Biochemistry

A course based on the study of all chemical reactions and processes within the body.

Theoretical: focuses on the study of metabolic methods of various compounds such as fats and carbohydrates, as well as methods of energy production, catabolism and construction.

Practical: It examines several different analyzes and identifies the method of analytical

Different Learning Methods in the Department of Dentistry

A- Auditory method: This method depends on communicating information in the form of sounds that are heard by the learner for analysis and storage.

B- Visual method: in which information is communicated by displaying color images, videos or any form of visual educational aids.

C- Reading method: It is one of the methods that depend on reading information to understand and store it.

D. Interdisciplinary professional education where dental students collaborate with other healthcare professionals, to promote a holistic approach to patient care.

Different evaluation methods for students in the Department of Dentistry

Daily tests with multiple-choice questions for subjects that require practical skills.

B- Daily exams with practical questions.

C- Semester and final exams.

D- Setting grades for the assigned homework .

H- Grades of participation of questions competing for the subjects of study.

G- Daily evaluation of the student's work in scientific laboratories and educational clinics.

Learning Outcomes for Dental Courses

Using health information technology in oral and dental health care effectively.

Apply appropriate professional, ethical and legal standards in the provision of patient care in accordance with health care rules and regulations.

Providing graduates with scientific knowledge and professional skills in the fields of oral and dental surgery, dental prosthesis, dental preservation,

orthodontics, pediatric dentistry, periodontal pathology and surrounding tissues, as well as community dentistry.

Knowledge of the principles of oral and dental health and understanding of the development, prevention and treatment of related diseases

Health promotion and disease prevention to serve the community.

Integrating basic and medical sciences into healthcare practice.

Develop decision-making and problem-solving skills in healthcare.

Evaluate the state of oral and dental health and the medical condition of the patient, request the necessary diagnostic analyzes, and interpret the results of various analyzes to reach the appropriate diagnosis.

Prepare a care plan for the prevention and treatment of diseases taking into account the needs of the patient.

Demonstrate competence in performing procedures safely in all aspects of dentistry and prevent injuries arising from treatment.

Providing graduates with theoretical knowledge and laboratory and clinical skills that increase the effectiveness of diagnosis.
Preparing dental graduates and training them to become distinguished in various fields of dentistry.

Lesson name and units

Subject	*1st Semester hours/week*		*2nd semester hours/week*		*Units*	*Code*
	Theory	*Practical*	*Theory*	*Practical*		
2. Biochemistry كيمياء حيويه	2	2	2	2	6	BC211

1-Subject title	**Biochemistry**	
2-Number of credits	Theory:4	Laboratory:2
3-Number of contact hours	Theory: 2h/wk	Laboratory:2h/wk
4-Subject time	Second Year	

Number	Title of the lectures	Hours
1	Enzymes: Definition ,Terminology , and Classification	**2**
2	Mechanism of enzyme action	**2**
3	Clinical significance of enzyme assays	**2**
4	Vitamins, definition, classification	**2**
5	Digestion and absorption of carbohydrates, lipids ,and proteins	**2**
6	Chemistry of carbohydrates	**2**
7	Metabolism of Carbohydrates: part 1	**2**
8	Metabolism of Carbohydrates :part 2	**2**
9	Carbohydrates metabolism regulation	**2**
10	Chemistry of Proteins and amino acids	**2**
11	Metabolism of Proteins and amino acids	**2**
12	Metabolism of Protein and amino acid regulation	**2**
13	Metabolism of Protein and amino acid inherited disorder	**2**
14	Exam	**2**
15	Lipid :definition, classification	**2**
16	Metabolism of Lipid: oxidation of Fatty Acids	**2**
17	Biosynthesis of Fatty Acids	**2**
18	Integration of metabolism of carbohydrates, lipid ,and Proteins	**2**
19	Metabolism of Purines and pyrimidines	**2**
20	Metabolism of Purines and pyrimidines disorder	**2**
21	Nucleic Acids Definition and Protein synthesis	**2**
22	Hormone definition, classification	**2**
23	Hormone disorder	**2**
24	Acid-base balance	**2**
25	Trace elements disorder	**2**
26	Salivary secretion(saliva), Pancreatic juice	**2**
27	Electrolytes	**2**
28	Liver Function Test	**2**
29	Kidney Function Test	**2**
30	Exam	**2**
Total		**60**

Laboratory sessions

Lab number	Study unit title	Hours
1	**Lab safety**	**2**
2	**Sample collection-1**	**2**
3	**Sample collection -2**	**2**
4	**Spectrophotometer**	**2**
5	**Standard curve**	**2**
6	**Blood glucose+ HbA1c**	**2**
7	**Total Protein**	**2**
8	**Albumin+ Globulin**	**2**
9	**Troponin**	**2**

10	**Liver function test (Bilirubin)**	**2**
11	**Alkaline Phosphatase**	**2**
12	**Transaminases (ALT&AST)**	**2**
13	**Lipid in blood (cholesterol & lipoprotein)**	**2**
14	**Triglyceride**	**2**
15	**Kidney function Test (urea)**	**2**
16	**Serum creatinine &creatinine clearness**	**2**
17	**General Urine Analysis-1**	**2**
18	**General Urine Analysis-2**	**2**
19	**Uric acid**	**2**
20	**Amylase in serum+ saliva**	**2**
21	**creatine phosphokinase**	**2**
22	**lactate Dehydrogenase**	**2**
23	**serum calcium**	**2**
24	**serum phosphorus**	**2**
25	**serum Na**	**2**
26	**serum K**	**2**
27	**serum Iron**	**2**
28	**Vitamin D**	**2**
29	**Vitamin C**	**2**
30	**Acid phosphatase.**	**2**
Total		**60**