Syllabus for CHEM103 (2022)

General Chemistry (4 credits)

Course Description: The aim of CHEM103 is to give a general but fundamental understanding of chemical principles to junior undergraduate students. The topics of this course include: atoms and elements, molecular and electronic structures, states of matter, bonding, chemical equilibriums, kinetics and thermodynamics, stoichiometry, aqueous solution chemistry, acids and bases, oxidation and reduction, etc.

Instructor:
Dr. ($O_6S_4C_4Ar$) Lung Wa CHUNG
(Email: oscarchung@sustech.edu.cn)
Office hours: by appointments via an email

Teaching Assistants:
Mr. Hao NIAN (12231237@mail.sustech.edu.cn)
Mr. Yunteng LIAO (12232759@mail.sustech.edu.cn)

Textbook:
Chemistry: The Central Science (13th edition), 2015; Publisher: Pearson
Authors: Brown, T. E.; LeMay, H. E.; Bursten, B. E.; Murphy, C. J.; Woodward, P. M.; Stoltzfus, M. W.

Web Resources:
1. Our QQ ANNOUNCEMENT/RESOURCE (LECTURE MATERIALS, STRONGLY RECOMMEND; Password: SUSTech) and DISCUSSION (optional) Groups.

群名称:GenChem2022(通知/资料)-...
群　号:361451234

Q&A:

群名称:GenChem2022(Q&A)-钟龙...
群　号:910317285

The below websites are NOT directly related to this course, but could be interesting for you to learn chemistry more:
2. PubChem Compound Database: http://www.ncbi.nlm.nih.gov/pccompound
3. ChemSpider: http://www.chemspider.com
4. 阅读英文论文如何一目十行、过目不忘？ (by 岳中琦教授)
http://blog.sciencenet.cn/blog-240687-841534.html

Grading (Total: 100 %):
Final Exam (2 hours): **40%**
Mid-Term Exam (2 hours): **30%**
Performance (attendance + 6*quizzes): **20 (5+15)%**
Homework Assignment: **10%**

Academic Integrity and Honesty:
You are highly encouraged to discuss questions with your instructors, TAs and/or classmates, but you must prepare your assignments and exam by yourself (NOT copy from the others). **Any forms of academic dishonesty are STRICTLY FORBIDDEN**.

Tentative Lecture Schedule (Time: Mon (10:20-12:10 AM) & Wed (8:00-9:50 AM); Venue: Room 403, Teaching Building 1)
(The below schedule is subject to change if necessary)

Week	Dates	Topics
1	Sep 5	Chapter 1: Course Introduction
1	Sep 7	Chapter 2: Atoms, Molecules and Ions
2	Sep 14	Chapter 3: Chemical Reactions and Reaction Stoichiometry
3	Sep 19, 21	Chapter 4: Reactions in Aqueous Solution
3-4	Sep 21, 26 & 28	***Chapter 5: Thermochemistry***
4-5	Sep 28 Oct 10, 12	***Chapter 6: Electronic Structure of Atoms***
6	Oct 17	Chapter 7: Periodic Properties of the Elements
6-7	Oct 19, 24 & 26	***Chapter 8: Basic Concepts of Chemical Bonding***
7-8	Oct 26, 31 & Nov 2	***Chapter 9: Molecular Geometry and Bonding Theories***
9	Nov 7	Chapter 11: Liquids and Intermolecular Forces
9	Nov 9	**Q & A; Course Review**
9	Nov 13 (tentative)	**Mid-term Exam (Chapters 1-9)**
10	Nov 14 & 16	Chapter 13: Properties of Solutions
10-11	Nov 16, 21 & 23	Chapter 14: Chemical Kinetics
11-12	Nov 23 & 28	Chapter 15: Chemical Equilibrium
12	Nov 28 & 30	Chapter 16: Acid-Base Equilibria
13	Dec 5 & 7	Chapter 17: Additional Aspects of Aqueous Equilibria
14-15	Dec 12, 14 & 19	***Chapter 19: Chemical Thermodynamic***
15	Dec 19 & 21	Chapter 20: Electrochemistry
16	Dec 26	***Chapter 23 (Optional): Transition Metals and Coordination Chemistry***
16	Dec 28	**Q & A; Course Review**
17-18	2023 Jan (TBD)	**Final Exam (Chapters 11, 13-17 & 19-20)**