



B.Sc. in Applied Biochemistry and Molecular Biology

Department of Chemistry - Specific Program - 136 Credit Hours

First Year													
First Semester							Second Semester						
No	Code	Course Name	Pre-req	Th	P.	C.	No	Code	Name	Pre-req	Th	P.	C.
1	Zoo 101	Zoology	---	2	3	3	1	Bot 102	Botany	---	2	3	3
2	Chm101	General Chemistry I	---	2	3	3	2	Chm102	General Chemistry II	---	2	-	2
3	Math101	Mathematical Discovery	---	2	-	2	3	Phy102	Introductory Physics	---	2	3	3
4	Chm 113	Analytical chemistry (Volumetric, Electrochemical analysis - Chromatographic Separation Techniques	---	2	3	3	4	BCh 152	Chemistry of Proteins and Nucleic Acids	---	2	3	3
5	Uni 101	English for Science	---	2	-	2	5	BCh 154	Chemistry of Carbohydrates and Lipids	---	2	-	2
6	Uni 103	Laboratory safety	---	1	-	1	6	Uni 102	Political Science and International Relations	---	1	-	1
							7	Uni 104	Information technology	---	1	2	2
Semester Hours				14 hours			Semester Hours				16 hours		
Credit Hours = 30 Hours													

Second Year													
Third Semester							Fourth Semester						
No	Code	Name	Pre-req	Th	P.	C.	No	Code	Name	Pre-req	Th	P.	C.
1	BCh 251	Cell Biology and Genetics	Zoo 101	2	-	2	1	BCh 252	Molecular Biology I	-	2	3	3
2	BCh 253	Microbial Genetics	-	2	3	3	2	BCh 254	Body fluids	-	2	3	3
3	BCh 255	Enzymology	BCh 152	2	3	3	3	BCh 256	Introduction to Biotechnology	-	2	3	3
4	BCh 257	Bioanalytical Chemistry	-	2	-	2	4	BCh 258	Vitamins and Mineral Metabolism	-	2	-	2
5	Chm231	Organic Chemistry	Chm101	2	3	3	5	BCh 2510	Hormones and Metabolic Regulation	-	2	-	2
6	Chm243	Chemical Thermodynamics	-	2	-	2	6	BCh 2512	Bioethics and Safety	-	2	-	2
7	Zoo 201	Microscopy - Bio-Imaging	-	1	2	2	7	BCh 2514	General Microbiology	-	2	-	2
8	Zoo 203	Principles of Developmental Biology	-	1	2	2	8	BCh 2516	Introduction to Technical Writing	-	2	-	2
Semester Hours				17 hours			Semester Hours				17 hours		
Credit Hours = 34 Hours													



Third Year													
Fifth Semester							Sixth Semester						
No	Code	Name	Pre-req	Th	P.	C.	No	Code	Name	Pre-req	Th	P.	C.
1	BCh 351	Metabolism	BCh 2510	3	-	3	1	BCh 352	Molecular Basis of Cancer	-	2	2	3
2	BCh 353	Principles of Bioinformatics	BCh 252	2	2	3	2	BCh 354	Frontiers in Toxicology	-	2	3	3
3	BCh 355	Molecular Biology II	BCh 252	2	3	3	3	BCh 356	Genome Integrity and Human Disease	-	2	-	2
4	BCh 357	Cell Membrane Structure & Function	-	2	-	2	4	BCh 358	Cell and Tissue Culture	-	2	-	2
5	Chm339	Stereochemistry and Spectroscopy	-	2	-	2	5	BCh 3510	Inorganic Biochemistry	-	2	-	2
6	BCh 359	Chemical kinetics and Electrochemistry	-	2	3	3	6	BCh 3512	Enzyme Technology	BCh 256	2	3	3
7	BCh 3511	Biostatistics	-	2	-	2	7	Uni 302	Communication skills	-	1	-	1
8	BCh 3513	Molecular Biophysics	-	2	-		8	Uni 304	Innovation and Entrepreneurship	-	1	-	
9	BCh 3515	Physical Biochemistry	-	2	-		9	BCh 3514	General Virology	-	2	-	
						10	BCh 3516	Neurochemistry	-	2	-		
Semester Hours				18 hours			Semester Hours				18 hours		
Credit Hours = 36 hours													

Fourth Year													
Seventh Semester							eighth Semester						
No	Code	Name	Pre-req	Th	P.	C.	No	Code	Name	Pre-req	Th	P.	C.
1	BCh 451	Methods in Molecular Research	BCh 353	2	-	2	1	BCh 452	and Natural Product Chemistry its applications	كيم 231	2	-	2
2	BCh 453	Human Molecular Biology	-	2	-	2	2	BCh 454	Instrumental Methods of BioAnalysis	كيم 257	2	3	3
3	BCh 455	Cell Signaling	-	2	-	2	3	BCh 456	Clinical Biochemistry	-	2	3	3
4	BCh 457	Immunology	-	2	3	3	4	BCh 458	Molecular Diagnostics	-	2	-	2
5	BCh 459	Research Project	-	3	-	3	5	BCh 4510	Advances in Molecular Medicine	-	2	-	2
6	Uni 401	Writing and publishing scientific research	-	1	-	1	6	BCh 4512	Biomarkers in Diagnosis	-	2	-	2
7	Uni 403	Ethics of practicing the profession	-	1	-		7	BCh 4514	Cellular Differentiation	كيم 455	2	-	2
8	BCh 4511	Stem Cell Biology	-	2	-		8	BCh 4516	Free radicals and antioxidants	-	2	-	2
9	BCh 4513	Xenobiotic Metabolism	-	2	-	9	BCh 4518	Molecular and Cellular Dynamics	-	2	-		
						10		Field training	-	3	-	3	
Semester Hours				15 hours			Semester Hours				21 hours		
Credit Hours = 36 hours													