

GRANDE PRAIRIE REGIONAL COLLEGE

Department of Science

Thirtyfirst Session 1996-97

CHEMISTRY 2610: Organic Chemistry I

PREREQUISITE: Chemistry 1000 or 1040 or 1020

INSTRUCTOR: Dr. John P. Sloan, Office # J207, Phone # 539-2004

LECTURE: MWF, 9:00 - 9:50 in J204

ALBERTA TRANSFER CREDIT for CH2610 plus CH2630:

U of Alberta:	CHEM 261/263	6 credits
U of Calgary:	CHEM 350	6 credits
U of Lethbridge:	CHEM 2500/2600	6 credits
Athabasca U:	CHEM 3xx	6 credits
Augustana U Col:	CHE 250/252	6 credits
Concordia Col:	CH 261/263	6 credits
The King's U Col:	CHEM 350/351	6 credits
Canadian Union C:	CHEM 241/242	8 credits

COURSE OUTLINE:Lecture Component:

A study of the compounds of carbon with emphasis on reaction mechanisms to illustrate the fundamental principles of organic chemistry. The chemistry of alkanes, alkenes, alkynes, cycloalkanes, alkyl halides, alcohols and ethers will be covered through studying the chemistry of their functional groups. Topics of study include: structure and bonding; physical properties; acidity and basicity; conformations of molecules; stereochemistry; addition, elimination and substitution reactions; structure-reactivity relationships; and introduction to spectroscopic methods of 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, amino acids, carbohydrates, fibres, food additives, perfumes, polymers, and prescription drugs.

Laboratory Component:

Organic laboratory techniques using a microscale approach; 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 will be on Mondays, Wednesdays and Fridays from 9:00 to 9:50 in J204.
2. Laboratory Section L1 will be on Mondays from 15:00 to 17:50 in J116 and,
3. Tutorial S1 will be on Wednesdays from 8:00 to 8:50 in J 203 .

TEXT BOOKS AND**LABORATORY ITEMS:**

The following books are required;

1. Wade, L.G. (Jr), *Organic Chemistry*, 3rd edition, Prentice-Hall, 1995, ISBN 0-13-0301631-5;
2. Pavia, D.L., Lampman, G.M., Kriz, G.S., and Engel, R.G. *Introduction to Organic Laboratory Techniques: a Microscale Approach*, Second edition, Saunders, 1995, ISBN 0-006232-2;
Note: each copy of this laboratory text may be shared by three students.
3. A hard backed laboratory note book.

The following is highly recommended;

1. HGS Molecular Structure Model C Set for Organic Chemistry, Freeman, ISBN 0-7167-1972-X.

The following are supplementary items:

1. Wade, L.G.(Jr.), Simek, J.W., *Organic Chemistry: Solutions Manual*, 3rd edition, Prentice-Hall, 1995.
2. A Fieser Triangle for drawing chemical structures.

Notes:

1. Required and supplementary books, molecular structure model sets, Fieser triangles, and lab coats are available at the College Bookstore, except the laboratory text by Pavia et. al. which may be available at the IVCF used book sale in Portable I.

EVALUATION:

The Examination Schedule and Composition of the Final Grade:

1. Midterm Exam:
Week of October 16 ----- 20%
2. Final Exam to be
scheduled between Dec 11 & 19 -- 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:

1. The Mid-Term Exam will be of 2 hours duration and the Final Exam will be of 3 hours duration. ²¹
2. Between 5 and 15% of exam content will be taken directly from weekly Problem Assignments and Tests.
3. A pass grade is essential for the Laboratory Component.
4. 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:
 - 4.1 1 mark per correct answer with full details;
 - 4.2 1/2 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 the Lecture, Laboratory, and Tutorial Components is a course requirement.