

COURSE SYLLABUS

- 1. Program of Study** Bachelor of Science (Chemistry)
Faculty International College, Mahidol University
- 2. Course Code** ICCH 222
Course Title Organic Chemistry II
- 3. Number of Credits** 4(4-0-8) (Lecture/Lab/Self-study)
- 4. Prerequisite** ICCH 210, ICCH 221 or ICCH 220
- 5. Type of Course** Major required course
- 6. Semester / Academic Year** Second trimester 2005-2006
- 7. Course Conditions** Number of students between 20-30
- 8. Course Description**

Concepts of organic reactions through mechanistic approach; aromaticity and electrophilic aromatic substitution; spectroscopy and structure; aldehydes and ketones; carboxylic acids and derivatives; carbanions, amines, phenol and aryl halides; fats; carbohydrates; amino acids.
- 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				Instructor
	Lecture/Seminar	Hour	Lab	Self-study	
1	Conjugation	2	-	4	Dr. Pakorn Bovonsombat
2	Aromaticity	4	-	8	
3	Aromatic substitutions	4	-	8	
4	Phenols	4	-	8	
5	Carbonyl additions I	4	-	8	
6	Carbonyl additions II	4	-	8	
7	Carboxylic acids	4	-	8	
8	Carboxylic acid derivatives	4	-	8	
9	Amines	4	-	8	
10	Carbohydrates	4	-	8	
11	Amino acids & proteins	4	-	8	
12	Orbital symmetry	2	-	8	
	Total	44	-	92	

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 to understand 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%

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.

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

16. Instructors

Dr. Pakorn Bovonsombat

17. Course Coordinator

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