Dakota College at Bottineau Course Syllabus
Spring

Course Prefix/Number/Title: Chem 116, Introductory Organic and Bio-Chemistry
Number of credits: 4 credits
Course Description: This course is an introduction to organic and bio-chemistry. It includes topics on functional groups, nomenclature, organic reactions, proteins, enzymatic action, carbohydrates, lipids, nucleic acids and metabolism. This course meets requirements for wildlife, nursing, dental hygiene and other health career majors.
Pre-/Co-requisites: Chem 115 or Chem 121
Course Objectives: By the end of this course, you should be able to: (1) Identify the major organic functional groups. (2) Name simple organic compounds using IUPAC rules. (3) Be familiar with the biological groups of compounds that include carbohydrates, lipids, proteins, and nucleic acids. (5) Understand how each biological group provides energy and/or building materials to the body. (6) Understand the role of enzymes in chemical reactions in living organisms. Travel may be necessary to experience the role of chemistry in their everyday life.

Instructor: Angie Bartholomay
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Office Hours: M,W,F 9am-10am
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Lecture: MWF 10am-10:50, NSC 121; Lab Th 8-10am NSC 121

Lecture Schedule	Topics & Reading Assignments	Lab Schedule	Topic
Week 1	Intro to organic chemistry Chapter #3		no lab
Jan. 18	**Martin Luther King Day – No Class**		
Week 2	Chapter #3-4		Molecular Models
Week 3	Chapter #4 **Exam #1 Chapter # 3-4**		ID of Hydrocarbons
Week 4	Chapter #5		Alcohols & Phenols
Week 5	Chapter #5-6		Aldehydes & Ketones
Feb. 15	**President's Day- No Class**		
Week 6	Chapter #6 **Exam #2 Chapters 5 & 6**		absorption spectroscopy
Week 7	Chapter #7		carboxylic acids
Week 8	Chapter #8		extraction of caffeine
Week 9	Chapter 9		synthesis of aspirin
	Exam #3 – Chapters 7,8 & 9		
March 14-18	**Spring Break**		**No Lab**
Week 10	Chapter #10		Science Olympiad
March 25-28	**Easter Break**		
Week 11	Chapter #11		food nutrient testing
Week 12	Chapter #12		diabetes & dialysis
Week 13	Chapter #13		calories in foods
	Exam #4 Chapters 10-13		
Week 14	Chapter #14-15		titration of vitamin C
Week 15	Chapters #16-18		nutrition
Week 16	**Final Exam**		**May 10th 9-11am**

Textbook(s): Organic and Biochemistry by Blei and Odian. W.H.Freeman, Publisher

Course Requirements: Class and lab attendance is necessary to be successful in class because each new topic builds on the topics that precede it. *Practice assignments will be given and graded random basis, these problems will help prepare for quizzes and exams.

Tentative Course Outline: The 1st eight weeks will be devoted to organic chemistry. Functional groups will be discussed in terms of: nomenclature, properties and reactions. The 2nd eight weeks examines biochemical reactions related to life processes. Topics include: proteins. Carbohydrates, lipids, nucleic acids, enzyme action, catabolic processes or energy production: glycolysis and Kreb cycle.

General Education Goals/Objectives: (1)For a student to have a greater appreciation and understanding of the world of organic and biochemistry and the role that each of them plays in their everyday lives. (2) For each student to be able to use this knowledge in their future.

Relationship to Campus Theme: A greater understanding of biochemistry and organic chemistry will lead to a greater respect for the environment with components of technology used to reach this understanding. Students will explore how biochemistry and organic chemistry career options.

Classroom Policies: Grades will be based on total points using the following percentage system:
100-90, A; 89-80,B; 79-70,C; 69-60,D; <60%F.

Assessment methods- measurement of the expected general education outcomes will be achieved through exams, quizzes, laboratory exercises and a final project.

Exams- There will be 5 exams during the course of the semester. All exams will be worth 100 points. If you are going to miss an exam, you are expected to make it up ahead of time.
Make up exams will be different and will be worth 70%, which must be made up within a week following the original exam.

Lecture- Lecture outlines are available on our moodle shell. Exam questions will originate from lectures and end of the chapter questions.

Quizzes- There will be 10-12 quizzes. End of the chapter questions will not be graded but may be used to assist you on the quizzes. The quizzes cannot be made-up.

Laboratory- The laboratory portion of the course provides an opportunity to integrate lecture concepts with observable activities. Lab reports are due during the following lab period. Labs not turned in on time are worth 50% of the graded score on the lab.

Cell phones- Need to be turned off and stored during class!!!!

Academic Integrity: All laws pertaining to copyright infringement must be adhered to closely. any information you used in oral presentations must be adequately documented and referenced, giving credit to the appropriate person(s). Academic honesty is expected. any violations of these terms is sufficient grounds for immediate failure and removal from class. Cell phones must be turned off during class time.

Disabilities and Special Needs: Any student who has a disability that may prevent them from fully demonstrating their abilities should contact the instructor to discuss accommodations necessary to ensure full participation and facilitate his or her educational opportunities.