GRANDE PRAIRIE REGIONAL COLLEGE

Department of Science and Technology

Discipline of Chemistry

Thirty-Sixth Session 2001 - 2002

CHEMISTRY 1610 A3: **Organic Chemistry I**

PREREQUISITE: **Chemistry 30 or equivalent**

INSTRUCTOR: **Dr. John P. Sloan,**
Office # J207,
Phone # 539-2004
E-mail SLOAN@GPRC.AB.CA

LECTURE: **CH1610 A3 MW, 13:00 - 14:20 in J229**

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/2xx	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 Univ. C:	CHEM 1xx/1xx	8 credits

COURSE OUTLINE:

Lecture Component:

A study of the fundamental principles of the chemistry of carbon compounds. The study is based on a reaction mechanism approach to the functional group chemistry of alkanes, alkenes, alkynes, cycloalkanes, alkyl halides, alcohols and ethers. Topics include: structure and bonding; physical properties; acidity and basicity; conformations of molecules; stereochemistry; addition, elimination and substitution reactions; structure-reactivity relationships; and introduction to methods for structure determination.

A representative selection of molecules found in agricultural, biological, environmental, industrial,

medical, and pharmatheutical applications of organic chemistry will be discussed, e.g., molecules found in agrochemicals, fibres, food additives, perfumes, polymers, and prescription drugs.

Laboratory Component:
Laboratory 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/assignments will be given and marked.

Notes:

1. Lectures, Time and Place
   CH1610 A3 MW, 13:00 - 14:20 in J229

2. Laboratory Component, Time and Place
   CH1610 L1 T, 8:30 - 11:20 in J119

3. Tutorial Component, Time and Place
   CH1610 S1 F, 13:00 - 13:50 in J229

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.

LABORATORY FEE:

A laboratory Fee in the amount of $30.00 is payable to the cashiers office prior to commencement of the first organic chemistry lab. The fee is levied as an initial payment to cover the replacement cost of glassware and equipment items broken by the student. In the event of replacement costs of broken items being less than $30.00, the balance of the deposit will be returnable to the student. In the event of breakage costs being greater than $30.00, an equitable surcharge will be assessed and levied on the student.

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:

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

Notes:

1. The Mid-Term exam will be of 2 hours duration and the Final Exam will be of 3 hours duration.
3. Between 5 and 15% of exam content will be taken directly from weekly Tests/Assignments.
3. A pass grade is essential for the Laboratory Component.
4. The Tutorial Grading Component consists of tests/assignments and will contribute towards 15% of the final grade. A 10 question test/assignment will normally be given each week during the tutorial hour. To encourage general discussion and active student participation, test/assignment questions may be answered within "paired teams". Tests/assignments 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:
   - 4.1 1 mark per correct answer with full details;
   - 4.2 ½ mark per correct answer with incomplete details;

4.3 20% shall be deducted from the mark for each college business day that a test is overdue.

5. Regular attendance in Lecture, Laboratory, and Tutorial Components is a Course Requirement.

Grande Prairie Regional College Calendar 2001 - 2002: Course Description (page 151-152).

CH1610 3(3-1-3)UT, Organic Chemistry I

The study includes: basic molecular structure and reactivity of organic compounds based on their functional groups. The course provides an introduction to nomenclature, three dimensional structure, physical properties, and reactivity of compounds of carbon. Special emphasis is placed on hydrocarbons (petroleum products), halogenated organic compounds (e.g. pesticides), and polymers of industrial importance which may be found in everyday life.

Prerequisite: Chemistry 30 or equivalent.

Note: Students with credit in CH 1010 and 1020 normally will proceed to CH2610. Such students may enroll in CH1610 only in consultation with an advisor and with written consent of the department chairperson.