LOS ANGELES MISSION COLLEGE-FALL 2012
CHEMISTRY 51-SECTIONS 3057 & 3058
Lecture: TTh 4:35-6:40 ; Room: CMS-028
Lab (3057): T 6:50-10:00 ; Room: CMS-203
Lab (3058): Th 6:50-10:00 ; Room: CMS-201

INSTRUCTOR (Lecture): Said Pazirandeh
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OFFICE: CMS-242
OFFICE HOURS: TTh 3:30-4:30

INSTRUCTOR (Lab): Jeanne Cassara
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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, 1st Edition, Custom Published for LA Mission College.
   In this course you will be using **MasteringChemistry**®, an online tutorial and homework program that accompanies your textbook. To access the online system, you will need an access code that can be obtained in one of the following ways: Student Access Code Card/Kit that has been packaged with your new textbook, or you can purchase access online at www.masteringchemistry.com.) More detailed information will be available later in the semester.
   - A copy of the textbook is available on Reserve in the Library. In addition, the Science Success Center has some online access codes that can be used to access the online homework system. Contact Lilit Haroyan at the LRC for more information.
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 on my website. 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 for purchase in the LAMC Bookstore. You are required to have your safety goggles by the second 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.
7. **Notebook:** A 3-ring binder is recommended for keeping class notes organized.

STUDENT LEARNING OUTCOMES:

1. Conceptualize, model and explain chemical processes qualitatively at the molecular level.
2. Extract appropriate information, analyze and synthesize experimental results to reach correct conclusions.
3. Perform laboratory techniques safely and accurately and maintain a laboratory notebook according to standard scientific guidelines.
4. Describe and explain the properties and behavior of solids, liquids, gases and mixtures

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 composed of the following:

Quizzes	100 pts
Exams (3)	300 pts
Final Exam	150 pts
1st Lab Exam	50 pts
2nd Lab Exam	50 pts
Final Lab Exam	100 pts
Lab Reports	200 pts
Lab Notebooks .	50 pts .
Total	**1000 points**

GRADING SCALE:

The 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.

LABORATORY WORK

- During laboratory work two students will share the contents of the same laboratory locker.
- Both students are jointly responsible for the contents of their shared locker.
- The majority (not all) of the experiments are performed in pairs.
- **For every experiment, each student**,
    1. **will take active part in the work,**
    2. **report his/her data individually,**
    3. **do his/her own calculations,**
    4. **turn in an individual lab report for grading purposes and**
    5. **will be assigned an individual grade for every activity.**
- Laboratory Reports are due one week after the class period in which the experiments have been performed (this is to allow working students to meet the deadline).
- **Late reports are subject to a penalty of 10% per week.**
- Once the instructor has returned the graded lab reports to the class, lab reports for that particular experiment are no longer accepted for grading.
- In order to work efficiently and meet the required deadline for turning in the lab reports, **you must come** to the laboratory well prepared.
- **This means:**
    1. **Read carefully (several times, if needed) the Experiment you will perform (both Principles and Procedure) prior to coming to the lab.**
    2. **Think about what will be doing and plan ahead.**
    3. **Prepare your Laboratory Notebook in advance (Purpose of the Experiment and the appropriate Data Tables may be prepared in your Laboratory Notebook in advance).**

THERE IS NO MAKE-UP LABORATORY WORK

INSTRUCTIONS FOR LABORATORY NOTEBOOK

- Each student must have a **quadrille ruled, sewn** Laboratory Notebook in which to record data and observations, do calculations, and analyze results of the lab work.
- The Lab Notebook must be brought with you to every lab session and all data and observations must be recorded **directly into the Notebook** (nowhere else) **and in ink** (no pencil). Laboratory records are legal documents in industry and research. They are required to support patent applications or to resolve disputes or originality of research .
- You will write only on the **right hand pages**. The left-hand pages are reserved for calculations and notes that do not belong on the right hand page.
- Begin with a **TITLE PAGE** State the course, section number, semester, the instructor's name, your name and your locker number.
- The second page is an **INDEX.** As you do each experiment, list it by title and enter the numbers of the pages containing text for it. Leave a second page for continuation of the Index. At the bottom of the second index page, give the **complete bibliographic information** for the laboratory text used. (Title, author, publisher, date.) When you do this you can cite a reference simply by "Text"; otherwise you must cite the complete reference each time.
- The remainder of the **right-hand pages** in the Notebook should be **numbered sequentially in the upper right corner of the page**.

The **FORMAT** of the pages for each lab experiment is as follows:

TITLE:	Here you enter the title of experiment.	Page Number
PURPOSE:	Write a short statement (one or two sentences, in your own words) of the purpose or the goal of the experiment.	
PROCEDURE:	Cite a reference to the appropriate text(s). Any changes made by the instructor may be noted on the left-hand side of the page.	
DATA/OBSERVATIONS:	Prepare a data table in which you will record the measurements you make in the lab. The lab Report Form often will provide a good format, but it is wise to check with the instructor about the amount of space to be allowed when observations, rather than measurements, are to be recorded. Be careful to indicate units wherever appropriate.	
RESULTS:	This presents, in table form, the final answers to any required calculations. All work (i.e., set-ups for all **calculations**) must be shown on the **left-hand page**.	
CONCLUSIONS:	Write a few words of conclusion, indicating any experimental errors and their effects on your results. Also state whether or not you achieved the purpose of the experiment, or how the experiment supported the concepts you learned in the lecture.	

- As you work, enter your Data/Observations **in ink.** If you make an error or repeat an exercise, **DO NOT ERASE ANYTHING.** You may draw a line through the offending information and then enter the new value (It may be necessary to do this on the left-hand page, if there is no room on the right-hand page.)
- If the entire page is in error, simply draw a diagonal line through the page and fold the page in half vertically.
- **NEVER, NEVER, TEAR OUT A PAGE** (other pages will fall out as well).
- **BE PREPARED TO SHOW YOUR NOTEBOOK TO YOUR INSTRUCTOR AT ANY TIME!**
- Additional Information about the proper usage of the Laboratory Notebook is found in Appendix II of the Laboratory Manual used for this course ("Everyday Chemistry" by Maria Fenyes, Los Angeles Mission College, Fall 96)

TENTATIVE LECTURE SCHEDULE

Week	Date	Chapter	Lecture Topic	Text Reference
1	Aug 28	1	Introduction to class; Scientific Method	P.1-P.2
	Aug 30	1	Measurments; SI Units	1.1-1.2
2	Sep 4	1	Labor Day – College closed	-------
	Sep 6 **Sep 9**	1 ---	Errors in Measurements; Significant Figures ***Last day to drop without a "W"***	1.3-1.5
3	Sep 11	2	Unit Conversions; Density	1.6-1.8
	Sep 13	2	Energy & Heat	2.1-2.4
4	Sep 18	-----	Classification & Properties of Matter	2.5-2.7
	Sep 20	-----	**Test 1 (Chapters 1 & 2)**	--------
5	Sep 25	3	Periodic Table; Atomic Theory	3.1-3.3
	Sep 27	3	Atomic Structure	3.4-3.6
6	Oct 2	3	Electron Configuration; Periodic Trends	3.7-3.9
	Oc 4	5	Ionic Compounds – Naming and Writing Formulas	5.1-5.4
7	Oct 9	5	Covalent Compounds – Naming and Writing Formulas	5.5-5.6
	Oc 11	5	Molecular Shapes & Polarity	5.7-5.8
8	Oct 16	5	Attractive Forces in Compounds Review for Test 2	5.9 -----
	Oct 18	------	**Test 2 (Chapters 3 & 5)**	-----
9	Oct 23	6	Types of Chemical Reactions	6.1-6.3
	Oct 25	6	Single Replacemet Reactions	Notes
10	Oct 30	6	Mole Calculations; Stoichiometry	6.4-6.6
	Nov 1	6	Mass Calculations; Limiting Reactants	6.7-6.8
11	Nov 6	6	Percent Yield/Review for Test 3	6.8-6.9
	Nov 8	-----	**Test 3 (Chapter 6)**	------
12	Nov 13	8	Solutions & Solubility/Aqueous Reactions	8.1-8.3
	Nov 15 **Nov 18**	8	Solution Concentrations ***Last Day to Drop with a "W"***	8.4-8.5
13	Nov 20	8	Solution Properties	8.6
	Nov 22	-----	Thanksgiving Holiday (College closed)	------
14	Nov 27	10	Acids & Bases	10.1-10.2
	Nov 29	10	Ionization of Water & pH Scale	10.3-10.4
15	Dec 4	7	Gases & Their Properites	7.1-7.4
	Dec 6	7	Gas Laws	7.5-7.9
16	**Dec. 11 (5:30-7:30)**	------	**Final Exam (Chapters 7,8 & 10)**	------

LABORATORY SCHEDULE

Week	Date	Exp. #	Activity	Points
1	Aug 28 Aug 30	-----	Introduction to Lab; Safety Video Check-in	-----
2	Sep 4 Sep 6	1 2	What Chemists Do; Identification & Analysis Colorful Chemistry with Food Dyes	10 10
3	Sep 11 Sep 13	4	Separation of a Mixture of Sand & Salt Periodic Table Video	20 -----
4	Sep 18 Sep 20	5	Physical Properties of Household Liquids (Parts I & II	15
5	**Sep 25** **Sep 27**	-----	Graphing with Excel (Tutorial) **Lab Exam I (Exp 1-4, Periodic Table Video)** **(You may use your lab notebook)**	----
6	Oct 2 Oc 4	7	Specific Heat of a Liquid (Parts I & II)	15
7	Oct 9 Oc 11	15 ----	Identification of Metal Ions TBD	10 ----
8	Oct 16 Oct 18	17	Molecular Shape & Polarity	20
9	Oct 23 Oct 25	10	Combination Reactions Decomposition Reactions	20
10	**Oct 30** **Nov 1**	11 -----	Single Replacement Reactions **Lab Exam II (Exp 5, 7, 15, 17)** **(You may use your lab notebook)**	-----
11	Nov 6 Nov 8	11 9	Single Replacement Reactions (cont'd) Percentage of Copper in Malachite	15 10
12	Nov 13 Nov 15	13 3	Table Salt from Baking Soda Electrolytes & Non-electrolytes	10 20
13	Nov 20	-----	Complete exp 13 and 3	----
	Nov 22	----	Thanksgiving Holiday (College closed)	----
14	Nov 27 Nov 29	12 Handout	Double Replacement Reactions Properties of Acids & Bases	15 10
15	Dec 4 Dec 6	-----	**Lab Final Exam (Exp 3, 9-13)** **(You may use your lab notebook)**	----