



SPRING 2024

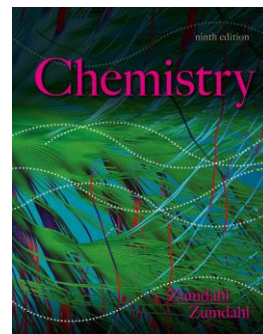
CHEM2101 GENERAL CHEMISTRY I

Course Information

Text Book:

Chemistry, Zumdahl S. S. & Zumdahl S. A.

9th Edition, Brooks/ Cole, Belmont (CA, USA), 2014



<u>Instructors</u>	
Dr. Usama Alshana Section: 10 (Sun. & Tue. 08:00 – 09:20) Section: 11 (Mon. 10:00 – 12:50) OFFICE: 2024 OFFICE TEL.: 24142437 E-mail: u.alshana@squ.edu.om	Dr. Isehaq Al-Nafai Section: 20 (Mon. & Wed. 08:00 – 9:20) Section: 21 (Sun. 10:00 – 12:50) OFFICE: 2046 OFFICE TEL: 24141471 E-mail: alnafai@squ.edu.om
Dr. Amal Al-Sabahi Section: 30 (Mon. & Wed. 12:00 – 13:20) Section: 31 (Tue. 10:00 – 12:50) OFFICE: 2067A OFFICE TEL: 24142340 E-mail: a.alsabahi@squ.edu.om	Dr. Sindhu Nair Section: 40 (Sun. & Tue. 10:00 – 11:20) Section: 41 (Wed. 10:00 – 12:50) OFFICE: 2065C OFFICE TEL.: 24142362 E-mail: s.nair@squ.edu.om
Dr. Arief C. Wibowo Section: 50 (Sun. & Tue. 08:00 – 09:20) Section: 51 (Mon. 14:15 – 17:05) OFFICE: 2026 OFFICE TEL.: 24142351 E-mail: a.wibowo@squ.edu.om	Dr. Amal Al-Sabahi Section: 60 (Mon. & Wed. 08:00 – 09:20) Section: 61 (Sun. 14:15 – 17:05) OFFICE: 2067A OFFICE TEL: 24142340 E-mail: a.alsabahi@squ.edu.om
Dr. Syeda Naheed Furqan Section: 70 (Mon. & Wed. 12:00 – 13:20) Section: 71 (Tue. 14:15 – 17:05) OFFICE: OFFICE TEL: E-mail: naheedf@squ.edu.om	Dr. Reem Al Shidhani Section: 80 (Sun. & Tue. 12:00 – 13:20) Section: 81 (Wed. 14:15 – 17:05) OFFICE: 2065A OFFICE TEL: 24141491 E-mail: reem@squ.edu.om

DATES OF QUIZZES & TESTS

Quiz 1 (Week 5, QUIZ Tuesday 27/02/24, 06:15 p.m. – 07:15 p.m.)

Test 1 (Week 7, Thursday 14/03/24, 05:00 p.m. – 06:00 p.m.)

Test 2 (Week 12, Tuesday 16/04/24, 06:15 p.m. – 07:45 p.m.)

FINAL LAB. EXAM (Week 15, During Respective Lab. hours)

FINAL EXAM (Saturday, 18 May 2024, 11:30 a.m. – 14:30 p.m.)

Assessments

Assessment	Mark (%)
Quiz	10.0
Test 1	15.0
Test 2	15.0
Lab. Reports	12.0
Lab. Exam	08.0
Final Exam	40.0

COURSE INFORMATION

1. Lectures and Learning Resources

Textbook: *Chemistry*, Zumdahl & Zumdahl (9th Edition)

Moodle: Online resources including announcements, the syllabus, exercises, handouts, and Quiz/Test past papers.

2. Laboratory Demonstrations

Relevant experiments will reinforce the subject matter covered in the lectures. Keep your safety glasses and lab. coats on at all times in the laboratory even when you have finished the practical. When you have finished doing the practical you must wash up, put your apparatus away and tidy up. Your bench must be wiped dry. If you do not comply with these instructions, marks will be deducted from your lab. score.

3. Lecture Attendance & Moodle Access

- Be punctual and prepared for lectures and practicals. Read the relevant sections in the textbook ahead of the lectures. Likewise, read the experimental procedures well before you attend the practical sessions.

- Students must spend at least 6 hours per week on CHEM2101 (lectures, lab and studying)
- An "**Absentee Warning Notice**" will be issued if a student is absent for **more than 5%** of teaching hours
- An "**Absentee Withdrawal Notice**" will be issued and the student will be assigned 'FW' grade if a student is absent for **more than 15%** of teaching hours. If you wish to be excused from a lecture, lab. or test, you must produce a medical certificate.

4. Exercises, Quizzes and Progress Tests

- The Quizzes and progress test will be conducted according to the schedule.
- No postponement of any quiz or progress exam. **No make-up quiz or test even with a medical excuse.**

5. Final Examination

- Will be conducted as scheduled by Admissions & Registration (A&R)
- Will be comprehensive (covering all chapters in the syllabus)
- Postponement only in accordance with University Regulations

6. Medical Excuses/Certificates

- Acceptable certificates are those from clinics and hospitals recognized by SQU.
- Genuine excuses must be submitted within two days of missing the quiz, test or final exam.
- For acceptable excuses, marks to allocate the final grade will be normalized accordingly.

7. General CHEM2101 Rules

- Write in **blue** or **black** ink. **Pencil is strictly forbidden.**
- **The instructors of CHEM2101 do NOT respond to complaints made on any social media. Talk to your instructors directly to have your problems solved immediately.**
- The medium for instruction is **English**. Please communicate with your instructors in English.
- **Lab. experiments will be included in the quizzes, tests and final exam.**

8. Course Objectives

SQU graduates should be able to:

- Apply the knowledge and skills relevant to the specialization
- Communicate effectively and use information and communication technologies
- Critically analyze complex information and present it in simple clear manner

9. Learning Outcomes

Knowledge on successful completion of this course, students will be able to:

- ✓ Perform scientific measurements and mathematical operations applying rules of significant figures
 - ✓ Analyze the quality of scientific data in terms of accuracy and precision and recognize types of errors
 - ✓ Classify matter and identify chemical and physical properties of matter
 - ✓ Distinguish between chemical reactions and physical processes, and exemplify them
 - ✓ Name the elements in the periodic table, write their chemical symbols and describe the periodic trends
 - ✓ Make and record observations of chemical reactions and represent reactions with chemical equations
 - ✓ Determine chemical formulae of compounds using the mole concept
 - ✓ Carry out stoichiometric calculations for chemical reactions
 - ✓ Prepare standard solutions, carry out dilutions and analyze the composition of substances in solution
 - ✓ Identify different types of reactions and perform pertinent calculations of amounts of substances
 - ✓ Carry out chemical reactions and perform titrimetric analyses
 - ✓ Measure heats of reaction using calorimetry and apply the first law of thermodynamics
 - ✓ Determine heats of reaction using Hess's law or standard enthalpies of formation of substances
 - ✓ Enumerate and explain the theories and principles that led to the development of atomic structure
 - ✓ Draw and describe atomic orbitals, and assign them quantum numbers
 - ✓ Write electron configurations for atoms and monatomic ions and explain the periodic trends
 - ✓ Draw Lewis structures and predict shapes of simple molecules and polyatomic ions, and assign polarity
 - ✓ Describe and explain chemical bonding in terms of hybridization and types of chemical bonds
 - ✓ Integrate scientific knowledge to make informed judgements and solve problems
 - ✓ Use scientific equipment competently, interpret data and judge the quality of measurements.
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