COURSE SYLLABUS

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

2. **Course Code** ICCH 423
   Course Title Heterocyclic Chemistry

3. **Number of Credits** 4 (4-0-8) **(Lecture/Lab/Self-study)**

4. **Prerequisite** ICCH 222

5. **Type of Course** Elective major course

6. **Semester / Academic Year** Second trimester 2006-2007

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

8. **Course Description**:
   Introduction to heterocyclic chemistry; synthesis and reactions of thiophene, furan, pyrrole, indole, benzofuran, benzothiophene, oxazole, pyridine, pyrilium salts, quinoline, isoquinoline, pyridazine.

9. **Course Objectives**:
   After successful completion of this course, students should be able to
   9.1 understand the field and concepts of heterocyclic chemistry;
   9.2 identify the synthesis of heterocyclic compounds;
   9.3 apply the knowledge to research.

10. Course Outline

Week	Topics	Hours			Instructor
		Lecture	Lab	Self-study	
1	Thiophene	2	-	4	Dr. Duanpen Lertpibulpanya
2	Furan	4	-	8	
3	Pyrrole	4	-	8	
4	Indole	4	-	8	
5	Benzofuran	4	-	8	
6	Benzothiophene	4	-	8	
7	Oxazole	4	-	8	
8	Pyridine	4	-	8	
9	Pyrilium salts	4	-	8	
10	Quinoline and isoquinoline	4	-	8	
11	Pyridazine,	4	-	8	
12	Pyrimidine, pyrazine	2	-	4	
	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 field and concepts of heterocyclic chemistry;
    13.2 the ability to identify the synthesis of heterocyclic compounds;
    13.3 the ability to apply the knowledge to research.
    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	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**:
    Joule, J.A. and Mills, K. **Heterocyclic Chemistry** 4th Edition, UK: Blackwell Science; 2000.

16. Instructors:
    Dr. Duanpen Lertpibulpanya

17. Course Coordinator:
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