

# TEMPLATE FOR COURSE SPECIFICATION

## HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

### COURSE SPECIFICATION

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made maximum use of the available learning opportunities. It must be linked to the description of the program.

١. Teaching Institution	Kirkuk University/ College of Veterinary Medicine
٢. University Department/Centre	Department of Physiology, biochemistry and Pharmacology
٣. Course title/code	General Chemistry / CVM١١٠٢ / CVM١٢٠٢
٤. Modes of Attendance offered	First year students
٥. Semester/Year	First year / first and second semesters (٢٠٢٠-٢٠٢١)
٦. Number of hours tuition (total)	First semester ٧٥ hours / Second semester ٦٠ hours
٧. Date of production/revision of this specification	٦/٩/٢٠٢٠

#### ٨. Aims of the Course

Providing students with the basic concepts and experience necessary to prepare them as veterinarians and teaching veterinary students the basics of chemistry.

١. The study of general chemistry, which is one of the basics of medical sciences, as it aims to study the chemical reactions that occur between substances on the one hand and their relationship to the body on the other.

٢. That the student acquire intellectual skills related to modern methods and trends, and that the student acquires manual skills that qualify as the outcome of laboratory work.

٣. Spreading the spirit of cooperation among students through laboratory work.

## 9. Learning Outcomes, Teaching ,Learning and Assessment Methods

A- Cognitive goals .

A<sub>1</sub>- Teaching the student the concept of biochemistry and its general principles

A<sub>2</sub>- Knowledge, understanding and comprehension of the scientific subject curriculum

A<sub>3</sub>- To classify the theoretical and practical needs for the development of learning and teaching in the appropriate manner with the scientific material

A<sub>4</sub>- Identifying the composition of the chemical substances in the animal's body.

A<sub>5</sub> - Identify the methods of metabolism of substances (carbohydrates, proteins and fats)

A<sub>6</sub>- Studying the structure and classification of hormones and their relationship to the life cycle of an animal and its relationship to the body's biological reactions

A<sub>7</sub>- Studying the structure of enzymes, their mechanism of action and their effect on chemical reactions.

B. The skills goals special to the course.

B<sub>1</sub> - Teaching the student how to draw blood.

B<sub>2</sub> - Teaching the student the methods of analyzing basic chemicals that affect animal life.

B<sub>3</sub> - Teaching the student the techniques of optical absorbance measurement devices for the purpose of measuring chemicals.

C-Teaching and Learning Methods

C<sub>1</sub>- Presentation methods: giving lectures to students while they are sitting in front of the teacher, and they listen to him, and he must have the ability to memorize and absorb information.

C<sub>2</sub>- Dialogue methods: the teacher uses the method of dialogue with the students in the manner of asking questions to the students and discussing the information with the students.

C<sub>3</sub>- The discovery method: the teacher observes the activities of the students conducting the experiments individually or collectively.

C<sub>4</sub>- Active methods: the students performs individual or group activities and the teacher takes the students hand towards learning in practical life inside and outside the educational institution and to come into contact with the vocabulary of practical life, which gives meaning to real learning.

C<sub>5</sub>- Giving lectures using modern methods for presenting power point topics and scientific films.

## Assessment methods

1. Semester and final theory exams by 60%
2. Semester and final practical exams at a rate of 30%
3. Evaluation of extra-curricular activities (reports, posters and homework) by 5%
4. Learning triangle
5. Daily exams

D - General, qualification and transferable skills (other skills related to employability and personal development).

D<sup>1</sup> - Team work: working in harmony with the group or team.

D<sup>2</sup> - Initiative Motivation to work: the ability to take the initiative, determine the hypothesis, and develop ideas and proposed solutions.

D<sup>3</sup> - Planning & organization: An ability to set plans and programs that are feasible for implementation.

D<sup>4</sup> - Flexibility: adapting to situations.

D<sup>5</sup> - Time management: The ability to work on specific dates.

## 10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	0	Atoms and electronic structure & periodic table.	Inorganic chemistry	Theoretical (3 hours) + practical (3 hours)	daily exam
2	0	Chemical bonding.	Inorganic chemistry	Theoretical (3 hours) + practical (3 hours)	Homework
3	0	Alkanes and cyclic compounds	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	daily exam
4	0	Alkenes	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	Homework
5	0	Alkynes.	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	daily exam
6	0	Aromatic compounds	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	Homework
7	0	Organic halides	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	
8	4	<b>Mid-term exam.</b>		Theoretical (3 hours) + practical (3 hours)	Theoretical (30) and practical (10) exams + reports (0)
9	0	Alcohols	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	daily exam
10	0	Ethers and phenols	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	Homework
11	0	Aldehydes and ketones	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	daily exam
12	0	Carboxylic acids	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	Homework
13	0	Carboxylic acid derivatives Amines	Organic chemistry	Theoretical (3 hours) + practical (3 hours)	daily exam
14	0	Acid base theory/ionization constant.	Analytical chemistry	Theoretical (3 hours) + practical (3 hours)	Homework
15	0	Auto ionization of water/ measurement of pH.	Analytical chemistry	Theoretical (3 hours) + practical (3 hours)	
		<b>Final-term exam.</b>		Theoretical (3 hours) + practical (3 hours)	Theoretical and practical exams (20+10)

10. Course Structure (second semester)					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	ξ	Chemical quantitative analysis/ standard solution	Analytical chemistry	Theoretical (γ hours) + practical (γ hours)	daily exam
2	ξ	Titration of acid and base indicators.	Analytical chemistry	Theoretical (γ hours) + practical (γ hours)	Homework
3	ξ	Formula masses / the mole/ molecular formula.	Analytical chemistry	Theoretical (γ hours) + practical (γ hours)	daily exam
4	ξ	Buffers /Biochemical buffers.	Analytical chemistry	Theoretical (γ hours) + practical (γ hours)	Homework
5	ξ	Water(Physical & chemical properties)	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	daily exam
6	ξ	Carbohydrates	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	Homework
7	ξ	Carbohydrates	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	
8	ξ	<b>Mid-term exam.</b>		Theoretical (γ hours) + practical (γ hours)	Theoretical (γ <sup>ο</sup> ) and practical (γ <sup>ο</sup> ) exams + reports (ο)
9	ξ	Carbohydrates	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	daily test
10	ξ	Amino acids	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	Homework
11	ξ	Peptides	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	daily exam
12	ξ	Proteins	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	Homework
13	ξ	Lipids	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	daily exam
14	ξ	Lipids	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	Homework
15	ξ	Nucleic acids	Introduction to biochemistry	Theoretical (γ hours) + practical (γ hours)	
		<b>Final-term exam.</b>		Theoretical (γ hours) + practical (γ hours)	Theoretical and practical exams (ξ <sup>ο</sup> +γ <sup>ο</sup> )

## 11. Infrastructure

1. Books Required reading:	Non
2. Main references (sources)	1-Schaum's outlines. General, Organic, and Biochemistry. 7 <sup>nd</sup> ed. 2-Harper's illustrated Biochemistry. 2 <sup>8th</sup> ed. 2009. Robert K. Murray, David A. Bender. 3-Biochemistry, Molecular biology & Genetics. 6 <sup>th</sup> ed. 2011. Todd A. Swarson, Sandra I. Kim, Marc J. Glucksman.
A- Recommended books and references (scientific journals, reports...).	
B-Electronic references, Internet sites...	Wikipedia
12. The development of the curriculum plan	
1. Searching for modern teaching and learning methods and means away from the old traditional recitation method. 2. Relying on modern educational means to transfer information. 3. The use of modern devices, machines and technologies, especially electronic ones, to deliver information so that the student uses all his auditory, visual and sensory senses in comprehending and storing the information in his mind. 4. Using chemical methods and modern equipment to examine and estimate the concentrations of chemical components.	