

**GRANDE PRAIRIE REGIONAL COLLEGE***Discipline of Chemistry**Department of Science and Technology**Thirty-Sixth Session 2001 - 2002***CHEMISTRY 1630: Organic Chemistry II****PREREQUISITE:** Chemistry 1610**INSTRUCTOR:** Dr. John P. Sloan, Office # J207, Phone # 539-2004

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**LECTURE:** CH1630 A3 MW, 8:30 - 9:50 in J203**ALBERTA TRANSFER CREDIT for CH1610 plus CH1630:**

U of Alberta:	CHEM 161/163	6 credits
U of Calgary:	CHEM 351/353	6 credits
U of Lethbridge:	CHEM 2100/2200	6 credits
Athabasca U:	CHEM 2xx/3xx	6 credits
Augustana U Col:	CHE 1xx/1xx	6 credits
Concordia Col:	CH 161/163	6 credits
The King's U Col:	CHEM 2xx/2xx	6 credits
Canadian Union C:	CHEM 1xx/1xx	8 credits

**COURSE OUTLINE:****Lecture Component:**

A continuation of the study of the fundamental principles of the chemistry of carbon compounds as commenced in Chemistry 1610. The study is based on a reaction mechanism approach to the functional group chemistry of arenes, aldehydes, ketones, carboxylic acids, esters, amides, amino acids and carbohydrates. Topics include: structure and bonding; physical properties; acidity and basicity; conformations of molecules; stereochemistry; addition, elimination and substitution reactions; structure-reactivity relationships; aromaticity and aromatic substitution; and spectroscopic methods for structure determination.

A representative selection of molecules found in agricultural, biological, environmental, industrial, medical, and pharmaceutical applications of organic chemistry will be discussed, e.g., molecules found in agrochemicals, fibres, food additives, perfumes, polymers, and prescription drugs.

**Laboratory Component:**

Techniques in organic chemistry; preparation of some organic compounds, and; methods of qualitative organic analysis.

**Tutorial Component:**

Problem solving and discussion sessions with weekly problem sets. Regular tests will be given and marked.

**Notes:**

1. Lectures: Days, Time and Place  
CH1630 A3 MW, 8:30 - 9:50 in J203.
2. Laboratory Component: Day, Time and Place  
CH1630 L1 M 14:30 - 17:20 in J119  
CH1630 L2 T 14:30 - 17:20 in J116
3. Tutorial Component: Day, Time and Place  
CH1630 S1 F 8:30 - 9:20 in J229  
CH1630 S2 F 9:30 - 10:20 in Jxxx

**TEXT BOOKS AND LABORATORY ITEMS:****The following books are required:**

1. Solomons, T.W.G., and C.B. Fryhle, *Organic Chemistry*, 7th Edition, Wiley, 2000;
2. A Three Ring Binder to Hold: Sloan, J.P., *Organic Chemistry Experiments, Chemistry 1610/1630*, Grande Prairie Regional College, 2001/2002.

**The following is highly recommended:**

3. Molecular Model Set for Organic Chemistry, Prentice Hall.

**The following is a supplementary item:**

1. Fernandez, J.E., and Solomons, T.W.G., *Study Guide and Solutions Manual to Organic Chemistry*, 7th edition, 2000;

**Note:**

1. All required and supplementary books, molecular structure model sets, safety glasses, and lab coats are available at the College Bookstore. *Organic Chemistry Experiments*, by J.P. Sloan, will be given as handouts in advance of each lab period. These are to be inserted in a three ring binder.

**EVALUATION:****Examination Schedule and Composition of the Final Grade:**

1.	Midterm Exam to be Scheduled for week of Feb 18	-----	20%
2.	Final Exam to be scheduled between April 15 & 24	-----	40%
3.	Laboratory	-----	25%
4.	Tutorial Grading Component	-----	15%
			100%

The Grades are based on the Nine Point Stanine Scale and correlate with the following designations:

<u>Stanine</u>	<u>Designation</u>
9 -----	Outstanding
8 -----	Excellent
7 -----	Very Good
6 -----	Good
5 -----	Fair
4 -----	Pass
3	
2	
1	

**Notes:**

- The Mid-Term exam will be of 2 hours duration and the Final Exam will be of 3 hours duration.
- Between 5 and 15% of exam content will be taken directly from weekly Tests.
- A pass grade is essential for the Laboratory Component.
- The Tutorial Grading Component consists of tests and will contribute towards 15% of the final grade. A 10 question test will normally be given each week during the tutorial hour. To encourage general discussion and active student participation, test questions may be answered within "paired teams". Tests not completed during the tutorial period are due within 24 hours without penalty, or later at the discretion of the Instructor. The marking scheme is:
  - 1 mark per correct answer with full details;
  - ½ mark per correct answer with incomplete details;
  - 20% may be deducted from the mark for each college business day that a test is overdue.
- Regular attendance in Lecture, Laboratory, and Tutorial Components is a Course Requirement.

**Grande Prairie Regional College Calendar 2001 - 2002: Course Description (page 151-152).****CH1630 3(3-1-3)UT, Organic Chemistry II**

Continuation is provided of the structure and reactivity of functional groups with special emphasis on molecules important to biology (e.g. fats, sugars, medicinal agents, antibiotics, amino acids, proteins, nucleic acids). Molecules found in everyday life (soaps, detergents, fibres, perfumes, and bio-polymers) will be discussed.

Prerequisite: CH1610