

BS Bioinformatics & Biotechnology

Semester 1

Course Code	Course Title	Credit Hours
BNB-301	Cell Biology	3(2-1)
BNB-303	Fundamentals of Genetics	4(3-1)
BNB-305	Biochemistry-I	3(2-1)
CSI-321	Computer Fundamentals	4(3-1)
MTH-321	Basic Mathematics	3(3-0)
ENG-321	English for Academic Purposes	3(3-0)
	Total	20

Semester 2

Course Code	Course Title	Credit Hours
BNB-302	Molecular Biology	4(3-1)
BNB-304	Fundamentals of Microbiology	4(3-1)
BNB-306	Biochemistry-II	3(2-1)
CSI-322	Introduction to Computer Programming	4(3-1)
MTH-322	Calculus	4(4-0)
ISL-322	Islamic Studies	2(2-0)
	Total	21

Semester 3

Course Code	Course Title	Credit Hours
BNB-401	Immunology	3(3-0)
BNB-403	Molecular Genetics	4(3-1)
BNB-405	Introduction to Biotechnology	3(2-1)
CSI-421	Introduction to Data Structure	4(3-1)
MTH-421	Differential Equations and Laplace Transform	4(4-0)

PST-322	Pakistan Studies	2(2-0)
	Total	20

Semester 4

Course Code	Course Title	Credit Hours
BNB-402	Bioinformatics-I	4(3-1)
BNB-404	Molecular Evolution and Systematics	3(3-0)
BNB-406	Statistical Methods in Biology	4(3-1)
BNB-408	Biosafety	2(2-0)
CSI-422	Object Oriented Programming	4(3-1)
MTH-422	Linear Algebra and Computational Mathematics	3(3-0)
	Total	20

Semester 5

Course Code	Course Title	Credit Hours
BNB-501	Bioinformatics-II	4(3-1)
BNB-503	Recombinant DNA Technology	4(3-1)
BNB-505	General Virology	3(3-0)
BNB-507	Techniques in Biochemistry and Biotechnology	3(1-2)
BNB-509	Database Management Systems	4(3-1)
	Total	18

Semester 6

Course Code	Course Title	Credit Hours
BNB-502	Bioinformatics-III	4(3-1)
BNB-504	Proteomics	3(2-1)
BNB-506	Agriculture Biotechnology	3(2-1)
BNB-508	Social, Ethical and Legal Aspects of Biotechnology/Bioinformatics	3(3-0)
BNB-510	Modeling and Simulations	4(3-1)

BNB-512	Genomics	3(3-0)
	Total	20

Semester 7

Course Code	Course Title	Credit Hours
BNB-601	Cell Signaling	3(3-0)
BNB-603	Industrial and Environmental Biotechnology	4(3-1)
BNB-605	Food Biotechnology	3(2-1)
BNB-607	Literature Survey and Research Project Management	2(2-0)
BNB-609	Bioinformatics Software Development	4(2-2)
ENG-601	English for Employment	3(3-0)
	Total	19

Semester 8

Course Code	Course Title	Credit Hours
BNB-602	Research Methodologies	3(0-3)
BNB-604	Recent Trends in Biotechnology and Bioinformatics	3(3-0)
	OR	
BNB-631	Project	6(0-6)
	Total	06