Course Syllabus

Physiological Chemistry I/CHEM 1402

Fall, 2007

Instructor: Lori Isom **Office Hours:** M,W 10:00 – 11:30; F 10:00 – 11:00
Office: 201D, Laney T 12:05-1:05
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Class Times:

Lecture: T, R 10:50 – 12:05 Room 206 Laney Hall
Lab: Lab W 2:00 – 3:50 (section 6420);
Lab F 12:00 – 1:50 (section 6419);

Course Description

Physiological Chemistry I (CHEM 1402) is the first part of a two semester survey course covering general chemistry. The second semester course (CHEM 2450/Physiological Chemistry II) surveys two specific divisions of chemistry: organic and biochemistry. Both semesters are designed specifically for students interested in Health Science careers. Because of the health science focus, this course will differ significantly from a typical college chemistry course. Specifically, the course will include information concerning clinical aspects of chemistry, including biological processes and illnesses and medical diagnostic procedures as they are related to the general chemistry information. You will be responsible for the clinical topics as well as the chemistry information covered in this course. **NOT ALL INFORMATION COVERED IN THIS COURSE WILL BE IN YOUR TEXT BOOK!!!** Supplemental information will be covered in lectures and you will be responsible for understanding these additional topics also.

Prerequisites:

You must have an **active email account** and **access to the Internet.** Each student has an email account assigned to them free of charge upon registration. Contact information technology (450-3107) or visit their web site (http://it.uca.edu/index.shtml) to activate your account. Internet access is available through computer clusters throughout the campus. WebCT may potentially be used to distribute class information, access web assignments, conduct discussion groups of relevant material and on-line review chats, etc. Instructions for creating a WebCT account for this course will be provided online if necessary. Students must also have the InterWrite Personal Response System (a.k.a. clicker) that comes with their textbooks with them each class meeting. Classroom exercises may require the use of these "clickers" and students who do not have an operational clicker with them in class will not get credit for the exercise.

Physiological Chemistry I (CHEM 1402) has a pre-requisite of CHEM 1302 and/or High School Chemistry. **It is assumed that students enrolled in this course have some previous exposure to chemistry and have developed simple algebraic skills.** If you do not have a strong background in High School Chemistry or if it has been a long time since your last high school

class, you should consider taking Chem 1301 Fundamentals of Chemistry before attempting this class.

Course Materials

Fundamentals of General, Organic, and Biological Chemistry, 5th edition, by McMurry and Castellion

Lab Manual – purchase from bookstore

Approved Lab safety goggles

Course Strategy

Learning chemistry requires the development of certain thinking skills that are unique to chemistry and the other physical sciences. Studying and learning chemistry can be difficult, especially at first. The suggestions below should help you spend your study time wisely. Generally, you should set aside 2-3 hours of study time per hour of class time (lecture period). This does not include the extra study time that will be required around exam time.

The best way to study for this course is described below:

1) Before lecture, read chapter summaries and topics to be covered.
2) Attend class lectures. Some of the information included in my lectures will not be found in your text. While attending class is your choice, you will be held responsible for material presented in class, regardless of whether it is included in your text book or not. More so than possibly any other subject, students who do not attend class are unlikely to succeed in this course.
3) After lecture, read the text in detail and review lecture notes. Both will re-emphasize the material, helping to clarify it in your mind. Emphasize areas that were unclear to you after lecture.
4) **PRACTICE, PRACTICE, PRACTICE!!** Working examples in the text and problems at the end of the chapter are extremely important tools for transforming concepts into concrete knowledge. This is possibly the most important transition that much occur to succeed in this course.
5) Ask questions and get help! If you are confused about a topic or have questions PLEASE ASK for help or clarification!! If you have a question during lecture, please ask it. If you get lost at one point in the lecture it is unlikely that the remaining part of the lecture will make any sense. Don't be embarrassed – if you have questions it means you are paying attention. I am also available to answer questions during my office hours.

Class Attendance

Class attendance is strongly recommended. Those students who attend class regularly are the most likely to succeed in this course. Also, quizzes will be given regularly and if you don't attend class you will likely miss one or more quizzes. As mentioned above, a significant part of the material presented in this course will not be in the text book. So attending class is necessary to obtain all the information that you will be held responsible for on the tests. If you miss 4 or more class periods (whole or in part) you may be dropped from the course at the discretion of the Instructor.

Make-up Policy
Make-up exams will be given **only** at my discretion. If you must miss an exam for an unavoidable, significant and validated reason (I decide what is unavoidable, significant, etc), contact me by email or phone (leave a message) **BEFORE** the time of the scheduled exam.

No make-up quizzes will be given.

Academic Dishonesty
The penalties for cheating (ie. representing someone else's work as your own) are SEVERE!! Penalties include, but are not limited to, assigning an "F" for the work and/or the course to expulsion from the University.

Class Disruptions / Cell Phones / PDA's / Calculators

Students are expected to be engaged and attentive during lecture and to act respectfully toward the instructor(s) and their peers throughout the duration of the class, including all lectures, lab and review sessions. Students who act in a disrespectful or disruptive manner (talking during lecture, sleeping in class, intolerance for other students' questions, etc.) will be required to leave the class and will not be allowed to make up any assignments or exams missed because of the dismissal. If the behavior continues, the student will be dropped from the class by the instructor and assigned the appropriate grade.

Cell phones and PDA's are not allowed in the student's possession during exams and/or quizzes. Any student wishing to bring one of these devices to class during testing are required to leave the device on the desk at the front of the classroom at their own risk. The student is solely responsible for the safety of their devices if they choose to bring them into the classroom during exam times. Calculators are allowed only during those quizzes/exams requiring them. Calculators may be allowed during some quizzes but not during exams. This is solely at the instructor's discretion.

Possession of cell phones / PDA's is permitted during regular lectures, labs and reviews, however these devices should be silenced prior to class to minimize the potential disruption of the lecture or other class activities.

Group Work
Some assignments in this course may require group work. Students will be required to make the necessary arrangements with the members of their groups to schedule sufficient meeting times to ensure their own active participation in the group project. It is completely at the instructor's discretion to decide what constitutes "adequate participation". Students who do not participate adequately may receive a substantially lower grade than the group project grade or may even not receive any credit for the project depending on their level of participation. Again, it is solely the discretion of the instructor what constitutes sufficient participation and what grade individual group members will receive.

Grading

Students must also have the InterWrite Personal Response System (a.k.a. clicker) that comes with their textbooks with them each class meeting. Classroom exercises may require the use of these "clickers" and students who do not have an operational clicker with them in class will not get credit for the exercise.

The following is a **tentative** description of the exams/quizzes/laboratory reports included in this class. Specific numbers may be changed if deemed necessary. Four Exams will be given in addition to a number of quizzes both **announced and unannounced (in lab and in class)**. Quizzes are intended to motivate you to keep up to date on your studies. Homework **may** also be assigned and collected if I deem necessary. Whether homework will be graded or not is also left to my discretion. Final exam will be comprehensive.

Exam grades **will not be curved** in the traditional sense of the word. A curve involves adding points to exam grades to raise the class average to a "C". Therefore, the average grade on an exam in this course will not necessarily be a C. However I do reserve the right to adjust exam scores when I deem necessary.

Exams (4)	4 exams @ 100pts	**400 points**
Quizzes (0-4)	2-4 quizzes @ 10pts	**0 - 40 points**
Misc (Group assign., web assign., class participation, pop quiz)		**0 to 60 points**
Final Exam (comprehensive)		**200 points**
Total		**~650 points**

Laboratory (13, drop lowest one) Will count as 15% of grade.	12 labs @ 10pts	**120 points**

Overall Average (course grade) = 0.85(Lecture Average) + 0.15(Lab average)

Tentative Scale (subject to change):

A = 90% +
B = 80 – 89%
C = 68 – 79%
D = 60 – 67%
F = < 60%

<u>Important Dates</u>
Aug 28, last day to register or add a class
Oct 17, mid-term grades due to registrar
Nov 2, last day to drop with "W";
Nov 30, last day to drop with "WP" if passing; otherwise a grade of "WF" will be assigned.
Tuesday, Dec 10th FINAL EXAM (11 – 1 pm)

<u>Drop policy</u>

The last day to drop with a "W" is Nov 2nd. If a student drops on or before this date, a "W" is assigned regardless of the student's grade in the course. Students may officially drop the course until Nov 30th, ***however, the grade assigned after Nov 2nd will depend on the student's grade status in the course at the time of the withdraw.*** For example, if the student withdraws from the course on Nov 3rd and at that time has earned a "C" or better in the course up to that point, a grade of "WP" will be assigned. If, however, the student's grade is below a "C" at the time of withdraw (after Nov 2nd but on or before Nov 30th) then a grade of "WF" will be assigned (at the discretion of the instructor). ***This designation is punitive and will negatively affect your grade point average!***

Students not attending class for whatever reason for more than four class periods may be dropped from the course by the instructor, at the instructor's discretion.

Disability Disclosure

The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, contact the UCA Office of Disability Services at 450-3135.

Student Handbook Policies

You should familiarize yourself with the policies listed in the 2006-2007 UCA student handbook, especially those related to academics (p. 38) and the sexual harassment policy (p. 116).

Laboratory

Lab goggles are required for all students and may be purchased in the bookstore. A student will be dismissed from lab and assigned a zero for the report if caught without eye protection more than once during a lab period. While in lab, pay attention, use common sense and exercise caution. Some of the experiments involve techniques that can be dangerous if proper procedures are not followed.

The pre-lab portion of each assigned lab must be completed prior to the date the experiment will be performed. I may periodically check for completed pre-labs at the beginning of the lab period. If a student has not completed the pre-lab portion of the lab report, points will be deducted from the final lab grade. Unannounced lab quizzes may also be given if I deem necessary.

Lab reports not turned in at the requested time at the beginning of a lab session or late lab reports will be accepted only at the discretion of the laboratory instructor.

Labs will include mandatory exam review sessions. These review sessions will involve working problems in groups.

Tentative Class and Lab Schedule

all dates and content are subject to change!

Lab: Lab W 2:00 – 3:50 (section 6420)
Lab F 12:00 – 1:50 (section 6419)

Week Beginning		Exams	Lab schedule
Aug 23	Introduction		No Lab
Aug 27	Chap 1, 2 & 3 Measurement / Atoms		Tech380 Safety
Sept 4	Chap 1, 2 & 3 Measurement / Atoms (cont.)		Misc490 Sci Notation
Sept 10	Chap 1, 2 & 3 Measurement / Atoms		*Exam 1 Review*
Sept 17	Chap 4 & 5: Chemical Bonds	**EXAM 1**	Ana237 Physiol. Ions
Sept 24	Chap 4 & 5: Chemical Bonds (cont.)		Prop236 Aqueous Soln
Oct 1	Chap 6 & 7: Chemical Reactions / Equilibrium		*Exam 2 Review*
Oct 8	Chap 8 & 9: Liquids, Solids and Gases	**EXAM 2**	Misc 476 & Misc 477
Oct 15	Chap 8 & 9: Liquids, Solids and Gases (cont.)/**Fall Break**		No Lab
Oct 22	Chap 8 & 9: Liquids, Solids and Gases (cont.)		*Exam 3 Review*
Oct 29	Chap 4 & 10: Acids and Bases	**EXAM 3**	Reac 389 Chem Change
Nov 5	Chap 4 & 10: Acids and Bases (cont)		Ana620 Chromatography
Nov 12	Chap 4 & 10: Acids and Bases (cont)		*Exam 4 Review*
Nov 19	Chap 6: Oxid-Reduction/**Thanksgiving**	**EXAM 4**	No Lab
Nov 26	Chap 6: Oxid-Reduction		Ana395 Titration Vinegar
Dec 3	TBA		TBA
Dec 10-14	Finals Week		

********** Final Exam: Tuesday, December 10th, 11:00 – 1:00 pm **********