

COURSE SYLLABUS

- 1. Program of Study** Bachelor of Science (Chemistry)
Faculty International College, Mahidol University
- 2. Course Code** ICCH 221
Course Title Organic Chemistry I
- 3. Number of Credits** 4 (4-0-8) (Lecture/Lab/Self-study)
- 4. Prerequisite** ICCH 210
- 5. Type of Course** Core science course
- 6. Semester / Academic Year:**
First trimester 2005-2006

- 7. Course Conditions**
Number of students between 20-30

- 8. Course Description:**
Concepts and mechanistic considerations of organic chemistry; molecular structures and properties; methane and alkane chemistries; stereochemistry; acyclic compounds; alkyl halides; alkenes; conjugation and resonance; alcohols; ethers and epoxides; alkynes.

- 9. Course Objectives:**
After successful completion of this course, students should be able to
 - 9.1 understand the concept and mechanisms of organic chemistry;
 - 9.2 apply the concepts of organic chemistry to synthesis problems and structure determination;
 - 9.3 identify and solve problems related to organic chemistry using the concepts learned.

10. Course Outline

Week	Topics /Seminar	Hours			Instructor
		Lecture	Lab	Self-study	
1	Structure & bonding	2	-	4	Dr. Pakorn Bovonsombat
2	Organic structures	4	-	8	Dr. Pakorn Bovonsombat
3	Alkanes & reactions	4	-	8	Dr. Pakorn Bovonsombat
4	Cyclic alkanes	4	-	8	Dr. Pakorn Bovonsombat

5	Stereoisomers	4	-	8	Dr. Pakorn Bovonsombat
6	Haloalkanes	4	-	8	Dr. Pakorn Bovonsombat
7	Substitution & elimination	4	-	8	Dr. Pakorn Bovonsombat
8	Alcohols	4	-	8	Dr. Pakorn Bovonsombat
9	Ethers	4	-	8	Dr. Pakorn Bovonsombat
10	Nuclear magnetic resonance	4	-	8	Dr. Pakorn Bovonsombat
11	Alkenes, reactions	4	-	8	Dr. Pakorn Bovonsombat
12	Alkynes	2	-	4	Dr. Pakorn Bovonsombat
	Total	44	-	88	

11. Teaching Methods:

- 11.1 Lecturing
- 11.2 Self-study
- 11.3 Group discussion and presentation

12. Teaching Media:

Transparencies, handouts and lecturing from boards.

13. Measurement and Evaluation of Student Achievement:

Student achievement is measured and evaluated by

- 13.1 the ability in understanding the concept and mechanisms of organic chemistry;
- 13.2 the ability to apply the concepts of organic chemistry to synthesis problems and structure determination;
- 13.3 the ability to identify and solve problems related to organic chemistry using the concepts learned.

Student's achievement will be graded according to the College and University standard using the symbols: A, B+, B, C+, C, D+, D and F. Students must attend at least 80% of the total class hours of this course.

Assessment made from the set-forward criteria: student who gets 90% and above will have Grade A.

A suggestive minimum of;

Midterm examination	40%
Final examination	50%
Quizzes	10%
Total	100%

14.Course Evaluation:

- 14.1 Students' achievement as indicated in number 13 above.
- 14.2 Students' satisfaction towards teaching and learning of the course using questionnaires.

15.References:

Vollhardt, K.P.C. and Schore, N.E. **Organic Chemistry Structure and Function** 5th Edition USA: W.H. Freeman and Company; 2007.

Morrison, R.T., Boyd, R.N. and Boyd, R.K. **Organic Chemistry** 6th Edition USA: Addison-Wesley; 1992.

Streitweiser, A., Heathcock, C.H. and Kosower, E. **Introduction to Organic Chemistry** 4th Edition USA: MacMillan; 1992.

16.Instructors:

Dr. Pakorn Bovonsombat

17.Course Coordinator:

Dr. Pakorn Bovonsombat

Mahidol University International College, Mahidol University

Telephone: 02-4410595 ext. 1529

E-mail: icpakorn@mahidol.ac.th