The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	General chemistry (1)
2	Course number	5502101
3	Credit hours (theory, practical)	3
	Contact hours (theory, practical)	3
4	Prerequisites/co requisites	-------
5	Program title	Bachelor Program in Biological sciences
6	Program code	
7	Awarding institution	Jordan university
8	Faculty	Faculty of Marine Sciences
9	Department	Biological sciences
10	Level of course	First year
11	Year of study and semester (s)	2017-2018 the first semester
12	Final Qualification	Bachelor
13	Other department (s) involved in teaching the course	Marine Biology
14	Language of Instruction	English
15	Date of production/revision	

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

345, 10-11 (Sun,Tue,Thu), 032090450-25076, E-Mail: r_almomani@ju.edu.jo

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

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18. Course Description:

As stated in the approved study plan.

In this course we will cover Scientific Measurements; Stoichiometry; Chemical reactions, Atomic structure, Molecular structure, Periodic table, Chemical bonding, Gases and their laws,

19. Course aims and outcomes:

A- Aims:

• understand that chemical reactions transform matter from one substance to another;
• answer qualitative questions about foundational chemistry topics, such as the electronic structure of atoms and molecules, properties of elements and compounds, and chemical bonding;
• solve quantitative problems involving chemistry topics, such as stoichiometry and properties of gases;
• use chemical terminology and units of measures correctly

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to …

1) use dimensional analysis with proper attention to units and significant figures.
2) name and classify inorganic compounds.
3) determine empirical and molecular formulas from empirical data.
4) balance chemical equations and use stoichiometric relationships and the mole concept to calculate product and reactant amounts.
5) identify different types of reactions (precipitation, neutralization, oxidation-reduction) and predict the outcome of these reactions.

6) apply gas laws and kinetic molecular theory to processes involving gases.

7) understand the first law of thermodynamics and the role of energy and enthalpy in chemical reactions and perform thermochemical calculations.

8) understand quantum mechanism, atomic orbital and electronic configuration

9) understand the basic concepts of quantum theory, determine the electron configurations of atoms, and use periodic trends to make predictions about atomic properties.
10) understand theories of chemical bonding and determine the molecular geometry of molecules using VSEPR theory.

11) understand molecular geometry and hybridization of atomic orbital

20. Topic Outline and Schedule:

	1.	2.	3.	4.	5.

6.

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
7. Chapter 1 8. Introduction	9. 1	10. Rana Al-momani	11. 1	12. Questions in the class room and Quizes	13. General Chemistry. The Essential, by R. Change. Fifth Edition
Chapter 2:atoms ,molecules and ions 14.	15. 2,3	16.	17. 2	18. Questions in the class room and Quizes	
Chapter 3: Stoichiometry	19. 4	20.	21. 3,4	22. Questions in the class room and Quizes	
Chapter 4:	23. 5	24.	25. 5	26. Questions	27.

Reactions in Aqueous solution .				in the class room and Quizes exam	
Chapter 5: Gases 28.	29. 6	30.	31. 6	32. Questions in the class room and Quizes	
33. Chapter 6: Energy Relationships in Chemical Reaction	34. 7	35.	36. 7	37. Questions in the class room and Quizes	
Chapter 7: The Electronic Structure of Atoms 38. 39.	40. 8	41.	42. 8	43. Questions in class room and Quizes	
Chapter 8: The Periodic Table.	44. 9	45.	46. 9	47. Questions in class room and Quizes	
Chapter 9: Chemical bonding I: The Covalent Bond	48. 10,11	49.	50. 10	51. Questions in the class room and Quizes	
Chapter 10: Chemical Bonding II: Molecular Geometry and Hybridization of Atomic Orbital .	52. 12	53.	54. 11	55. Questions in the class room and Quizes	

56.

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Quizzes, homework and Exams

23. Course Policies:

A- Attendance policies:

Attendance at lecture is very important; attendance may be taken at the beginning of class sessions. For absences beyond six (6) a student will automatically be withdrawn from the class. It is not academically sound to allow a student to continue after this many absences

B- Absences from exams and handing in assignments on time:

Absences will be excused only if they are due to a religious holiday, serious illness, and death in the student's immediate family, if an exam has been missed then I will use my discretion in how a grade will derived including the possibility of a make-up exam. Absences due to any other reasons than those listed above will be considered unexcused.

C- Honesty policy regarding cheating, plagiarism, misbehavior:

Academic dishonesty including, but not limited to cheating, plagiarism,

And misbehavior shall be treated appropriately.

Please read at http://ju.edu.jo/ar/arabic/Pages/regulations.aspx

D- Grading policy:

Grading system:

General work; Quizzes, homework, attendance	20%
Midterm	30%
Final Exam	50%

Total	100%

24. Required equipment:

Pen and papers

25. References:

A- Required book (s), assigned reading and audio-visuals:

General Chemistry, by R. Change. Fifth Edition

B- Recommended books, materials, and media:

Chemistry, by Steven S.Zumdahl, 8th edition,

Name of Course Coordinator: ----------Signature: ---------- Date: ----------

Head of curriculum committee/Department: ---------- Signature: ----------

Head of Department: ---------- Signature: ----------

Head of curriculum committee/Faculty: ---------- Signature: ----------

Dean: ---------- -Signature: ----------

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File