

Course Syllabus

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| 1. Program of Study | Bachelor of Science Program
Bachelor of Arts Program
Bachelor of Business Administration Program
Bachelor of Nursing Science Program |
| Faculty/Institute/College | Mahidol University International College |
| 2. Course Code | ICNS 121 |
| Course Title | Fundamental Chemistry |
| 3. Number of Credits | 4(4-0-8)(Lecture/Lab/Self study) |
| 4. Prerequisite (s) | none |
| 5. Type of Course | General Education Course |
| 6. Session | 3 rd trimester |
| 7. Conditions | - |

8. Course Description

Basic principles and methods of chemistry, as applied to everyday life; basic knowledge of elements and compounds and their chemical reactions; solid, liquids and gases in terms of their impact on humans and the environment, including the air and water quality, global climate, and ozone depletion.

9. Course Objective (s)

After successful completion of this course, students should be able to

- 9.1 describe the characteristics of the three states of matter.
- 9.2 state examples of physical and chemical properties.
- 9.3 describe the general properties of elements and the periodic properties of elements in the periodic table.
- 9.4 define an acid and a base and give named examples of each.
- 9.5 explain the term pH.
- 9.6 state the characteristics of ionic and covalent compounds.
- 9.7 name important types of chemical reactions.
- 9.8 balance simple chemical equations.
- 9.9 define organic chemistry and give examples of organic compounds.

10. Course Outline

Week	Topic	Hour			Instructor
		Lecture	Lab	Self-Study	
1	Introduction	4	0	8	Mike Johns
2	Matter & energy	4	0	8	Mike Johns
3	The periodic table of the elements	4	0	8	Mike Johns
4	Compounds	4	0	8	Mike Johns
5	Chemical reactions	4	0	8	Mike Johns
6	Mid term	4	0	8	Mike Johns
7	Petrochemistry	4	0	8	Mike Johns
8	Environmental Chemistry	4	0	8	Mike Johns
9	Nuclear Chemistry	4	0	8	Mike Johns
10	Food Chemistry	4	0	8	Mike Johns
11	Drug Chemistry	4	0	8	Mike Johns
	Total	44	0	88	Mike Johns
Final Examination					

11. Teaching Method (s)

11.1 Lecture

11.2 Self-study

11.3 Practical activities

12. Teaching Media

12.1 PowerPoint presentations

12.2 Texts and teaching materials

13. Measurement and evaluation of student achievement

Student achievement is measured and evaluated by

- 13.1 the ability to describe the characteristics of the three states of matter.
- 13.2 the ability to state examples of physical and chemical properties.
- 13.3 the ability to describe the general properties of elements and the periodic properties of elements in the periodic table.
- 13.4 the ability to define an acid and a base and give named examples of each.
- 13.5 the ability to explain the term pH.
- 13.6 the ability to state the characteristics of ionic and covalent compounds.
- 13.7 the ability to name important types of chemical reactions.
- 13.8 the ability to balance simple chemical equations.
- 13.9 the ability to define organic chemistry and give examples of organic compounds.

Student's achievement will be graded according to the faculty and university standard using the symbols: A, B+, B, C+, C, D+, D, and F.

Students must have attended at least 80% of the total class hours of this course.

MUIC standard grading criteria: 90% and above is grade A

Ratio of mark

Component	%
Attendance/Class participation	10
Quizzes	15
Assignments	15
Midterm	30
Final	30
Total	100

Assessment made from the set forward criteria: -

Grade	%
A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D+	65-69
D	60-64
F	0-59

14. Course evaluation

- 14.1 Students' achievement as indicated in number 13 above.
- 14.2 Students' satisfaction toward teaching and learning of the course using questionnaires.

15. Reference (s)

Dickson, T.R. Introduction to Chemistry. Eighth edition. 2000. Wiley.
Rogers, E. P. Fundamentals of Chemistry. 1987. Wadsworth, Inc., Belmont, California.
Zumdahl, S. S. Basic Chemistry. Fourth edition. 2000. Houghton Mifflin Company.
Boston New York.

16. Instructor (s)

- 16.1 Mike Johns
Room 1409 International College Building

17. Course Coordinator

Mike Johns, Room 1409 International College Building