COURSE SYLLABUS

1. **Program of Study** Bachelor of Science (Chemistry)
   Faculty International College, Mahidol University

2. **Course Code** ICCH 390
   Course Title Organic Chemistry Laboratory Techniques

3. **Number of Credits** 2 (0-4-2) **(Lecture/lab/self-study)**

4. **Prerequisites** ICCH 221, 222 and 224

5. **Type of Course** Required major courses

6. **Semester / Academic Year**: First trimester 2006-2007

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

8. **Course Description**:
   Supplementary organic laboratory practicals for those interested in developing more and advanced organic laboratory techniques through running more advanced organic reactions; Grignard synthesis; Friedel-Crafts; Diazonium salts; Diels-Alder and spectroscopic analysis.

9. **Course Objectives**:
   After successful completion of this course, students should be able to
   9.1 attain greater organic laboratory and laboratory skills;
   9.2 understand organic reactions in terms of practical handling;
   9.3 develop ability to identify and determine structure using the skills acquired.

10. Course Outline

Week	Topics	Hours			Instructor
		Lecture	Lab	Self-study	
1	Safety	2	-	4	Dr. Pakorn Bovonsombat
2	Esterification	0	4	2	
3	Cyclohexne synthesis	0	4	2	
4	Grignard synthesis	0	4	2	
5	Biosynthesis of ethanol	0	4	2	
6	Friedel-Crafts alkylation	0	4	2	
7	Aldol condensation	0	4	2	
8	Aromatic nitration	0	4	2	

9	Reduction	0	4	2	Dr. Pakorn Bovonsombat
10	Infrared spectroscopy	0	4	2	
11	Oxidation	0	4	2	
12	Nuclear magnetic resonance	0	4	2	
	Total	2	44	26	

11.Teaching Methods:

11.1 Practical exercises
11.2 Lecturing
11.3 Self-study, group discussion and presentation

12.Teaching Media:

Transparencies, handouts and lecturing from boards.

13.Measurement and Evaluation of SyudentAchievement:

Student achievement is measured and evaluated by
13.1 the ability to display greater organic laboratory skills;
13.2 the ability in understanding organic reactions in terms of practical handling;
13.3 the ability to develop ability to identify and determine structure using the skills acquired.

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 85% and above will have Grade A.

A suggestive minimum of;

Midterm examination	30%
Final examination	40%
Lab reports	30%

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.

Louis F. Fieser, L.F. and Williamson, K.L. **Organic Experiments**, 6th Edition, USA: D.C. Heath and Company; 1987.

16. Instructors:

Dr. Pakorn Bovonsombat

17. **Course Coordinator**:
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