CHEM1105: SURVEY OF GENERAL CHEMISTRY LABORATORY

Fall 2015

Chem 1105: 1 Credit hr
Chem 1105- 01: Thursday 6:00 PM – 8:50 PM; Keith D McFarland Science Building; STC 310
Chem 1105-02: Tuesday 6:00 PM – 8:50 PM; Keith D McFarland Science Building; STC 310
Chem1105-03: Tuesday 6:00 PM – 8:50 PM; Keith D McFarland Science Building; STC 311

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Office Location: STC # 344
Office Hours: MW 11 am to 11:30 PM and by appointment
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COURSE INFORMATION

Text/ Manual and other required material:

- **Lab Manual**: Laboratory Experiments for Introduction to General, Organic, and Biochemistry, 8 th Edition, Brooks/Cole, Cengage Learning; by Bettelheim, Brown, Campbell, Farrell.
- **Supplies: Safety Goggles** with side shields and a **Padlock** are a Must for the lab work (**No Exception**); Appropriate lab attire. Lab coats (optional) on lab day.

Laboratory Notebook / Data Sheet:

The following are directions for preparing laboratory reports. *Read the experiment carefully before coming to lab***.** It is necessary to read and understand the concepts and the procedure involved in the experiment beforehand.

- ***Prelab***: A Pre-Lab assignment will be due at the beginning of each laboratory session.
- ***In Lab:*** Data and report sheet must be neatly completed during the lab period and must be signed off by the instructor prior to leaving.
- ***Questions/Post-lab:*** Should be completed after the lab/experiment is done.

Inquiry based lab Report:

You must write down what you observe and measure during the time of the experiment on your notebook. Compose the laboratory report in sufficient detail to allow someone else to report the experiment exactly. The observations section of the report must be the original notes taken during the course of the experiment (take detailed, **legible** notes during the experiment).

Laboratory report will consist of the following sections:

A. Title – 4 points
B. Objective – 6 points

C. Procedure – 20 points
D. Physical Constants/Reagent Data –10 points
E. Safety – 5 points
F. Observations – 15 points (this sections should be your notes of observations that you make DURING the course of the experiment)
H. Results – 20 points
I. Discussion – 20 points

Student Learning Outcomes

By the end of the semester I intend my students to have realized a number of objectives.

- All students must be able to readily identify glassware commonly used in the chemistry laboratory and know how to properly utilize the glassware.
- Learn basic chemistry techniques, such as how to calculate percent yields, how to properly use measuring devices, how to properly clean glassware at the end of an experiment.
- Learn the safety requirements and methods needed to work in a chemistry laboratory. Learn how to safely handle, utilize and dispose of chemicals.
- Learn how to document laboratory experiments, how to maintain a scientific notebook.
- Communication in the form of laboratory reports will be clear, purposeful, and make appropriate use of evidence, data and technology as applicable.
- In laboratory experiments, you should be able to both individually and within a team with fellow classmates, conduct laboratory experiments, critically analyze data, draw conclusions from the data, and clearly and concisely report the observations and conclusions drawn from the laboratory experiments.
- Students will develop and execute effective processes for completing tasks.
- Students will be able to interpret, test and demonstrate principles revealed in empirical data.
- Students will be able to work together toward a shared purpose relevant to the course or discipline with a sense of shared responsibility for meeting that purpose.

Lab Cleanliness

You will be expected to maintain a clean and orderly lab. At the end of every experiment, your bench space and hood space must be cleaned. Any equipment utilized during the experiment must be cleaned as well (balances, rotovaps, etc.). You should ensure that sinks and floors are also clean. **If the lab space and equipment that you utilized during the experiment is left dirty and unorganized, you will be penalized 20% on your post lab. The lab report has to be typed for grading.**

GRADING

Methods of Student Evaluation and Grading Scale:

Your laboratory grade will be based on 10 experiments with pre lab, data and post lab and one inquiry based laboratory projects with a lab report.

Individual pre Lab	20%
Data and Post Lab	70%
Inquiry based lab report	10%
Total	100%

Grading will be based on a standard percentage scale: 100-90 = A; 89-80 = B; 79-70 = C; 69-60 = D; 59-below = F. Incomplete grades may be given only if the student has a current average ≥70% and is precluded from completion of the course by a documented illness or family crisis.

COMMUNICATION AND SUPPORT

Communication: If the instructor needs to contact an individual student, it will be via the student's e-mail account. Students should check e-mail frequently, especially after absence. E-mail is the best, easiest and fastest way to communicate with me.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

The following are directions for preparing for the laboratory experiments. It is essential that you read these rules carefully and understand what is expected.

- Labs can't be done without safety glasses.
- Late arrival (more than 20 minutes) will result in forfeit of the grade for that lab.
- You are required to submit Data and Post Lab /Lab Report in a timely manner.
- There will be 11 labs assigned with written lab reports (pre lab, data and post lab). **A minimum of 10 labs must be completed (with report) to pass the class.** Each Lab is total 100 points. Tuesday lab report is normally due on next week Tuesday. Only initialed data sheet will be accepted.
- You will incur a 10% penalty for every day that your lab report is late; thus, if a lab report is 10 days late, you will receive a zero for that report. There will be absolutely no make-ups for laboratory experiments the following week unless you go to different sections of that week's lab. If you miss a laboratory experiment that will be your dropped laboratory report. If you miss more than one laboratory experiment, you will be assigned a grade of zero for that assignment.

Class Attendance Policy: All students are expected to attend class on a regular basis and attendance will be recorded. The Department of Chemistry adheres to the attendance policy set by the University as stated in the most current Undergraduate Catalog. Being late by more than 5 minutes is equivalent to missing a laboratory. You must be on time in order to take an exam. Excessive absence is defined as missing more than 10% of the laboratory sessions without excusable reasons. Excessive absence will be reported to the Dean of the College and the Dean of Students. In addition, according to the TAMU-Commerce Procedure A13.02. Good class attendance will be necessary in order to pass the course.

Student Conduct Policy: Students are required to turn off all cell phones, MP3 players, PDA's, Pagers, computers and any other electronic devices before entering the class or in the laboratory that might disrupt class or disturb others. Students are expected to comply with the student code of conduct as stated Student's Guidebook, Policies and Procedures, Conduct. If the student is failed to comply with the code of conduct and being disrespectful, disruptive to the instructor or the students of the class, the instructor reserves the right to dismiss the student from the class on the first offense. A second offense may constitute dismissal from the course with a failing grade. A and M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity expression will be maintained

Academic Integrity and Dishonesty Policy: Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result in suspension or expulsion from the University as described in the Code of Student Conduct section of the Student1s Guidebook A&M-Commerce Procedure 13.99.99.R0.10

Tentative Lab Schedule for CHEM 1105
Fall 2015

Week	Day of the Week	Name of the Experiments
1	Tuesday-Thursday **9/1-9/3**	Check in equipment, Safety lecture & Quiz
2	Tuesday-Thursday **9/8-9/10**	Experiment 1: Laboratory Techniques: Using the Laboratory Gas Burner; Making Laboratory Measurement
3	Tuesday-Thursday **9/15-9/17**	Experiment 2: Density Determination
4	Tuesday-Thursday **9/22-9/24**	Experiment 3: Separation of the Components of a Mixture
5	Tuesday-Thursday **9/29-10/1**	Experiment 4: Resolution of a Mixture by Distillation
6	Tuesday-Thursday **10/6-10/8**	Experiment 5: The Empirical Formula of a Compound: The Law of Constant Composition
7	Tuesday-Thursday **10/13-10/15**	Experiment 6: Determination of the Formula of a Metal Oxide
8	Tuesday-Thursday **10/20-10/22**	Experiment 7: Classes of Chemical Reactions
9	Tuesday-Thursday **10/27-10/29**	Experiment 8: Chemical Properties of Consumer Products
10	Tuesday-Thursday **11/3-11/5**	Experiment 11: Charles Law: The Volume – Temperature Relationship of a Gas
11	Tuesday-Thursday **11/10-11/12**	Experiment 15: Water of Hydration
12	Tuesday-Thursday **11/17-11/19**	Guided Inquiry Lab Experiment
13	Tuesday-Thursday **11/24 – 11/26**	Closed- Thanksgiving break
14	Tuesday-Thursday **12/1 – 12/3**	Experiment 13: Physical properties of Chemicals: Melting Point, Sublimation, and Boiling Point
15	Tuesday-Thursday **12/8 – 12/10**	Check Out
16	Tuesday-Thursday **12/15 – 12/17**	No Class

Disclaimer:

Teaching policies and regulations for this course are not open for discussion or negotiation. This syllabus has been constructed to be as complete as possible but is by no means a binding document. I reserve the right to alter policies and regulations as needed.