



CHEM 1307: SURVEY OF ORGANIC AND BIOCHEMISTRY

Spring 2015

T/R 4:30 PM – 5:45 PM; AGIT 238

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COURSE INFORMATION

Text/ Manual and other required material:

- **Text:** Introduction to General, Organic, and Biochemistry, 11 th Edition, Brooks/Cole, Cengage Learning; ISBN: 978113310508; by Bettelheim, Brown, Campbell, Farrell.
- **Lab Manual:** Laboratory Experiments for Introduction to General, Organic, and Biochemistry, 8 th Edition, Brooks/Cole, Cengage Learning; by Bettelheim, Brown, Campbell, Farrell.
- **Supplies: Non-programmable Calculator** (bring to class and lab), **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.
- Online homework OWL v1 on the OWL webpage at www.cengage.com/owl. You will have 21 days free access to the online homework. Then you will be required to buy the access code. The bookstore has a bundle with the lab manual and access code for the online homework or a bundle with textbook, lab manual and access code for the online homework.

Course Description

(CHEM1307) Survey of Organic and Biochemistry: Three semester credit hours (lecture only). This course is designed for students majoring in Agricultural Science, Wildlife and Conservation Science, the Environmental Sciences, Nursing and non-majors seeking an understanding of organic chemistry and biochemistry and their applications in human health, agriculture and the environment. Students are introduced to the structure of organic compounds, the naming of organic compounds, the stereochemistry (the shapes of organic compounds in 3-dimensions), and the basic reactions of organic compounds. The course also provides an introduction to amino acids, peptides, proteins, carbohydrates, lipids, nucleic acids and metabolism. The course will prepare students for further study in organic and biochemistry courses.

Student Learning Outcomes

- Exam questions will be developed to evaluate a student's critical thinking skills. The students in the course will be required to analyze, evaluate, or solve problems when given a set of circumstances or data.
- Exam questions will be developed to evaluate a student's ability to understand and utilize mathematical functions and empirical principles and processes.
- Student communication in the class will be clear, purposeful, and make appropriate use of evidence, data and technology as applicable. To demonstrate good communication skills, students will be required to conduct a group project that will culminate in an essay assignment, which will take the form of a written report. This assignment will require students to work in groups of 3-4 to research a topic that is related to content covered in the Chem 1305 course. The groups will be required to write a report to summarize the conclusions of the project. The topic/content will be one of general public interest so that students see the relevance of course content, which in turn will hopefully result in the student learning content in greater depth. Students will be required to cite their sources.
- Students will be able to engage with peers in a way that demonstrates their understanding of relevant course theories and concepts. The group project noted above will be assessed in part based on student teamwork to complete the project.
- At the completion of the course, students will understand the structures of organic and biochemical compounds, how to name these compounds, their basic physical properties and the factors that affect their physical properties. Students will also know basic reactions of organic and biochemical compounds, including basic metabolic pathways.

COURSE REQUIREMENTS

Instructional Methods

Class Procedure:

The course is mainly a lecture oriented and will focus on important chemistry concepts but will not serve as a substitute for reading the textbook. The textbook is a more detailed presentation with a more extensive set of example problems. **You are expected to read all handouts and to allot adequate time to study the material on your own. If you miss a lecture, you are still responsible for that day's material – read the chapter, get notes from someone in class, and see the instructor for any clarification. If you have difficulty with the material feel free to see the instructor as soon as you can for advice on how best to improve your understanding of the material.**

Assessments Methods

Exams: Four unit exams (100 points, 12.5% each and 50% of overall class grade) and one mandatory, comprehensive final exam (15%). **No Make-Up ANY Exams** If you missed an unit exam, the points for the missed exam will be replaced by final exam grade making the final exam count for 15% of missed unit exam percentage of your grade. All students must take the exams at the scheduled time. **Exams cover lecture, quiz and online homework problems.** The final comprehensive exam will comprise all the subject matter discussed during the semester. **The final**

exam will be the American chemical society standardized exam in the survey of organic and biochemistry.

Quizzes: There will be quizzes (10 points, 5% each and 20% of the overall class grade). There are **NO** make-up quizzes.

Homework: There will be mandatory online OWLv1 homework, which needs to be completed by due time to receive grades. Due time will be posted in the online homework page. There will be homework for each chapter. The grade for the homework is 5 % of the total grade.

Group project: You will be required to conduct a group project that will culminate in an essay assignment, which will take the form of a written report. This assignment will require you to work in groups to research a topic that is related to content covered in the Chem 1307 course. The groups will be required to write a report to summarize the conclusions of the project. The group project will be 10 % of your overall course grade.

Attendance and Class Participation

Attendance in lecture is strongly recommended. You will find that you will learn a lot in lecture providing **you attend, engage, pay attention and stay awake**. It is definitely to your benefit to attend the lecture as additional material not contained in the text is given to help the student understand chemical principles. All students are expected to attend classes 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 lecture. Excessive absence is defined as missing more than 10% of the lectures or more than 10% of the laboratory sessions without excusable reasons. Excessive absence will be reported to the Dean of the College and Dean of students. In addition, according to the TAMU-Commerce Procedure A13.02, Good class attendance will be necessary in order to pass this course.

if a student miss more than 3 lectures prior to the first exam, I reserve the right to drop you from the course. If you miss more than 6 lectures through out the course of the semester, I reserve the right to drop you from the course. If you miss more than 6 lectures, you will lose the right to drop a laboratory experiment. If you do not sign the sign in sheet, you will be counted absent whether you were actually in class or not.

GRADING

Methods of Student Evaluation and Grading Scale:

Four Unit Exams, Final Exam, Quizzes, online Homework and group projects will evaluate Students. Four Exams will be 50 % (Each 12.5%), Final Exam 15 %, Quizzes 20 %, Homework 5 % and the group projects will be 10 % of the final grade. The grade is based on a weighted average. The borderline grades (0.5%) may be adjusted up at the instructor's discretion based on student's effort to use OWL system to learn the concepts and 100% attendance. Otherwise the grading criterion is firm.

The grade scale will be A = (90 - 100%), B = (89 - 80 %), C = (79 - 70%), D = (69 - 60%), F = <45 %.

[However, you cannot pass this course with a “C” without doing at least “C” work on the hourly exams, Quiz, online homework, project and the final]

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

Student Conduct Policy:

In order to create a “learning environment” free of disruption, you MUST TURN OFF your cell phones, MP3 players, PDA’s, Pagers, and any other electronic devices before entering the class or in the laboratory. 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 Honesty 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 Student’s Guidebook A&M-Commerce Procedure 13.99.99.R0.10

Examples include but are not limited to: -

- Exchanging information during a test or quiz
- Looking at another student’s paper during a test or quiz
- Bringing information in any forms into a test or quizzes other than personal knowledge. This includes written notes (crib sheets) and digitally stored information (formulas, constants, textual, etc.) on calculators, cell phones, pagers etc.
- Looking at a book or other unauthorized source during the test or quiz.
- Accessing information by any electronic means (cellular phone, pagers, personal stereos, etc.)

- Processing data or information in an unauthorized manner using a programmable calculator or computer. In other words, unless you have received authorization, you are not to use any computer program. This includes specialty computers or calculators in which the programming is built in to the computer; you are permitted to use simple calculators, which perform arithmetical, Logarithmic, and trigonometric functions.

Student Withdrawal:

It is the student's responsibility to withdraw from class if so desired. However, the instructor reserves the right to administratively withdraw any student who is not actively fulfilling the objectives of the course before the final. **Last day to drop a 16-week class with a Q grade is April 5.**

Incomplete:

An incomplete is given only when a student, for a valid reason, has been unable to complete course within the time allotted and has a current average $\geq 70\%$. This is not allowed except in documented illness.

University Specific Procedures

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

StudentDisabilityServices@tamuc.edu

COURSE OUTLINE / CALENDAR

Week	Date	Tuesday- Thursday Lecture
1	1/20-1/22	Class Syllabus and Policy Evaluation Quiz, Ch. 10: Organic Chemistry
2	1/27-1/29	Ch. 10: Organic Chemistry Ch. 11: Alkanes
3	2/3-2/5	Ch. 11: Alkanes
4	2/10-2/12	Ch. 12: Alkenes and Alkynes Ch. 12: Alkenes and Alkynes Exam 1: (Ch. 10 – Ch. 11)
5	2/17-2/19	Ch. 13: Benzenes and its Derivatives Ch. 14: Alcohols, Ethers and Thiols
6	2/24-2/26	Ch. 14: Alcohols, Ethers and Thiols Quiz 1: (Ch.12- Ch. 13)
7	3/3-3/5	Ch. 16: Amines
8	3/10-3/12	Ch. 16: Amines Exam II: (Ch. 12 – Ch. 14)
9	3/17-3/19	Spring Break
10	3/24-3/26	Ch. 17: Aldehydes and Ketones Ch. 17: Aldehydes and Ketones Quiz 2: (Ch. 16– Ch. 17)
11	3/31-4/2	Ch. 18: Carboxylic Acids
12	4/7-4/9	Ch. 19: Carboxylic Anhydrides, Esters, and Amides Quiz 3: (Ch. 17 – Ch. 18)
13	4/14-4/16	Ch. 19: Carboxylic Anhydrides, Esters, and Amides Exam III: (Ch. 16 – Ch. 18)
14	4/21-4/23	Ch. 20: Carbohydrates
15	4/28-4/30	Ch. 21: Lipids Chapter 22 Proteins Quiz 4: (Ch. 19 – Ch. 20)
16	5/5-5/7	Ch. 24: Chemical Communication ; Last day to submit the group project. Exam IV: (Ch. 19 – Ch. 22)
	5/14/14	Final Exam (Chapter 10-22)

Important dates:

- Exam I– 12th February, 2015
- Exam II– 12th March, 2015
- Exam III – 16th April, 2015
- Exam IV – 7th May, 2015
- Final Exam – 14th May (Thursday Time will notify later but more likely will start from 4 pm), 2015

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.