

Department of Biomedical Engineering & Technology

University of Engineering & Technology

Curriculum for Engineering Technology (Biomedical) Program 2K25 onwards

Semester-wise scheme of studies for the Bachelor of Engineering Technology (Biomedical) program spanning 04 years, spread over 08 semesters and encompassing 129 credit hours is presented below:

SEMESTER I				
Suggested Course Codes	Course Title	Knowledge Area/Domain	Credit Hrs. (Th+Lab)	Contact Hrs. (Th+Lab)
BIN-111/ BIN-112	Basic Biology (for Pre-Engineering Students)/ Basic Mathematics (for Pre-Medical Students)	Natural Sciences	2+1 or 3+0	2+3 or 3+0
BIH-111	Communication Skills	Humanities	3+0	3+0
BIH-112 BIH-113	Islamic Studies/ Social Ethics	Humanities	3+0	3+0
BIN-113	Applied Physics	Natural Sciences	3+1	3+3
BIC-111	Information & Communication Technology	Computing	1+1	1+3
BIT-111	Workshop Practices	Foundation	0+1	0+3
BIT-112	Technical Drawing	Foundation	0+1	0+3
	Subtotal		12+5 = 17 or 13+4 = 17	27 or 24
SEMESTER-II				
BIN-121	Calculus and Analytical Geometry	Natural Sciences	3+0	3+0
BIT-121	Basic Electrical Technology	Foundation	2+1	2+3
BIT-122	Human Anatomy & Physiology	Foundation	3+1	3+3
BIC-121	Computer Programming	Computing	1+1	1+3
BIM-121	Management Sciences Elective I	Management Sciences	3+0	3+0
BIS-121	Social Sciences Elective I	Social Sciences	3+0	3+0
	Subtotal		13+3 =16	15+3 =18 24

SEMESTER-III				
Course Codes	Course Title	Knowledge Area	Credit Hrs. (Th+Lab)	Contact Hrs. (Th+Lab)
BIN-211	Biochemistry	Natural Sciences Forced Elective	2+1	2+3
BIN-212	Linear Algebra & Differential Equations	Natural Sciences	3+0	3+0
BIT-211	Electrical Circuit Analysis	Foundation	2+1	2+3
BIT-212	Digital Logic Design	Breadth	2+1	2+3
BIS-211	Social Sciences Elective II	Social Sciences	3+0	3+0
Subtotal			12+3=15	21
SEMESTER-IV				
BIT-221	Signals and Systems	Breadth	2+1	2+3
BIT-222	Electronic Devices and Circuits	Foundation	2+1	2+3
BIT-223	Microprocessors and Microcontrollers	Depth	2+1	2+3
BIT-224	Biomechanics	Breadth	2+1	2+3
BIT-225	Molecular Biology	Breadth	2+1	2+3
BIM-221	Management Science Elective II	Management Sciences	2+0	2+0
Subtotal			12+5 =17	27
SEMESTER-V				
Course Codes	Course Title	Knowledge Area	Credit Hrs. (Th+Lab)	Contact Hrs. (Th+Lab)
BIT-311	Biomaterials	Breadth	2+1	2+3
BIT-312	Biomedical Instrumentation	Breadth	2+1	2+3
BIT-313	Biomedical Control Systems	Depth	2+1	2+3
BIH-311	Pakistan Studies	Humanities	3+0	3+0
BIE-311	Technical Report Writing	Humanities	2+0	2+0
BIT-314	Project-I	Project	0+3	0+9
Subtotal			9+8 =17	29
SEMESTER-VI				
BIT-321	Medical Imaging Devices	Depth	2+1	2+3
BIN-321	Probability and Statistics	Natural Sciences	2+0	2+0
BIT-322	Clinical Laboratory Equipment	Depth	2+1	2+3
BII-321	IDTE-I	IDTE	3+0	3+0
BII-322	IDTE-II	IDTE	2+1	2+3
BIT-323	Project-II	Project	0+3	0+9
Subtotal			11+6 =17	29

SEMESTER-VII				
Course Codes	Course Title	Knowledge Area	Credit Hrs. (Th+Lab)	Contact Hrs. (Th+Lab)
ELT-411	Supervised Industrial Training (Optional)	Biomedical Engineering TechnologyDomain Industrial Training	16	40 (per Week)
BIH-411 BIM-411	Management Sciences Elective-III	Management Sciences	3+0	3+0
BIT-412	Depth Elective-I	Depth	2+1	2+3
BIT-413	Depth Elective-II	Depth	2+1	2+3
BIT-414	Depth Elective-III	Depth	2+1	2+3
BIT-415	Troubleshooting of Medical Devices	Depth	0+1	0+3
BIT-416	Depth Elective-IV	Depth	3+0	3+0
Subtotal			12+4=16	24
SEMESTER-VIII				
BIT-421	Supervised Industrial Training (Compulsory)	Biomedical Engineering TechnologyDomain Industrial Training	16	40 (per Week)
Subtotal			0+16= 16	0+40= 40
Total Credit Hours & Contact Hours in Four Years (When SIT conducted in both 7 th and 8 th Semester)			64+65 = 133	64+195=25 9
Theory vs Practical with respect to Contact Hours			Theory Practical	64 (24.71%) 195 (75.29%)
Total Credit Hours & Contact Hours in Four Years (When optional courses conducted instead of SIT in 7 th semester)			75+54 = 129	75+162 =237
Theory vs Practical with respect to Contact Hours			Theory Practical	75 (31.65%) 162 (68.35%)