

Basic Chemistry

Syllabus Number 0L193
Remedial Subject
Elective 2 credit
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1. Course Description

<< Course Description >>

This course is designed as an overview of basic chemistry, and will be open to students who have had no high school chemistry qualification or who have a weak background in chemistry.

Students must attend all lectures. They should read the textbook in advance and are responsible of learning the material presented. In order to further a more complete understanding of these lectures, many exercises as well as short tests will be given throughout the course.

Several topics that will be presented in this course are: (1) the periodic table of the elements; (2) the three states of matter; (3) chemical bonding; (4) acids and bases.

2. Course Objectives

Chemistry is one of the basic sciences. The focus of chemistry is to learn the characteristics and structure of all matter of which the universe is composed. Therefore, chemistry is indispensable for all students acquiring a higher education in all disciplines, making this course very important for all members of this faculty of science and engineering. This course introduces the minimum information required to understand basic chemistry. Upon successful completion of this course, students will have gained a fundamental understanding of basic chemistry and will have the background necessary to take Chemistry 1 in the second semester.

3. Grading Policy

- Students will attend class every day. Students who do not meet attendance of more than two-thirds are not allowed to take regular examination.
- Midterm exam is scheduled according to the progress situation of lecture. Regular tests are scheduled to be conducted during periodical tests to be established separately.
- In principle, retest will not be conducted.
- Student's grades are evaluates with intermediate tests and periodic tests (final tests) at the same 40% to 50%, and the result of quizzes, which are confirmation tests of the degree of fixation of important items at the previous time, are also part of the evaluation (about 10%) it is possible to crown.
- We will give feedback on main learning contents in the 7th lesson (middle) and in the last lesson.

4. Textbook and Reference

Textbook

- Use text (textbook) is not limited in particular. Please be sure to bring text that matches your abilities (textbooks and reference books used in high school days are also acceptable).
- We will distribute printed contents of the scope to be carried out in 15 lessons. I will use it in quasi-text format, so be sure to bring it every time. We will also distribute prints as necessary. Please organize well including quiz question prints, and always bring them with you to each lesson. (The question of the quiz is a fundamental question to check if you understand and memorize important matters. If you encounter the print you used for the exercise again, the memory will revive clearer. =Use printing)

Reference

textbook in "Basic of Chemistry" for high school

5. Requirements (Assignments)

- (1) Preliminary announcement of content of the next lesson on the print to be distributed at the first lesson. Therefore, learning of the designated range is carried out as a preparatory course and we will look into the lesson.
- (2) Review the contents of each class up to the 3rd class will be quartered in the first 15 minutes of the 4th lesson, and from 5th onwards about 10-15 minutes on the important items of the last lesson. We will distribute model answers after the test has been collected and return the answers next time so we will review the parts that students could not answer. I will explain again the problem with a low rate of correct answers.
※ After each lesson, it is necessary to review learning (at least 1 hour) until the answer is correct and the part which was incorrect in quiz and exercise is derived.
- (3) Students should develop a habit of asking questions immediately after each class about items and contents that students don't understand. Having doubts as it is, the next time the question will further amplify. Please come to the Learning Support Office and ask questions and resolve the problems. I will move forward if you can understand.

6. Note

- Please be sure to enter class within 30 minutes before the start time.
- Students who entered after 30 minutes have passed will be accepted but will be consider absent.
- For smartphones and mobile phones, when registration of attendance is completed, please change the ringtone to manner mode or silent mode and put them away.
- Eating and drinking during lectures and unnecessary entry and exit of lecture hall are not permitted.

7. Schedule

- [1] Material composition—Substance classification and ingredients—

[2]	Constituents particles of substance, Structure of substance
[3]	Electronic arrangement of atoms
[4]	Ion formation, ionic bonding, name of ion
[5]	Ionic crystal and composition formula (including ionization energy)
[6]	Molecular formation and covalent bonding
[7]	Electronic, structural, indicative
[8]	Metal bonding, comparison of chemical bonds
[9]	Periodic table of elements and periodic table
[10]	Atomic weight, molecular weight, formula quantity
[11]	Avogadro's number and material quantity
[12]	Concentration of solution, chemical reaction formula
[13]	Chemical reaction formula and material quantity
[14]	Chemical reaction formula and quantitative calculation, basic law of chemistry
[15]	Acid and base, hydrogen ion concentration and pH