

Recommended Plan of Studies for
Bachelor of Engineering
(Biomedical)

Recommended to 5th BOS
w.e.f. Intake Spring 2018

SEMESTER-1				SEMESTER-2			
Course ID	Course Title	Cr. Hr.	Pre-Req	Course ID	Course Title	Cr. Hr.	Pre-Req
NS-111	Applied Physics	2+1	-	HS-121	Islamic Studies	2+0	-
CSE-111	Introduction to Computing	2+1	-	NS-121	Calculus & Analytical Geometry	3+0	-
EE-111	Basic Electrical Engineering	3+1	-	BME-122	Physiology I	2+1	-
NS-112	Basic Mathematics (for Pre-Medical)	4+0	-	EE-121	Circuit Analysis	3+1	-
NS-113	Basic Biology (for Pre-Engineering)	4+0	-	CSE-121	Object Oriented Programming	2+1	-
BME-111	Introduction to Biomedical Engineering	1+0	-	BM-121	Human Anatomy	2+1	-
HS-111	Pakistan Studies	2+0					
Total credits		17		Total credits		18	
SEMESTER-3				SEMESTER-4			
Course ID	Course Title	Cr. Hr.	Pre-Req	Course ID	Course Title	Cr. Hr.	Pre-Req
NS-211	Complex Variable & Transformation	3+0	-	BME-221	Biomedical Electronics	3+1	EE-211
BME-212	Physiology II	2+1	BME-122	EE-221	Digital Logic Design	3+1	-
BME-211	Biochemistry	2+1	-	NS-221	Linear Algebra & Differential Equation	3+0	-
EE-211	Basic Electronics	3+1	-	BME-222	Biomechanics	3+1	-
CSE-211	Computer Aided Engineering Drawing	0+1	-	EE-222	Signals and Systems	3+1	-
HS-211	Communication Skills	2+0					
Total credits		16		Total credits		19	
SEMESTER-5				SEMESTER-6			
Course ID	Course Title	Cr. Hr.	Pre-Req	Course ID	Course Title	Cr. Hr.	Pre-Req
BME-311	Biomedical Instrumentation 1	3+1	-	BME-321	Biomedical Instrumentation II	3+1	BME-311
NS-312	Probability and Statistics	3+0		BME-32X	Elective-I	3+0	-
NS-311	Numerical Methods	3+0		BME-323	Biomedical Control Systems	3+1	-
EE-311	Microprocessors and Interfacing	2+1		CSE-321	Modelling & Simulation	2+1	-
BME-312	Biomedical Signal Processing	3+1	EE-222	BME-322	Biomaterials	3+1	-
Total credits		17		Total credits		18	
SEMESTER-7				SEMESTER-8			
Course ID	Course Title	Cr. Hr.	Pre-Req	Course ID	Course Title	Cr. Hr.	Pre-Req
MS-411	Engineering Management	3+0	-	BME-42X	Elective-IV	3+0	-
BME-412	Medical Imaging	2+1	-	HS-411	Professional Practices & Ethics	3+0	-
BME-41X	Elective-II	3+0	-	BME-42X	Elective-V	3+0	-
BME-41X	Elective-III	3+0	-	MS-422	Entrepreneurship	3+0	-
HS-411	Technical Report Writing	3+0	-	BME-421	Final Year Project (Phase II)	0+3	BME-411
BME-411	Final Year Project (Phase I)	0+3					
Total credits		18		Total credits		15	

Total number of semesters = 8
Total credit hours = 138

List of Elective Courses:

Track 1		Track 2		Track 3	
Instrumentation		Tissue Engineering and Molecular Bioengineering		Biomedical Computing	
Semester-6					
BME-324	Power Electronics	BME-325	Biophysics	BME-326	Telemedicine Systems
BME-327	Bioelectricity	BME-320	Regenerative Medicine	BME-327	Bioinformatics
		BME-328	Drug Delivery Systems		
Semester-7					
BME-413	Rehabilitation Engineering	BME-410	Tissue Engineering	BME-418	Medical Data System
BME-414	Medical Robotics	BME-415	BioFluid Mechanics & BioHeat Transfer	BME-419	Artificial Intelligence
BME-417	Medical Device Quality System and Standards	BME-416	Neuroscience		
Semester-8					
BME-424	Biomedical Engineering Systems	BME-420	Genetic Engineering	BME-422	Medical Image Processing
BME-425	Medical Device Regulatory Affairs	BME-428	DNA Computing	BME-423	Hospital Information System
		BME-429	Nano Biotechnology	BME-426	Computational Fluid Dynamics