

Course Title: Survey of Organic Chemistry and Biochemistry

Course Prefix: **CHEM**

Course No.: 1063

Section No.: P01

Department of | Chemistry & Physics

College of | Arts and Sciences

Instructor Name: | *Nathaniel Soboyejo*  
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| Prairie View, TX 77446

Office Hours: | MWF: 10am-12pm or by appointment

Virtual Office Hours: | TBD

Course Location: | *EE O'Banion A104*

Class Meeting Days & Times: | MWF: 1:00 – 1:50 pm

Catalog Description: | A survey of the structure and reactions of some important functional groups in organic chemistry, fundamental organic reactions and relationship of the functional groups to the chemistry of lipids, carbohydrates proteins and nucleic acids. The interpretation and evaluation of case studies to develop fundamental knowledge and skills in Chemistry. This course will require a fair amount of writing and Teamwork. For health science and non majors.

Prerequisites: |

Co-requisites: |

Required Text: | **Chemistry: An Introduction to General, Organic and Biological Chemistry, Eleventh edition by Karen C. Timberlake**

Custom edition available at PVAMU bookstore at lower cost. This version is based on Introduction to General Chemistry, Organic and Biological Chemistry, Eleventh edition by Karen C. Timberlake.

Recommended Text/Readings: |

Access to Learning Resources: | PVAMU Library:  
phone: (936) 261-1500;  
web: <http://www.tamu.edu/pvamu/library/>  
University Bookstore:  
phone: (936) 261-1990;  
web: <https://www.bkstr.com/Home/10001-10734-1?demoKey=d>

Course Goals or Overview:

| The goal of this course is to establish a basic understanding of chemical concepts that serve as a foundation for further studies of health sciences courses.

Course Outcomes/Objectives

At the end of this course, the student will be able to

- 1 | Formulate the basics of scientific approach and methods.
- 2 | Identify the important functional groups in organic chemistry.
- 3 | Evaluate the fundamental organic reactions and relationship of the functional groups.
- 4 | Determine the stereo and isomer structures from various functional groups.
- 5 | Evaluate the reaction mechanisms and provide explanation to the formation of products.
- 6 | Identify lipids, carbohydrates proteins and nucleic acids and analyze their effects on cells and organs.
- 7 | Demonstrate and apply the chemical principles and approach in the case study

## Course Requirements & Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

**Exams** – written tests designed to measure knowledge of presented course material, questions are embedded in the common final exam to be used for assessment purpose.

-**Assessment** on Critical Thinking, and Empirical and Quantitative Skills through the embedded questions to evaluate the overall knowledge-mastering level of the whole class.

**Exercises** – written assignments designed to supplement and reinforce course material will be posted on Smartwork from Publisher

**Assessment** on Communication, Critical Thinking, and Empirical and Quantitative Skills through the online homework system that can be monitored in real time to show the students' learning progress and response to the teaching materials

**Class Participation** – daily attendance and participation in class discussions

**Assessment** on Communication, Critical Thinking, and Empirical and Quantitative Skills through the class observation on student's participation rate. The data is subjective

**Quiz** – in class or online quiz designed to measure ability to apply presented course material

**Assessment** on Communication, Critical Thinking, and Empirical and Quantitative Skills through the in-class online take home quiz that can be used to monitor student's understanding the teaching materials

**Case study** – a group of no more than 5 students to work on a special selected topic, write a report and presented to the class

**Assessment** on team work, Communication, Critical Thinking, Empirical and Quantitative, and Social responsibility skills through the university standard rubrics

### Grading Matrix

Instrument	Value (points or percentages)	Total
Exercises	10 exercises at 10 points each	100
Quizzes	10 quizzes at 10 points each	100
Exams	3 exams at 50 points each	150
Case study project	50 points	50
Final Exam	100 points	100
<b>Total:</b>		<b>500</b>

#### Grade Determination:

A = 500 – 450pts;

B = 449 – 400pts;

C = 399 – 350pts;

D = 349 – 300pts;

F = 299 pts or below

### Course Procedures

#### Submission of Assignments:

All homework assignments are graded for completion and are due on the day of the exam covering those chapters.

#### Formatting Documents:

Microsoft Word is the standard word processing tool used at PVAMU. If you're using other word processors, be sure to use the "save as" tool and save the document in either the Microsoft Word, Rich-Text, or plain text format.

#### Exam Policy

Exams should be taken as scheduled. No makeup examinations will be allowed except under documented emerg (Student Handbook). Exams should be taken as scheduled.

- All exams count. **No** drop of the lowest score.
- Scratch paper and ACS approved Periodic Table will be provided to students.
- Students need to bring Calculator, Scantron (blue or green color) and Pencil (No. 2).
- Cell phones CANNOT be used as calculators and are not allowed to be used during exams.
- Final exam will be common. The date and time is TBD.

## 16 WEEK CALENDAR

<b>Week One:</b> Topic	Introduction and Syllabus Review
Chapter (s):	10
Assignment (s):	n/a
<b>Week Two:</b> Topic	Introduction to Organic Chemistry: Alkanes
Chapter (s):	10
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Three:</b> Topic	Unsaturated Hydrocarbons
Chapter (s):	11
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Four:</b> Topic	Organic Compounds with Oxygen and Sulfur
Chapter (s):	12
Assignment (s):	HW, Exam 1– online Mastering Chemistry Assignment
<b>Week Five:</b> Topic	Organic Compounds with Oxygen and Sulfur (cont'd)
Chapter (s):	12
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Six:</b> Topic	Carbohydrates
Chapter (s):	13
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Seven:</b> Topic	Carbohydrates (cont'd)
Chapter (s):	13
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Eight:</b> Topic	Carboxylic Acids, Esters, Amines, and Amides
Chapter (s):	14
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Nine:</b> Topic	Carboxylic Acids, Esters, Amines, and Amides (cont'd)
Chapter (s):	14
Assignment (s):	HW, Exam 2– online Mastering Chemistry Assignment
<b>Week Ten:</b> Topic	Lipids
Chapter (s):	15
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Eleven:</b> Topic	Lipids (cont'd)
Chapter (s):	15
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Twelve:</b> Topic	Amino Acids, Proteins, and Enzymes
Chapter (s):	16
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Thirteen:</b> Topic	Amino Acids, Proteins, and Enzymes (cont'd)
Chapter (s):	16
Assignment (s):	HW, Exam 3– online Mastering Chemistry Assignment
<b>Week Fourteen:</b> Topic	Nucleic Acids and Protein Synthesis
Chapter (s):	17
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Fifteen:</b> Topic	Metabolic Pathways and Energy Production
Chapter (s):	18
Assignment (s):	HW– online Mastering Chemistry Assignment
<b>Week Sixteen</b>	
<b>Final Exam</b>	

# University Rules and Procedures

**Disability statement (See Student Handbook):** Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

**Academic misconduct (See Student Handbook):** You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

## **Forms of academic dishonesty:**

1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.
3. Fabrication: use of invented information or falsified research.
4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

**Nonacademic misconduct (See Student Handbook)** The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

**Sexual misconduct (See Student Handbook):** Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

**Attendance Policy:** *Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class.*

**Student Academic Appeals Process** Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

## **Additional Class Policies:**

- Students are expected to be respectful of peers and instructor at all times.
- Instructor will take questions at the beginning and end of each class session. Questions during lecture should be relevant to that topic. Excessive talking, inappropriate behavior or other classroom disruptions by any student will result in a deduction in class participation points.
- Attendance is recorded during class sessions at a time (which may vary) designated by the instructor. Without exception, if a student is not present when roll is called, they will be marked absent. Excessive absences will also result in lowered class participation points.
- Homework assignments are due on exam days. Late homework assignments will be penalized at 10% for each calendar day.
- There will not be any make-ups for missed in-class quizzes. On-line quizzes (administered through ECOURSES) will be announced in class and students will be allowed a minimum of 36 hours to complete them. **Deadlines are firm and no make-ups will be permitted.**
- Success in General Chemistry is dependent on the student using all available resources and spending sufficient time after lecture working on the concepts. In addition to the textbook and notes taken in lecture, ECOURSES will be an important resource. ECOURSES will allow for the posting of syllabi, suggested problems and quizzes. Homework assignments will be either assigned from the text or will be given in the form of handouts. It is the instructor's recommendation that students spend time after every class reviewing notes, completing problems and reading for the next class session.

# Technical Considerations for Online and Web-Assist Courses

## Minimum Hardware and Software Requirements:

- Pentium with Windows XP or PowerMac with OS 9
- 56K modem or network access
- Internet provider with SLIP or PPP
- 8X or greater CD-ROM
- 64MB RAM
- Hard drive with 40MB available space
- 15" monitor, 800x600, color or 16 bit
- Sound card w/speakers
- Microphone and recording software
- Keyboard & mouse
- Netscape Communicator ver. 4.61 or Microsoft Internet Explorer ver. 5.0 /plug-ins
- Participants should have a basic proficiency of the following computer skills:
  - Sending and receiving email
  - A working knowledge of the Internet
  - Proficiency in Microsoft Word
  - Proficiency in the Acrobat PDF Reader
  - Basic knowledge of Windows or Mac O.S.

**Netiquette (online etiquette):** students are expected to participate in all discussions and virtual classroom chats when directed to do so. Students are to be respectful and courteous to others in the discussions. Foul or abusive language will not be tolerated. When referring to information from books, websites or articles, please use APA standards to reference sources.

**Technical Support:** Students should call the Prairie View A&M University Helpdesk at 936-261-2525 for technical issues with accessing your online course. The helpdesk is available 24 hours a day/7 days a week. For other technical questions regarding your online course, call the Office of Distance Learning at 936-261-3290 or 936-261-3282

**Communication Expectations and Standards:** All emails or discussion postings will receive a response from the instructor within 48 hours. You can send email anytime that is convenient to you, but I check my email messages continuously during the day throughout the work-week (Monday through Friday). I will respond to email messages during the work-week by the close of business (5:00 pm) on the day following my receipt of them. Emails that I receive on Friday will be responded to by the close of business on the following Monday.

**Submission of Assignments:** Assignments, Papers, Exercises, and Projects will distributed and submitted through your online course. Directions for accessing your online course will be provided. Additional assistance can be obtained from the Office of Distance Learning.

**Discussion Requirement:** Because this is an online course, there will be no required face to face meetings on campus. However, we will participate in conversations about the readings, lectures, materials, and other aspects of the course in a true seminar fashion. We will accomplish this by use of the discussion board. Students are required to log-on to the course website often to participate in discussion. It is strongly advised that you check the discussion area daily to keep abreast of discussions. When a topic is posted, everyone is required to participate. The exact use of discussion will be determined by the instructor.

**It is strongly suggested** that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, it should be copied and pasted to the discussion board.