASS	
	April 8th	Spring Break	NO CLASS	
10	April 13th	--------	NO CLASS	----------
	April 15th	7	Calculations involving the concept of the mole	Notes
11	April 20th	7	Stoichiometry: Limiting reagents/Percent yield	6.4 – 6.6
	April 22nd	7	Energy and chemical reactions; Review for exam 2	6.7 – 6.8
12	April 27th		Exam 3 (Chapter 7)	----------
	April 29th	9	Solutions and solubility	9.1 – 9.2
13	May 4th	9	Solubility	9.3
	May 6th	9	Net ionic equations	Notes
14	May 11th	9	Solution concentrations and properties	9.4 – 9.6
	May 13th	11	Acids and bases; Ionization of water	11.1 –11.5
15	May 18th	11	pH calculations; Buffers; Acids & bases reactions	11.6 –11.8
	May 20th	8	Gases and their properties; Gas laws	8.1 – 8.5
16	May 25th	8	Gases in chemical reactions; gas mixtures	8.6 – 8.8
	May 27th	---------	Review for final	----------
17	June 3rd	--------	Final Exam (Chapters 8, 9 and 11)	----------

LABORATORY SCHEDULE

Week	Date	Exp. #	Activity	Points
1	Feb 10	----	Introduction to Lab; Safety Video; Check-In	----
	Feb 12	----	Check-in; Safety Contract & Test Due	----
2	**Feb 17**	-----	**President's Day (College closed)**	----
	Feb 19	1	Measurements	10
3	Feb 24	2	Density	10
	Feb 26	----	Density (cont'd)	------
4	Mar 2	3	Qualitative Separation of a Mixture	10
	Mar 4	4	Quantitative Separation of a Mixture	10
5	Mar 9	----	Complete Experiments 3 and 4	-----
	Mar 11	6	Specific Heat of a Metal	10
6	Mar 16	H/O	Nomenclature Worksheet	10
	Mar 18	H/O	Lewis Sructures	10
7	**Mar 23**	-----	**Lab Exam I (Exp 1-4)**	----
	Mar 25	H/O	Molecular Shape & Polarities	10
8	Mar 30	-----	TBD	------
	April 1	H/O	Writing & Balancing Equations	10
9	**April 6-12**	------	**Spring Break (No Class)**	-------
10	**April 13**	------	**Non-Instructional Day (No Class)**	-----
	April 15	10	Combination & Decomposition Reactions	20
11	April 20	10	Combination & Decomposition Reactions (cont'd)	-----
	April 22	12	Double Replacement Reactions	10
12	April 27	9	Percentage of Copper in Malachite	10
	April 29	------	Percentage of Copper in Malachite (cont'd)	-----
13	May 4	13	Table Salt from Baking Soda	10
	May 6	-----	Table Salt from Baking Soda (cont'd)	-----
14	May 11	H/O	Net Ionic Equations	10
	May 13	H/O	Elecrolytes & Nonelectrolytes	10
15	May 18	H/O	Properties of Acids & Bases	10
	May 20	H/O	Charles's Law	10
16	May 25	----	Check-out	-----
	May 27	-----	**Lab Final Exam (Exp remainder of experiments) (You may use your lab notebook)**	-----

STUDENT LEARNING OUTCOMES:

1. Conceptualize, model and explain chemical processes qualitatively at the molecular level.

2. Express mathematically and solve quantitative chemical problems.

3. Extract appropriate information, analyze and synthesize experimental results to reach correct conclusions.

4. Perform laboratory techniques safely and accurately and maintain a laboratory notebook according to standard scientific guidelines.

5. Represent and interpret data graphically.

ATTENDANCE:

- CHEMISTRY IS A DEMANDING SUBJECT!
- YOU CANNOT AFFORD TO BE ABSENT IF YOU WISH TO DO WELL IN THIS COURSE.
- THERE IS NO MAKE-UP FOR MISSED LABORATORY WORK.
- College regulations state that a student may be excluded from a course following accumulation absences equal to a week of course work.

COURSE EVALUTATION:

Your final grade in class is approximately composed of the following:

Quizzes: 50-100 points

Exams (3): 300 points

Final Exam: 150 points

1st Lab Exam: 50 points

2nd Lab Exam: 50 points

Final Lab Exam: 100 points

Lab Reports: 250 points

Total: 950-1000 points

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GRADING SCALE:

The tentative final grades cutoffs are as follows:

A) 90% - 100%
B) 80% - 90%
C) 65% - 80%
D) 55% - 65%
F) Below 55%

NOTES:

• No make-up exams are given for students being absent on the day of the exam.

• If serious and compelling reasons prevent the student from being present on the day of one of the exam, the instructor should be informed **IN ADVANCE** for possible arrangements.

• Maximum of one make-up exam and one make-up quiz per semester is allowed.