

AM2 - M. Tech in Biomedical Engineering

Sl. No	Course No	Course Name	L	T	E	P	O	C
Semester I								
1	AM5119	Core 1: Physiology for Engineers	3	0	0	0	6	9
2	AM5010	Core 2: Biomechanics	3	0	0	0	6	9
3	AM5XXX	Core 3: (from basket of core courses)	3	0	0	0	6	9
4	DPE1	Elective 1 (DPE list / core basket)	3	0	0	0	6	9
5	DPE2	Elective 2 (DPE list/ core basket)	3	0	0	0	6	9
6	AM5023	Physiological measurements and Instrumentation Laboratory	0	0	0	3	2	5
Total Credits :			15	0	0	3	32	50
Semester II								
1	AM 5160	Core 4: Biomedical Imaging Systems	3	0	0	0	6	9
2	AM 5140	Core 5: Biomedical Instrumentation	3	0	0	0	6	9
3	AM 5XXX	Core 6: (From basket of core courses)	3	0	0	0	6	9
4	DPE3	Elective 3 (DPE list / core basket)	3	0	0	0	6	9
5	FE1	Elective 4 (FE)	3	0	0	0	6	9
6	AM 5019	Advanced BME lab	0	0	0	3	2	5
7	AM 5022	Modelling and simulation lab	0	0	0	3	2	5
Total Credits :			15	0	0	6	34	55
Summer								
1	AM5200 (Option A)	Summer Industrial Internship	0	0	0	0	15	15
1a	AM5424 (Option B)	Summer Project - AM2	0	0	0	0	10	10
1b	AM5028 (Option B)	Clinical practice observations in Hospitals	0	0	0	0	5	5
Total credits			0	0	0	0	15	15
Semester III								
1	AM5480	Seminar	0	0	0	0	3	3
2	FE2	Elective 5 (FE)	3	0	0	0	6	9
3	AM5401	Project I	0	0	0	0	30	30
Total Credits :			3	0	0	0	39	42
Semester IV								
1	AM5402	Project II	0	0	0	0	40	40
Total Credits :								40

TOTAL CREDITS**202**

Sl. No	Course No	Basket of core courses	L	T	E	P	O	C
1	AM5520	Medical Electronics	3	0	0	0	6	9
2	AM5510	Biomedical Signals and Systems	3	0	0	0	6	9
3	AM5050	Biomedical sensors and measurements	3	0	0	0	6	9
4	AM5017	Statistics for biomedical engineers	3	0	0	0	6	9
5	MM5040	Medical materials	3	0	0	0	6	9
6	AM5120	Biomaterials	3	0	0	0	6	9
7	AM 5130	Quantitative Physiology	3	0	0	0	6	9
8	AM5016	Numerical methods in Biomedical Engineering	3	0	0	0	6	9
		Basket of elective courses (DPE list)						
1	AM5190	Haptics and Biomedical Engineering	3	0	0	0	6	9
2	AM5100	Biomedical laser instrumentation	3	0	0	0	6	9
3	AM6514	Biomedical sensors	3	0	0	0	6	9
4	AM6516	Neuromechanics of human movement	0	0	0	3	2	5
5	AM7010	Classics in neuromechanics	3	0	0	0	6	9
6	AM6190	Cellular structures and mechanics	3	0	0	0	6	9
7	AM6518	Biophysical aspects of tumor microenvironment	3	0	0	0	6	9
8	AM5013	Operating theatre instrumentation and surgical technology	3	0	0	0	6	9
9	AM5011	Virtual Reality Engineering	3	0	0	0	6	9
10	AM4010	Biomedical signal processing	3	0	0	0	6	9
11	AM5060	Psychophysics	3	0	0	0	6	9
12	AM5020	Biomedical ultrasonics	3	0	0	0	6	9
13	AM6110	Bio fluid mechanics	3	0	0	0	6	9
14	AM5028	Clinical Practice Observations in Hospitals	0	0	0	3	2	5

Notes:

1. Project guide will be assigned in 2nd semester
2. Electives from above list or any relevant courses from other Departments could be chosen in consultation with Faculty Advisor/ Project guide
3. **AM 5200: "Summer Industrial Internship"** facilitates project work during summer in different industries/ hospitals/ clinical environments.
4. **AM 5424 -Summer Project – AM2: "Summer Project"** was earlier named as "Project Summer". This option facilitates those who would like to stay back in IIT for a short project may / may not be related to main project.
5. Students who opt for AM 5XXX Summer Project will also undergo the successful completion of the course AM 5XXX-Shadowing practice in hospitals in order to complete the credit requirements.
6. **AM 5401 - Project I:** This is compulsory for all. The grade shall be awarded at the end of the semester.
7. **AM 5402 - Project II:** This is optional and the choice is given to the candidate by the end of the third semester. If the performance of the candidate in Project I, is not satisfactory, the candidate will be advised by the evaluation committee to pursue equivalent number of course based credits in the fourth semester.