

COURSE SYLLABUS

1. **Program of Study** Bachelor of Science (Chemistry)
Faculty International College, Mahidol University
2. **Course Code** ICCH 424
Course Title Natural Product 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** First trimester 2006-2007
7. **Conditions** Number of students between 20-30

8. **Course Description:**

Natural product chemistry; classification of natural products, isolation techniques and physiochemical data, terpenes, steroids, fatty acids and related compounds, sugars, carboaromatic and related compounds, alkaloids and non-alkaloids containing nitrogen; aspects of natural product photochemistry.

9. **Course Objectives:**

- After successful completion of this course, students should be able to
- 9.1 understand the field of natural products chemistry;
 - 9.2 identify natural products and their probable biosynthetic pathways;
 - 9.3 enhance their understanding of biological and biochemical sciences.

10. **Course Outline**

Week	Topics	Hours			Instructor
		Lecture	Lab	Self-study	
1	Classifications	2	-	4	Assistant Professor Dr. Orasa Pancharoen
2	Isolation techniques	4	-	8	
3	Physiochemical data	4	-	8	
4	Terpenes	4	-	8	
5	Steroids	4	-	8	
6	Alkaloids	4	-	8	
7	Non-alkaloidal heterocyclic compounds	4	-	8	
8	Fatty acids	4	-	8	
9	Sugars	4	-	8	
10	Carboaromatics	4	-	8	
11	Shikimic acid pathway	4	-	8	

12	Amino acids	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 of natural products chemistry;
- 13.2 the ability to identify natural products and their probable biosynthetic pathways;
- 13.3 the ability to enhance their understanding of biological and biochemical sciences.

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:

Torssell, K.B.G. **Natural Product Chemistry: A Mechanistic, Biosynthetic and Ecological Approach**, 2nd Edition, USA: Taylor & Francis; 1997.

16. Instructors:

Assistant Professor Dr. Orasa Pancharoen

17. Course Coordinator:

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