

COURSE SYLLABUS

- 1. Program of Study** Bachelor of Science (Chemistry)
Faculty International College, Mahidol University
- 2. Course Code** ICCH 210
Course Title General Chemistry I
- 3. Number of Credit** 4 (4-0-8) (Lecture/Lab/Self-study)
- 4. Prerequisites** None
- 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:**
Comprehensive concepts and principles of chemistry; atomic structure; chemical bonding; stoichiometry; gases, solids, liquids and solutions; chemical thermodynamics and kinetics.
- 9. Course Objectives:**
After successful completion of this course, students should be able to
 - 9.1 understand detailed concepts of general chemistry;
 - 9.2 understand the concepts of atomic structure, electron configurations, atomic properties and the periodic table;
 - 9.3 understand the relationships between thermodynamics, kinetics and intermolecular forces.

10. Course Outline

Week	Topics /Seminar	Hours			Instructor
		Lecture	Lab	Self-study	
1	Measurement	4	-	8	Dr. Radchada Buntem
2	Matter, atoms, molecules and ions	4	-	8	Dr. Radchada Buntem
3	Stoichiometry	4	-	8	Dr. Radchada Buntem
4	Stoichiometry	2	-	4	Dr. Radchada Buntem
5	Gases and gas laws	2	-	4	Dr. Radchada Buntem

6	Gases and gas laws	4	-	8	Dr. Radchada Buntem
7	Thermochemistry	4	-	8	Dr. Radchada Buntem
8	Atomic structure	4	-	8	Dr. Radchada Buntem
9	Electron configurations, atomic properties and periodic table	4	-	8	Dr. Radchada Buntem
10	Chemical bonds, theory and molecular structure	4	-	8	Dr. Radchada Buntem
11	State of matter and intermolecular forces	4	-	8	Dr. Radchada Buntem
12	States of matter and intermolecular forces	4	-	8	Dr. Radchada Buntem
	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 detailed concepts of general chemistry;
- 13.2 the ability in understanding the concepts of atomic structure, electron configurations, atomic properties and the periodic table;
- 13.3 the ability in understanding the relationships between thermodynamics, kinetics and intermolecular forces.

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:

Hill, J.W. and Petrucci, R.H. **General Chemistry an integrated approach** 3rd Edition, USA: Prentice Hall; 2002.

Chang, R. **Chemistry** 6th Edition, USA: McGraw-Hill; 1998.

Atkin, P.W. **Atkin's Molecules** 2nd edition, UK: Cambridge University Press; 2003.

16. Instructors:

Dr. Radchada Buntem

17. Course Coordinator:

Dr. Pakorn Bovonsombat

Mahidol University International College, Mahidol University

Telephone: 02-4410595 ext. 1529

E-mail: icpakorn@mahidol.ac.th