Chemistry 326

Syllabus Spring 2018

| Instructor | Robin S. Tanke, Ph.D. | |
|---------------|--|--|
| Phone: | 715-346-4325 | |
| E-mail: | rtanke@uwsp.edu | |
| Office: | D141 Science | |
| Office Hours: | Tuesday and Thursday 11AM-noon, Friday 9AM-10AM or | |
| | by appointment/ dropin | |

Class Sessions:

| Lecture: | M, W, F | 10:00 AM | D101 |
|----------------|---------|----------------|-----------|
| Lab Section 1: | M | 2:00 – 5:00 PM | A111/C134 |
| Lab Section 2: | W | 2:00 – 5:00 PM | A112/C134 |
| Lab Section 3: | R | 2:00 - 5:00 PM | A111/C134 |

Exam Schedule:

Exam 1: Friday, February 16, 2018

Exam 2: Friday, March 16, 2018

Exam 3: Friday, April 13, 2018

Exam 4: Friday, May 4, 2018

Final Exam: Thursday, May 17, 2018 2:45 PM – 4:45 PM

Course Objectives:

- © Students will propose reasonable mechanisms for chemical reactions based on a fundamental understanding of organic chemistry.
- © Students will propose syntheses of simple molecules and include the use of protecting groups as necessary.
- © Students will describe the structure and reactivity of simple bioorganic molecules.
- © Students will demonstrate the ability to read aspects of organic chemistry in scientific journals.
- © Students will safely prepare and characterize organic compounds and appropriately document and present their laboratory work.

Prerequisite: Chem 325 or equivalent

Required Materials:

- The text, available at text rental, is Organic Chemistry, Fifth Edition by Janice Smith
- You will need a bound laboratory notebook. The pages will need to be numbered; you may buy one with numbered pages or number the pages yourself.

Recommended Materials:

A laboratory text is available for purchase at the UWSP bookstore <u>Making the Connections</u>, <u>A How-To Guide for Organic Chemistry Lab Techniques</u>, <u>Second Edition</u> (STRONGLY RECOMMENDED) by Anne B. Padias You may choose another text or websites to complete your prelab assignments.

- <u>Molecular Models (RECOMMENDED)</u> Model kits are available are from Indigo (<u>www.indigo.com</u>) for about \$32.00. The bookstore also has model kits available for you to purchase.
- <u>Study Guide and Solutions Manual for Organic Chemistry, Fifth Edition by Smith and Smith</u>
 (<u>RECOMMENDED</u>) This manual gives answers to all the problems in your text. A few copies are on reserve at the library.

Grading: The tentative letter grades will be given as follows: 'A' -700 points, 'B' -620 points, 'C' -540 points, and 'D' -490 points.

| Chem 325 Review | 30 pts |
|---|---------|
| 4 Exams (70 points each) | 280 pts |
| 4 Homework Assignments (25 points each) | 100 pts |
| Written Library Assignment ¹ | 50 pts |
| Laboratory Grade ² | 150 pts |
| Final Exam | 140 pts |

Notes

- 1. Details of this assignment will be given later in the semester.
- 2. Details of the laboratory grade will be given the first day of lab.

LATE WORK POLICY: I expect work to be turned in at the designated time; however, if work must be late, you will receive a 10% grade reduction for material 1 hour to 1 week late. Any work turned in more than 1 week late will not be accepted except under special circumstances.

© Success in this course requires keeping up with the readings, assigned problems, and class activities through out the semester. ©

Student Conduct:

Given the new state policies regarding attendance of students receiving financial aid, attendance will be taken at times through out the semester.

You are required to attend exams and labs at the assigned time. Unexcused absences during these times are unacceptable. Excused absences will be granted under certain conditions; contact me as soon as possible if you need to miss an exam or lab.

Please be respectful of your classmates!

Students are reminded that they are to conduct themselves in accordance with the rules for academic conduct. Academic misconduct is described in Chapter UWSP 14 is to be followed by all students, staff, and faculty. An excerpt from this follows:

<u>UWSP 14.03 ACADEMIC MISCONDUCT SUBJECT TO DISCIPLINARY ACTION.</u> Academic misconduct is an act in which a student:

- 1. Seeks to claim credit for the work or efforts of another without authorization or citation;
- 2. Uses unauthorized materials or fabricated data in any academic exercise;
- 3. Forges or falsifies academic documents or records;

- 4. Intentionally impedes or damages the academic work of others;
- 5. Engages in conduct aimed at making false representation of a student's academic performance; or
- 6. Assists other students in any of these acts.

Disabilities: If you have disabilities and need any special accommodations, you should contact the office of Disability Services during the first two weeks of the semester.

Accommodations for Religious Beliefs: Religious beliefs will be accommodated according to UWS 22.03 provided I am notified during the first three weeks of classes.

Chemistry 326 Tentative Schedule 2018

| Monday Week # | Topic | Assignment | |
|------------------|---|---------------------------|--|
| 1/22 | Unit 1: Chemistry of Alkynes | Review Chem325 due 1/26 | |
| 1 | (Chapter 11) | , | |
| 1/29 | Unit 2: Reduction and Oxidation | | |
| 2 | (Chapter 12) | | |
| 2/5 | Unit 2: Continued; Unit 3: Carboxylic Acids (Chapter 19) | Homework 1 due 2/9 | |
| 3 | | | |
| 2/12 | Unit 3: More Carboxylic Acids | Exam 1: Friday, 2/16 | |
| 4 | | | |
| 2/19 | Unit 4: Introduction to Carbonyl Chemistry (Chapter 20) | | |
| 5 | | | |
| 2/26 | Unit 5: More Reactions of Aldehydes and Ketones (Chapter | | |
| 6 | 21) | | |
| 3/5 | Unit 6: Sugars (Chapter 27) | Homework 2 due 3/9 | |
| 7 | | | |
| 3/12 | Unit 7: Carboxylic Acid Derivatives (Chapters 22, 28, 29) | Exam 2: Friday, 3/16 | |
| 8 | | | |
| 3/19 | Unit 8: Reactions of Enols and Enolates | | |
| 9 | (Chapter 23) | | |
| 3/26-4/1 | SPRING BREAK! | | |
| 4/2 | Unit 9: More Reactions of Enols and Enolates (Chapter 24) | Homework 3 due 4/6 | |
| 10 | | | |
| 4/9 | Unit 9 Continued | Exam 3: Friday 4/13 | |
| 11 | | | |
| 4/16 | Unit 10: Conjugated Systems (Chapter 16) | | |
| 12 | 77.14.1 | 77 1 1 1 1 1 1 1 | |
| 4/23 | Unit 11: Aromatic Compounds (Chapters 17 and 18) | Homework 4 due 4/27 | |
| 13 | T. 1144 C. 11 T. 1140 | | |
| 4/30 | Unit 11 Continued, Unit 12 | Exam 4: Friday 5/4 | |
| 14 | H :: 12 C : 1 :: 1 : (Cl : 1 : 20) | | |
| 5/7 | Unit 12: Synthetic polymers (Chapter 30) | Literature assignment due | |
| 15 | T' 1 TEL 1 M 4T 2010 2 45 DM 4 45 DM | Tuesday, May 8 | |
| 5/17 | Final exam Thursday May 17, 2018 2:45 PM – 4:45 PM | | |
| 16 | | | |

Robin Tanke Spring Semester 2018

| | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------|----------------------|----------------------|----------------------|----------------------|--------------------|
| 08:00 | Research | | Research | | |
| 09:00 | | | | | Office |
| 10:00 | | 326 Lec 01 D101 | | 326 Lec 01 D101 | 326 Lec 01 D101 |
| 11:00 | | Office | | Office | |
| 12:00 | + | | + | | |
| 13:00 | | | | | |
| 14:00 | 326 Lab 01L1 C134 | 105 Lab 02L2 C124 | 326 Lab 01L2 C134 | 326 Lab 01L3 C134 | |
| 15:00 | 326 Lab 01L1 C134 | 105 Lab 02L2 C124 | 326 Lab 01L2 C134 | 326 Lab 01L3 C134 | |
| 16:00 | 326 Lab 01L1 C134 | 105 Lab 02L2 C124 | 326 Lab 01L2 C134 | 326 Lab 01L3 C134 | |