HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Kirkuk University
2. University Department/Centre	College of Dentistry
3. Course title/code	Medical chemistry / DEBS-103
4. Modes of Attendance offered	Lectures and laboratories
5. Semester/Year	yearly
6. Number of hours tuition (total)	60 hours for each theoretical and practical
7. Date of production/revision of this specification	2020-2021
8. Aims of the Course	
Introducing the student to medical chemistry, especially membership, and introducing it to the families of organic compounds and naming them	
Study of biochemical organic compounds within the living cell in compositional terms.	
Provide student to general information on chemical and biological analysis and laboratory diagnosis on the principles of pointing out the extent of their application and clinical diagnostics results of laboratory tests.	
Teaching students in the college how to use the laboratory methods which are monitoring biochemistry reaction in biological samples & Study the biochemistry function of different human organs	
Teaching students in the college how to detect some vital compounds found in the human body	
Providing the student with some basic skills that may be necessary for future studies, such as analyzing results and documents and using the Internet.	
Graduation of dentists able to understand the relationship of medical chemistry to the functions of the body through multiple examples that rely on modern information and aims to clarify the chemical reactions and variables that occur within the body	
Provide the student with some basic skills that may be necessary for future studies such as analyzing results, documents and using the Internet .	

9· Learning Outcomes, Teaching ,Learning and Assessment Method

Cognitive goals .

A1. Teaching the student the relationship of medical chemistry, organic and inorganic with the human being

A2. Understand the variables that occur when substance concentrations change on body health

A3. Acidic and blood-based relationship and its effects on organ function

A4. Enabling the student to obtain theoretical knowledge of medical chemistry and its importance.

A5- Student knowledge of the basic concepts of biochemical organic compounds

A6- The student acquires primary knowledge to understand the basis of chemical reactions to vital processes that occur within the human body

A7- The student should learn about the experiences and rules of measurements in medical chemistry that occur within the human body and the practical application of them.

A8-Strengthening the student's confidence to deal with all cases.

A9- Providing the full knowledge of the student enhanced by competence and scientific experience has the ability to to dissolve problems

A10- Developing the student's ability to contribute effectively to medical progress through education and preparing qualified dentists to provide the best medical services and continue scientific research in all medical fields, which enables him to prepare an integrated treatment plan for the patient.

B. The skills goals special to the course.

B1- According to the teaching method used, such as lecture discussion, interrogation

B2 - The student is proficient in using laboratories and devices efficiently and conducting practical experiments to increase the student's understanding and watch it in practice

B3- Students acquire skills that keep him with scientific development in improving educational programs and using the latest developed programs for medical education accordance with the modern academic curriculum

B4- Contribute to providing the community with scientifically distinguished dentists who have experience in the scientific foundations adopted to perform all the pathological tests for medical chemistry.

B5 - Promoting the principle of continuous learning through scientific research and urging participation in courses, conferences, workshops and scientific discussions in order to continue to develop the profession and see the latest developments

Teaching and Learning Methods

The way education changes according to the student's perception and interaction with the lecture may be the subtleness of the discussion or the method of conclusion and inference... All roads may be at the same time plus

1. Use laboratories and practical experiments to increase student understanding and awareness
2. Teaching lectures using illustrations (data show and power point))
3. Educational video.
4. Discuss teamwork in the laboratory
5. Use scientific references and guide students to some websites.
6. site visits to hospitals and laboratories.

Assessment methods

1. Examinations of all kinds.
2. The student's presence in addition to his interaction with the subject and his activity during the lecture.
3. Practical tests on samples for patients and discussion of results
4. Sudden questions in conclusion during theoretical and practical lectures.
5. Activities such as seminars.
6. Participation in scientific festivals.
7. Preparing reports

C. Affective and value goals

C1- Gaining knowledge to understand the basis of chemical reactions to vital processes that occur within the human body

C2- Improving the student's skill and ability to think and raise awareness of him to make the right decision

C3- Adopting the method of dialogue between the student and the professor by presenting problems and finding appropriate solutions to them

C4- Excellence in innovation and follow advanced scientific methods in the conduct of pathological analyses.

C5-The ability to make a decision by identifying the problem and finding solutions.

C6-The ability to establish sober relationships with researchers at international universities.

C7-Improving the skill of using information from a variety of sources, including scientific fields.

Teaching and Learning Methods

- Lectures using illustrations (data show and power point) and educational films
- Use laboratories and practical experiments to increase student understanding and awareness
- Provide the right educational climate for logical thinking by continuously guiding students during lectures and opening the door to open and direct discussions with students.
- Lectures that research students and teach them on ways to confront and solve Problems.
- Follow the way students think, how they express themselves and how quickly they respond
- Asking external questions that pour into the course of the topic and homework by referring to modern sources and the Internet

Assessment methods

- Evaluation mmonthly, quarterly and final examinations, short examinations and laboratory reports.
- Student evaluation within the classroom and laboratory through daily attendance and self-conduct.
- Practical tests on unknown samples and discussion of results
- Surprising questions in conclusion during theoretical and practical lectures.
- The student's interaction with the lecture and classroom discussions

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1. Development and development of lectures annually

D2. Follow-up of published article research

D3. Conducting quarterly and annual research through personal and collective efforts and published in Arab and international magazines

D4- Discuss the curriculum with stakeholders and competence in order to reach the best developing

D5-the student's ability to work within the educational and professional team.

D6- positive thinking and the use of the knowledge he received

D7- The ability to deal with entities outside the university and train with them and develop skills

D8-The ability to analyze data to reach the right result

D9-Acquiring new capabilities and expertise related to development in various fields.

D10- Follow-up of modern scientific topics through the Internet.

10. Course Structure (therotical)

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Hydrocarandbons: Introduction, Alkanes, Alkenes, Alkynes & Aromatic Compounds	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
2	2	Hydrocarandbons: Introduction, Alkanes, Alkenes, Alkynes & Aromatic Compounds	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
3	2	Stereoisomerism: Structural, Geometric & Optical Isomerism. Importance in enzymatic Reaction and drug receptors	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
4	2	Alcohols , Phenols & Ethers : Nomenclature , Physical Properties , Preparation ,Reaction & related subjects of medical interest : Antiseptic & Disinfectant , Inhalation anesthesia and Antioxidant	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
5	2	Alcohols , Phenols & Ethers : Nomenclature , Physical Properties , Preparation ,Reaction & related subjects	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams

		of medical interest : Antiseptic & Disinfectant , Inhalation anesthesia and Antioxidant			
6	2	Aldehydes & Ketones: Nomenclature , Physical Properties , Preparation ,Reaction & related subjects of medical interest :Chemistry of Vision, Pyridoxal phosphate, hypnotics	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
7	2	Aldehydes & Ketones: Nomenclature , Physical Properties , Preparation ,Reaction & related subjects of medical interest :Chemistry of Vision, Pyridoxal phosphate, hypnotics	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
8	2	Carboxylic Acids :Nomenclature , Physical Properties , Preparation , Reaction & Compounds of medical & Dental Interest : Benzoic Acid , EBA Cement and Salycilic Acid, Decarboxylation of β-keto Acid.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
9	2	Carboxylic Acids :Nomenclature , Physical Properties , Preparation , Reaction & Compounds of medical & Dental Interest : Benzoic Acid , EBA Cement and Salycilic Acid, Decarboxylation of β-keto Acid.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
10	2	Derivatives of carboxylic Acids Acyl halides , Acids anhydrides , Esters & ester condensation ,Amides . Medical & Dental Interest : Ketone Bodies , Barbiturates , Lidocaine.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
11	2	Derivatives of carboxylic Acids Acyl halides , Acids anhydrides , Esters & ester condensation ,Amides .	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams

		Medical & Dental Interest : Ketone Bodies , Barbiturates , Lidocaine.			
12	2	Nitrogen Containing Compounds : Nomenclature, Physical Properties, Preparation, Reaction of Amines & Heterocyclic Aromatic Compounds Containing nitrogen. Subject of Medical Interest: Quaternary Ammonium Compounds Purines Pyrimidine.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
13	2	Nitrogen Containing Compounds : Nomenclature, Physical Properties, Preparation, Reaction of Amines & Heterocyclic Aromatic Compounds Containing nitrogen. Subject of Medical Interest: Quaternary Ammonium Compounds Purines Pyrimidine.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
14	2	Sulfur Containing Compounds: Thiols, Sulfides, Disulfides, Sulfones & Sulfoxides.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
15	2	Sulfur Containing Compounds: Thiols, Sulfides, Disulfides, Sulfones & Sulfoxides.	Medical chemistry	Theoretical using power point program	Short, quarterly, half-year and final exams
16	2	Chemistry of Carbohydrates Monosaccharides	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
17	2	(Properties & Reaction, cyclization, Glyosidic Bond)	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam

18	2	Disaccharides, Homo & heteropolysaccharides	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
19	2	Chemistry of Lipid: Fatty Acid, triacylglycerol, Phospholipid	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
20	2	Prostaglandin & Steroids. Mammalian cell membrane composition	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
21	2	Chemistry of Protein: Amino Acids (structure, Physical Properties & Chemical Reaction), peptide bond	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
22	2	physiological rule of Protein, Classification of Protein structure.	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
23	2	Chemistry of Nucleic Acid; Nucleotides & Nucleosides,	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
24	2	Naturally occurring Nucleotides, Biosynthesis of Purine & pyrimidine ,	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam

11. Infrastructure

25	2	Chemical Nature of DNA & RNA.	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
26	2	Carbohydrate. Lipid & Protein Composition of Teeth	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
27	2	Chemical composition of teeth: preparation and analysis	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
28	2	Carbohydrate in teeth, types and importance	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
29	2	Lipids in teeth, structure and importance	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam
30	2	Proteins in teeth, types and importance	Medical chemistry	A theoretical lecture using the power point and educational video	Class discussions, homework, reports, and seminars And the short and semester exams, the mid-year exam, and the final exam

1. Books Required reading:	- The Chemical Basis of Life, George H. Schmid - Textbook of biochemistry for dental students by MN chatteriea, 3rd
2. Main references (sources)	- Textbook of Biochemistry, General Chemistry principle and applications of Inorganic, Organic and Biochemistry. - Chemical Bases of life, Textbook of Biochemistry - Textbook of biochemistry for medical students by DM Vasudevan, 6th ed.
A- Recommended books and references (scientific journals, reports…).	- General Chemistry ,James E.,Gerardo E. Humiston - Organic Chemistry John D. Roberts and others - Biochemistry Mathews.van Holde
B-Electronic references, Internet sites…	Scientific search engines including (Wikipedia, Google scholar and other scientific websites)
12. The development of the curriculum plan	
- Follow-up research, reports and updates - Continuous update of curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books International - The annual evaluation to know the student's skill in the course and to quote the experiences of the corresponding faculties in the courses - Continuous updating of the curriculum for students to serve the educational process and the addition of modern and emerging information - Examining the curriculum of international universities and striving to assume their role in order to develop in science and work in twinning with reputable universities to raise the level of science. - Linking laboratory analyzes to the theoretical materials of the subject	