

Diploma in Biochemical Analysis
قائمة مقررات دبلوم التحليل الكيميائي الحيوي
(دبلوم تخصصي)
قسم الكيمياء الحيوية
(24 cr. h)

First Semester (12 cr. h)

No.	Course code	Courses	Credit hours	
			L	P
1	0608601	Clinical Chemistry I الكيمياء الإكلينيكية I	3	---
2	0608602	Molecular Biology of Human Disease I البيولوجيا الجزيئية لأمراض الانسان I	3	---
3	0608603	Histology علم الهستولوجيا	2	---
4	0608604	Laboratory Techniques in Hematology I الاختبارات المعملية في امراض الدم I	1	1*
5	0608605	Basic Laboratory Techniques in Immunology I اساسيات الاختبارات المعملية في المناعة I	2	---
Total			12	

*1 credit hour practical is 2 hours session weekly

Second Semester (12 cr. h)

No.	Course code	Courses	Credit hours	
			L	P
6	0608606	Clinical Chemistry II الكيمياء الإكلينيكية II	3	---
7	0608607	Molecular Biology of Human Disease II البيولوجيا الجزيئية لأمراض الانسان II	3	---
8	0608608	Laboratory Techniques in Hematology II الاختبارات المعملية في امراض الدم II	2	---
9	0608609	Basic Laboratory Techniques in Immunology II اساسيات الاختبارات المعملية في المناعة II	1	1*
10		Elective Course مقرر اختياري	2	---
Total			12	

*1 credit hour practical is 2 hours session weekly

Elective Courses

No.	Course code	Courses	Credit hours	
			L	P
1	0608610	Physiology علم الفيسيولوجي	2	--
2	0608611	Medical Terminology المصطلحات الطبية	2	--

وصف مقررات دبلوم التحليل الكيميائي الحيوي
(24 cr. h)

First Semester (12 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Clinical Chemistry I الكيمياء الإكلينيكية I	3	---	0608601
<p>Description: Course of human biochemistry which is designed to provide an insight on the normal healthy metabolic processes and on the other hand focusing on the disorders and congenital diseases that result from abnormal defects of these metabolic processes and pathways such as metabolic defects in carbohydrates, proteins, lipids and nucleic acids. This course also discusses the basic laboratory safety, quality control, and basic analytical techniques.</p> <p>Bench mark at the Southampton university, UK https://www.southampton.ac.uk/courses/modules/biol1022.page</p>			

Course Name	Credit hours		Code No.
	L	P	
Molecular Biology of Human Disease I البيولوجيا الجزيئية لأمراض الانسان I	3	---	0608602
<p>Description: This course includes the theory and application of nucleic acid extraction and molecular diagnostic tools, including Polymerase Chain Reaction (PCR), reverse transcription, probe hybridization, and microarray technology.</p> <p>Bench mark at the Norwegian University of Science and Technology, Norway https://www.ntnu.edu/studies/courses/MOL4010#tab=omEmnet</p>			

Course Name	Credit hours		Code No.
	L	P	
Histology علم الهستولوجيا	2	---	0608603
<p>Description:</p> <p>I. General histology Cell biology: The cell membrane, Molecular structure, Membrane transport proteins, Channel proteins and carrier proteins, Active transport, Cell surface receptors, Cell signaling and signal transduction, Endocytosis and types of endosomes, Cell organelles, Cell inclusions, Cytoskeleton, The nucleus, apoptosis. Tissues of the body: The 4 fundamental tissues and their characteristics, epithelial T., B.M. and glands, C.T. cells and their function, extra cellular matrix, blood, lymph.</p> <p>II. Systemic histology Cardiovascular system, immune system and lymphoid system, digestive system (Alimentary canal, liver), Endo system and D.N.E.S, Urinary system (the kidney). Bench mark at the Duke university, USA https://web.duke.edu/histology/Information.html</p>			

Course Name	Teaching h/week		Credit hours	Code No.
	L	P		
Laboratory Techniques in Hematology I I الاختبارات المعملية في امراض الدم	1	2	2	0608604
<p>Description: This course discusses the basic laboratory techniques required in a clinical laboratory including; sampling and methodology. Also, preparation of different stains (Leishman and brilliant cresyl blue), and techniques of staining. Bench mark at the Griffith university, Australia https://degrees.griffith.edu.au/Course/2009MSC</p>				

Course Name	Credit hours		Code No.
	L	P	
Basic Laboratory Techniques in Immunology I I اساسيات الاختبارات المعملية في المناعة	2	---	0608605
<p>Description: This course discusses the basic laboratory techniques required in a clinical laboratory including; sampling and methodology e.g. agglutination and precipitation assays, ELISA. Bench mark at the university of Sydney, Australia https://sydney.edu.au/courses/units-of-study/2019/inim/inim5211.html</p>			

Second Semester (12 cr. h)

Course Name	Credit hours		Code No.
	L	P	
Clinical Chemistry II II الكيمياء الإكلينيكية	3	---	0608606
<p>Description: This is an applied course of human biochemistry which is designed to provide an insight on the basic functions and specialty area of clinical chemistry focusing on liver, kidney, and cardiovascular diseases. Bench mark at the Uppsala university, Sweden http://www.uu.se/en/admissions/master/selma/kursplan/?kKod=3KK014&lasar</p>			

Course Name	Credit hours		Code No.
	L	P	
Molecular Biology of Human Disease II II البيولوجيا الجزيئية لأمراض الإنسان	3	---	0608607
<p>Description: This course includes the theory, practical application, and evaluation of molecular approaches to genetic disorders, infectious diseases and tumor markers and other molecular human disorders. Bench mark at Columbia university, USA http://www.columbia.edu/cu/biology/courses/w4065/</p>			

Course Name	Credit hours		Code No.
	L	P	
Laboratory Techniques in Hematology II الاختبارات المعملية في امراض الدم II	2	---	0608608
<p>Description: This course discusses the basic laboratory techniques required in a clinical laboratory including; sampling and methodology e.g. complete blood picture (manual and automated with interpretation of results in different conditions). Bench mark at the Griffith university, Australia, and university of the west of England, UK https://degrees.griffith.edu.au/Course/2009MSC https://courses.uwe.ac.uk/USSKBK303/haematology</p>			

Course Name	Teaching h/week		Credit hours	Code No.
	L	P		
Basic Laboratory Techniques in Immunology II اساسيات الاختبارات المعملية في المناعة II	1	2	2	0608609
<p>Description: This course discusses the basic laboratory techniques required in a clinical laboratory including; nephelometry with interpretation of results in different conditions, immunofluorescence methods, Coombs test (direct and indirect) and quality control. Bench mark at University of Oslo, Norway https://www.uio.no/studier/emner/matnat/ibv/MBV4250/index-eng.html</p>				

Elective Courses

Course Name	Credit hours		Code No.
	L	P	
Physiology علم الفسيولوجي	2	---	0608610
<p>Description:</p> <p>I. Blood: Components, plasma and blood cells erythroiesis and its disorders, white blood cells and immunity, blood platelets, blood transfusion and blood groups, blood coagulation and haemostasis, blood anticoagulants and haemorrhagic disorders.</p> <p>II. Renal system: Renal nephrons and renal circulation, functions of glomeruli, functions of renal tubules, acid-base balance and its disorders.</p> <p>III. Autonomic nervous system: Reflex action and reflex arc, functions of autonomic supply to all parts of the body autonomic, chemical transmission and drugs.</p> <p>IV. Endocrine system: Functions and dysfunctions of pituitary gland, functions and dysfunctions of thyroid gland, functions and dysfunctions of adrenal gland.</p> <p>V. Digestive system: Salvia: composition-functions and control of secretion, gastric juice: composition-functions and control of secretion, pancreatic juice: composition-function and control of secretion. Intestinal juice: composition-functions and control of secretion. Intestinal absorption and movements and other disorders.</p> <p>Bench mark at Duke university, USA https://online.duke.edu/course/introductory-human-physiology/</p>			

Course Name	Credit hours		Code No.
	L	P	
Medical Terminology المصطلحات الطبية	2	---	0608611
<p>Description: Medical Terminology is a specialized language specific to the health care field. This course will include an in-depth study of medical terms and abbreviations relating to diseases, disorders and drugs.</p> <p>Bench mark at Saint Andrews university, UK https://www.andrews.edu/distance/courses/undergrad/med-term.html</p>			