LOS ANGELES MISSION COLLEGE–FALL 2009
CHEMISTRY 52–SEC. 3062
Lecture: MW 6:05–7:30 Room INST–2014
Laboratory: MW 7:40 – 9:05 Room: INST –2014

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OFFICE HOURS: MW 4:30–5:45
TTh 4:30-5:15

CLASS DESCRIPTION: Chem 52 is the second semester of 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. Chemistry 52 at LA Mission College is equivalent to Chemistry 104 at CSUN.

PREREQUISITE: Chemistry 51 or 65 with a grade of "C" or better.

REQUIRED MATERIALS:

1. **Textbook**: ""General, Organic, and Biological Chemistry", by Timberlake, 2nd Edition, Custom Published for LA Mission College.. Available in the LAMC Bookstore.
2. **Lab Notebook:** This is a **quadrille paper, hard cover "Comp Book",** available in the LAMC Bookstore and general office supply stores.
   You must have the Laboratory Notebook by the third 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.
3. **Periodic Table of Elements:** This is available on my website. You must have one Periodic Table with you during all class sessions.
4. **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 Logarithm. You are required to have your calculator with you during all class sessions (both lectures and labs).
5. **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. You are required to have your safety goggles by the 2nd week of class. Loaner goggles are available in the lab if y ou choose not to purchase goggles yourself.
6. **Notebook:** A 3-ring binder is recommended for keeping class notes organized.

ATTENDANCE:

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

STUDENT LEARNING OUTCOMES:

1. Conceptualize, model and explain chemical processes qualitatively at the molecular level.
2. Apply mathematics to 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.

COURSE EVALUTATION: Your final grade in class is composed of the following:

Quizzes (10)	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	**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.
- Make-up exams are **limited to one per semester**.

TENTATIVE LECTURE OUTLINE

Week	Date	Notes Chap.	Description	Test Reference
1	Aug. 31	14	Introduction to Class / Solutions	8.1-8.3
	Sep. 2	14	Units of Concentration	8.4-8.5
2	Sep. 7	----	Labor Day (College closed)	-----
	Sep. 9	14	Colligative Properties	8.6
3	Sep. 14	15	Acids, Bases & Salts	10.1-10.3
	Sep. 16	15	pH Calculations	10.4-10.5
4	Sep. 21	15	pH Calculations (cont'd)	-----
	Sep. 23	15	Reactions of Acids & Bases	10.6
5	Sep. 28	----	Review for Test 1	-----
	Sep. 30	**----**	**Test 1 (Chapters 14–15)**	**-----**
6	Oct. 5	16	Chemical Equilibrium	9.1-9.2
	Oct. 7	16	Let Chaterlier's Principle	9.5
7	Oct. 12	16	Equilibrium Constant	9.3-9.4
	Oct. 14	16	Hydrolysis / Buffers	10.7-10.8
8	Oct. 19	16	Hydrolysis / Buffers (cont'd)	-----
	Oct. 21	----	Review for Test 2	-----
9	**Oct. 26**	**-----**	**Test 2 (Chapter 16)**	**-----**
	Oct. 28	17	Oxidation – Reduction	5.4
10	Nov. 2	17	Activity Series of Metals	-----
	Nov. 4	18	Nuclear Decay	3.1-3.2
11	Nov. 9	18	Nuclear Reactions	3.4-3.6
	Nov. 11	----	Veteran's Day (College closed)	-----
12	**Nov. 16**	**-----**	**Test 3 (Chapters 17–18)**	**-----**
	Nov. 18	19	Introduction to Organic Chemistry	11.1, 11.5
13	Nov. 23	19	Saturated Hydrocarbons	11.2-11.4
	Nov. 25	20	Unsaturated Hydrocarbons	12.1-12.2
14	Nov. 30	20	Reactions of Alkenes; Aromatic Compounds	12.3-12.6
	Dec. 2	22	Alcohols, Ethers, Phenols	13.1-13.4
15	Dec. 7	26	Stereoisomers	14
	Dec. 9	----	Review for Final Exam	-----
16	**Dec. 16 5:30–7:30**	**-----**	**Final Exam (Chapters 19 – 26)**	**------**

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:	Essentially, your conclusions should answer the Purpose or the Goal of the Experiment. 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.	

- 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 LABORATORY SCHEDULE

Week	Date	Exp. #	Title
1	Aug. 31	-----	Introduction to Lab/Safety Video
	Sep. 2	-----	Check-in
2	Sep. 7	-----	Labor Day (College closed)
	Sep. 9	1	Freezing Point Depression
3	Sep. 14	1	Freezing Point Depression (cont'd)
	Sep. 16	2	Acids, Bases
4	Sep. 21	3	pH Calculations
	Sep. 23	3	pH Calculations (cont'd)
5	Sep. 28	4	Standardization of a Base
	Sep. 30	5	Analysis of Vinegar
6	Oct. 5	-----	Complete experiments 4 & 5
	Oct. 7	**-----**	**First Lab Exam (Exp. 1-3) (You may use your lab notebook)**
7	Oct. 12	6	Equilibrium Game
	Oct. 14	7	Equilibrium Systems
8	Oct. 19	7	Equilibrium Systems (cont'd)
	Oct. 21	8	Hydrolysis of Salts
9	Oct. 26	8	Hydrolysis of Salts (cont'd)
	Oct. 28	9	Buffers
10	Nov. 2	9	Buffers (cont'd)
	Nov. 4	**-----**	**Second Lab Exam (Exp. 4-7) (You may use your lab notebook)**
11	Nov. 9	10	Activity Series
	Nov. 11	10	Veteran's Day (College closed)
12	Nov. 16	10	Activity Series (cont'd)
	Nov. 18	11	Nuclear Decay (Computer Lab)
13	Nov. 23	12	Structure of Alkanes
	Nov. 25	12	Structure of Alkanes (cont'd)
14	Nov. 30	13	Structural Isomers
	Dec. 2	14	Stereoisomers
15	Dec. 7	-----	Check-out
	Dec. 9	**-----**	**Final Lab Exam (Remaining Exps.) (You may use your lab notebook)**