

**Course structure of Bachelor of Science Program in Biomedical Science and Engineering
in
Jyoti and Bhupat Mehta School of Health Sciences and Technology**

Course No	Semester-I Course Name	L	T	P	C	Course No	Semester-II Course Name	L	T	P	C
HT101	Multivariable Calculus and Linear Algebra	3	1	0	8	HT111	Differential Equations	3	1	0	8
HT102	Physics	2	1	0	6	HT112	Digital system design	3	0	2	8
HT103	Chemistry	3	0	0	6	HT113	Biochemistry	3	0	0	6
HT104	Basic Electrical Sciences	3	1	0	8	HT114	Human Anatomy and Physiology	3	0	0	6
HT105	Introduction to Computing	3	0	0	6	HT115	Rigid body Mechanics	3	1	0	8
HT106	Organisation of Human Body	3	0	0	6	HT116	CAD Laboratory	1	0	3	5
HT107	Computing Laboratory	0	0	3	3						
		17	3	3	43			16	2	5	41
xxx	\$English Communication	2	0	2	0	SA1xx	Students Activity Course-I	0	0	2	0
Course No	Semester-III Course Name	L	T	P	C	Course No	Semester-IV Course Name	L	T	P	C
HT201	Probability and Statistics	2	1	0	6	HT211	Biomedical Instrumentation	2	0	2	6
HT202	Thermodynamics	2	1	0	6	HT212	Medicinal Chemistry	3	0	0	6
HT203	Molecular and Cell Biology	3	0	0	6	HT213	Signals and systems	2	1	0	6
HT204	Analog Integrated Circuits	3	0	0	6	HT214	Diagnostics and Therapeutic Devices	2	1	0	6
HT205	Deformable Body Mechanics	2	1	0	6	HT215	Optics and Medical Imaging	3	0	0	6
HT 206	Introduction to Data Science	2	0	2	6	HT216	Entrepreneurship and Regulatory Affairs	1	0	2	4
HT 207	Biomedical Lab 1	0	0	3	3	HT 217	Biomedical Lab 2	0	0	3	3
HT 208	Prototyping lab	0	0	3	3	HS1xx	HSS Elective - I	3	0	0	6
		14	3	8	42			16	2	7	43
SA2xx	Students Activity Course - II	0	0	2	0	SA3xx	Students Activity Course-III	0	0	2	0
Course No	Semester-V Course Name	L	T	P	C	Course No	Semester-VI Course Name	L	T	P	C
HT301	Numerical and Finite Element Methods	2	0	2	6	HT311	Informatics and AI in Medicine	2	0	2	6
HT302	Sensors and Actuators	2	0	2	6	HT312	Pharmacology and Toxicology	3	0	0	6
HT303	Digital signal processing	2	0	2	6	HT313	Quantitative Human Physiology	3	0	0	6
HT304	Fluid mechanics	3	0	0	6	HT314	Transport Phenomena in Physiological Systems	3	1	0	8
HT305	Medical Microbiology and Immunology	3	0	0	6	HT315	Biomaterials and Biomechanics	3	0	0	6
HT306	Biomedical Lab 3	0	0	3	3	HT316	Biomedical Lab 4	0	0	3	3
HT307	Clinical Immersion	0	0	3	3	HTXXX	Discipline Elective - I	3	0	0	6
HS1XX	HSS Elective - II	3	0	0	6						
		15	0	12	42			17	1	5	41
SA4xx	Students Activity Course-IV	0	0	2	0	HT318	Summer Training (PP/NP)	0	0	0	0
HT308	Technical Writing and Presentation	0	0	2	0						
Summer training in Engineering academic/ medical Academia/Medical Device industry is preferred											
Course No	Semester-VII Course Name	L	T	P	C	Course No	Semester-VIII Course Name	L	T	P	C
HT498	Project - I	0	0	12	12	HT499	Project - II	0	0	12	12
HTxxx	Discipline Elective - II	3	0	0	6	HTxxx	Discipline Elective -III	3	0	0	6
xxx	Open Elective-I	3	0	0	6	HTxxx	Discipline Elective -IV	3	0	0	6
HS2xx	HSS Elective-III	3	0	0	6	xxx	Open Elective-II	3	0	0	6
						HS2xx	HSS Elective-IV	3	0	0	6
		9	0	12	30			12	0	12	36

*As applicable to IITG UG (B Tech) curriculum.

Total Credits:

Sem	I	II	III	IV	V	VI	VII	VIII	Total
Credits	43	41	42	43	42	41	30	36	318