COURSE SYLLABUS

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

2. **Course Code** ICCH 441
   Course Title Inorganic Chemistry I

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

4. **Prerequisite** ICCH 210, 211, 221 and 222

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

6. **Semester / Academic Year** First trimester 2005-2006

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

8. **Course Description**
   Concepts of inorganic chemistry; structure of the atom; bonding models in inorganic chemistry; covalent bond; structure and reactivity; chemical forces.

9. **Course Objectives**
   After successful completion of this course, students should be able to
   9.1 understand the concepts of chemical bonds – valence and molecular orbital – in inorganic chemistry;
   9.2 identify the nomenclature, structures and bonding types in inorganic compounds;
   9.3 apply the concepts to inorganic chemistry research.

10. Course Outlines

Week	Topics	Hour			Instructor
	Lecture/Seminar	Lecture	Lab	Self-study	
1	Structure of the Atoms	2	-	4	Dr. Radchada Buntem
2	Structure of the Atoms Bonding models in inorganic chemistry	4	-	8	
3	Bonding models in inorganic chemistry	4	-	8	
4	Covalent bond: structure and reactivity	4	-	8	
5	Covalent bond: structure and reactivity	4	-	8	
6	Chemical forces	4	-	8	
7	Chemical forces	4	-	8	
8	Periodicity of elements	4	-	8	
9	Periodicity of elements	4	-	8	
10	Periodicity of compounds	4	-	8	
11	Chemistry in aqueous and non-aqueous solutions	4	-	8	
12	Chemistry in aqueous and non-aqueous solutions	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 concepts of chemical bonds – valence and molecular orbital – in inorganic chemistry;

13.2 the ability to identify the nomenclature, structures and bonding types in inorganic compounds;

13.3 the ability to apply the concepts to inorganic chemistry 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**

Huheey, J.E., Keiter, E.A. and Keiter, R.L. **Inorganic Chemistry Principles of Structures and Reactivity**, 4th Edition, USA: Harper Collins College Publishers; 1993.

Atkins, P., Overton, T., Rourke, J., Weller, M. and Armstrong, F. **Shriver & Atkins Inorganic Chemistry** 4th Edition, UK: Oxford University Press; 2006.

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