Department: Chemistry and Biochemistry

Course Number/Section: CHEM 1306-01

Course Title: Chemistry for Allied Health Science

Professor: Dr. Shyam S. Shukla
Office 121K Chemistry
880-8269
shyam.shukla@lamar.edu

Office Hours: MTWThF 9:15-9:45, 11:15-12:00 Noon
(other times by appointment)

Course Description

Survey of elementary inorganic/organic chemistry and gas laws for allied health science majors.

Prerequisites

{High school chemistry or CHEM 1375 with a grade of “C” or better} and {MATH 1314 or above} with a grade of “C” or better.

Required/Optional Texts and/or Course Materials

Chemistry : An Introduction to General, Organic, and Biological Chemistry with the Chemistry Place CD-ROM (11th Edition) (Hardcover) by Karen C. Timberlake, Benjamin Cummings.

Course Outcomes

Learning Outcomes:

Students will leave the course with the theoretical and laboratory skills which will be helpful to profession of students majoring in health sciences. The students will emerge with knowledge, experience and understanding of:

- Measurements
- Energy and States of Matter
- Atoms and Elements
Core Curriculum Objectives:

- *Life and Physical Sciences (critical thinking, communication, empirical and quantitative skills, teamwork)*

1. **Scientific Observations, Laws, and Theories**

Students will prepare an essay explaining the relationship of scientific observations, laws, and theories using a course content relevant example suggested and agreed to by the instructors of all sections of the course. Faculty will use a rubric to assess scientific understanding, written communication skills, and critical thinking skills.

2. **Chemical Calculations and Meanings**

Students will document the solution of a course content relevant chemical calculation problem suggested and agreed to by the instructors of all sections of the course. Students will interpret the meaning of the results obtained. Faculty will use a rubric to assess scientific understanding, critical thinking skills and empirical and quantitative skills.

3. **Chemical Use - Benefits and Hazards**

Students will prepare a group presentation explaining the relative benefits and hazards of a contemporary, course relevant issue suggested and agreed to by the instructors of all sections of the course. Faculty will use a rubric to assess scientific understanding, understanding of the interactions of natural phenomena, communication skills, and teamwork.

**Classroom Management Policies**

*Disability accommodation:* It is the policy of Lamar University to accommodate students with disabilities, pursuant to federal and state law, and the University’s commitment to equal educational opportunities. It is the student’s responsibility to register with the Office of Services for Student with Disabilities (880-8347) in Communications Bldg. 105, as quickly as possible. Any student who feels s/he may
need an accommodation based on the impact of a disability should contact the professor directly during the first week of the course.

**Academic Honesty:** Engaging in academic dishonesty as defined and described under Academic Affairs in the student handbook will result in immediate suspension from class and a course grade of F. Only calculator and periodic table will be allowed during the exams and quizzes. **NO OTHER ELECTRONIC DEVICE INCLUDING CELL PHONE ETC. IS ALLOWED.**

**Attendance:** Regular class attendance is important to the attainment of the educational objectives of the University. Attendance will be checked daily (see federal policies).

**Federal Policies**

**Title IV Policy**
Each semester, every faculty member will be required to check attendance records, and then indicate any student who is no longer attending the class. The checked rolls will be signed by the faculty member and returned to the Registrar’s office.

**FERPA (Family Educational Rights Privacy Act of 1972):** Due to the privacy laws regarding student grades in FERPA a student's grades cannot be discussed with anyone other than the student - no one else including parents and/or friends. This includes emails, voice mails, over the phone, answering services, etc. Therefore, the student must appear in person to insure identity and can only get their grade.

**My Lamar and Blackboard**
Each student enrolled in this class has an account on “my Lamar”. All announcements, assignments, Power Points used in the lecture, etc. will be posted on Blackboard.

**Lecture**
Lectures will be conducted using Power Point and chalk. I have posted copies of the PP on Blackboard.

**Student Participation**
Student participation is highly encouraged but disruptive behavior will not be allowed.

**Academic Calendar**
http://www.lamar.edu/academic-calendar
Students may drop or withdraw without penalty until the dates posted on official calendar

**Blackboard:**
Please note that any communication or updates with the whole class will be done using "announcements" on Blackboard.

You will find the following under course content in Blackboard

- PowerPoints for all the chapters
- Clicker problems for all the chapters
- End-of-the-chapter problems
- Some important equations
- Some other useful information

**Grading and Evaluation**

**Assignments:**

<table>
<thead>
<tr>
<th>Exams</th>
<th>NUMBER</th>
<th>PERCENTAGE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25%</td>
<td>to be assigned</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>25%</td>
<td>to be assigned</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25%</td>
<td>to be assigned</td>
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</tr>
<tr>
<td>4 Final</td>
<td>25%</td>
<td>See official calendar</td>
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</tbody>
</table>

Homework with Mastering Chemistry  3%  **Bonus**

*Only calculators are permitted during exams. All other electronic devices such as cell phones, I pods, computers, etc. are not allowed.*

**Bonus Project**

Bonus project is voluntary option using Mastering Chemistry. MasteringChemistry is publisher software that allows you to practice questions for each chapter. The software keeps track of your score and if you score 80% or better you get 3% bonus.

**Grade:** Based entirely on Exams, Mastering Chemistry (Bonus)

\[
\text{Grade} = \frac{\text{[exam } (1+2+3+4)]}{4} + \text{Bonus}
\]

A ..........90 - 100+
B ..........80 - 89   D ..........60 - 69
C ..........70 - 79   F ..........0 - 59

**Types of Exam**

All exams will be multiple choice type. Exams will have 30-50 questions. **You can use only periodic table and a non-graphing calculator. No other electronic or other device allowed.**

You can use the exam itself as scratch paper but you must submit the exam, Scranton and periodic table after the exam. The Scranton will be returned back to you after
recording the grade. I WILL ONLY KEEP WITH ME A RECORD OF YOUR GRADE AND THE COPY OF THE EXAM WILL BE SHREDDED AFTER TWO WEEKS OF THE EXAM.

Make-up Exam
There are **no make-up exams**. Under **undue circumstances** (a proof must be submitted), the FINAL EXAM will be increased to compensate for the missed exam.

How to Calculate your courses average
Each exam and lab is worth the same. Suppose your grades (# of correct answers on Scantron in Pink Number on upper right hand corner) are:

<table>
<thead>
<tr>
<th>Number of Correct Answers</th>
<th>Maximum Number of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>E1</td>
</tr>
<tr>
<td>C2</td>
<td>E2</td>
</tr>
<tr>
<td>C3</td>
<td>E3</td>
</tr>
<tr>
<td>C4</td>
<td>E4</td>
</tr>
</tbody>
</table>

Course Average =\[
\frac{(C1/E1)*100 + (C2/E2)*100 + (C3/E3)*100 + (C4/E4)*100}{\text{Total # of Exams.}}
\]

Add Bonus points (= % average on MC x .03) to this average to get overall average.

Course Outline

Topics
- Chapter 1: Measurements
- Chapter 2: Energy and States of Matter
- Chapter 3: Atoms and Elements
- Chapter 4: Compounds and Their Bonds
- Chapter 5: Chemical Reactions and Quantities (limited)
- Chapter 6: Gases
- Chapter 7: Solutions
- Chapter 8: Acids and Bases
- Chapter 9: Nuclear Radiation
- Chapter 10: Introduction to Organic Chemistry: Alkane
- Chapter 12: Unsaturated Hydrocarbons (alkene)
- Chapter 13: Organic Compounds with Oxygen and Sulfurs