COURSE SYLLABUS

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

2. **Course Code** New ICCH 442
   Course Title Inorganic Chemistry II

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

4. **Prerequisite** ICCH 441

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

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

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

8. **Course Description**
   Remaining concepts of inorganic chemistry; solid state; acid-base chemistry in inorganic chemistry; physical properties and characterization of coordination compounds; reaction mechanism of coordination compounds; oxidative-reductive ligand substitution reactions.

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 – coordination chemistry;
   9.2 identify nomenclature, structures and bonding types in inorganic compounds and transitional metal complexes;
   9.3 apply the concepts to inorganic chemistry research.

10. Course Outlines

Week	Topics	Hourse			Instructor
	Lecture/Seminar	Lecture	Lab	Self - study	
1	Solid state	2	-	4	Dr. Radchada Buntem
2	Solid state Acid-base chemistry of inorganic compounds	4	-	8	
3	Acid-base chemistry of inorganic compounds	4	-	8	
4	Acid-base chemistry of inorganic compounds	4	-	8	
5	Coordination chemistry: theory	4	-	8	
6	Coordination chemistry: theory Coordination chemistry: structures	4	-	8	
7	Coordination chemistry: structures	4	-	8	
8	Coordination chemistry: reactions	4	-	8	
9	Coordination chemistry: kinetics and mechanisms	4	-	8	
10	oxidative-reductive ligand substitution reactions	4	-	8	
11	Chemistry of non-metals	4	-	8	
12	Chemistry of non-metals	2	-	8	
	Total	46	-	92	

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. **Course Achievement**

Student achievement is measured and evaluated by

13.1 the ability in understanding the concepts of chemical bonds – valence and molecular orbital – coordination chemistry;

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

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

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