CH107: College Chemistry

Class Time

MTWTh 08:00 ~ 12:00

Location

To be announced

Credit

3

Instructor

Professor David G. Churchill (dchurchill(at)kaist.ac.kr)
Education: BS, University at Buffalo
PhD, Columbia University
Postdoc, University of California, Berkeley
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Required Materials

Textbook: L.J. Malone and T.O. Dolter, Basic Chemistry. J Wiley and Sons Inc. 9th Edition (International Student Version), 2012

Course Summary

College Chemistry is a basic subject for freshmen and essential for training to become a living, breathing and questioning scientist. This introductory course is arranged to enable beginning college students to achieve competency and to allow a smooth transition to General Chemistry I (CH101), especially when they did not have a science focus in secondary school (high school). The textbook material, viewgraph slides and pre-recorded English lectures, based mainly on fundamental ideas of chemistry, forms a coverage of almost all of the basic concepts required for General Chemistry at KAIST. The syllabus for Summer 2018 covers Chapters 2-14 of the Malone and Dolter text (below). Additionally, a 'Special Topics' section relating to quantum theory and wave mechanics is also included at the end of the course. A more detailed layout and time table are shown below. *Note: Students lacking an excellent mathematical/quantitative background should read Appendixes A and B.* Quizzes will be of the multiple-choice type. In previous years, the instructor has expected that the student remembers the correct positions of the elemental symbols in the periodic table (students need to fill in the periodic table with correct elemental symbols). Importantly, this course is meant to help students gear up to compete with top science college students in the Republic of Korea. In some cases, College Chemistry students can later become graduate students in the Chemistry field or related field.

※ **Weekly Schedule (tentative)**

Class (week beginning)	Content (Subject)
Week 1 (2019/7/1-4)	Ch. 2: Elements and Compounds. Ch. 3: Properties of Matter and Energy.
	Ch. 4: The Periodic Table and Chemical Nomenclature.
	Ch. 5: Quantities in Chemistry. Ch. 6: Chemical Reactions. *Quiz 1 (Prologue/Ch. 1)*.
Week 2 (2019/7/8-11)	Ch. 7: Quantitative Relationships in Chemical Reactions. Ch. 8: Modern Atomic Theory. *Quiz 2 (Ch. 2-4)*.
	Ch. 8: Review of Chapters 2-8. *Quiz 3 (Ch. 5-7).*
	Ch. 9: The Chemical Bond. Ch. 10: The Gaseous State.
Week 3 (2019/7/15-18)	Ch.11 The Solid and Liquid States. Ch. 12: Aqueous Solutions. *Quiz 4 (Ch. 8-10).*
	Ch. 13: Acids, Bases and Salts. Ch. 14: Oxidation-Reduction Reactions (Part A only). *Quiz 5 (Ch. 11-13).*
	Ch.14A 'Special Topics'
	'Special Topics'/ Review of Chapters 9-14A*. *Quiz 6 (Ch. 14 (Part A))*

Course Evaluation

Final Exam : 60

Quizzes(6) : 40 total

Total: 100

The final exam (**July 29, 9-12 am**) covers **Ch. 2-14** (Part A), and the Special Topics section. It will consist of short conventional questions. Further details will be posted on the accompanying website in due course.