SAMSUN UNIVERSITY
FACULTY OF ENGINEERING AND NATURAL SCIENCES
DEPARTMENT OF BIOMEDICAL ENGINEERING
UNDERGRADUATE PROGRAM CURRICULUM

FIRST GRADE

CODE	1st Semester	T	P	C	E	CODE	2nd Semester	T	P	C	E
OFİZ101	Physics I	3	0	3	4	OFİZ102	Physics I	3	0	3	4
OMAT101	Mathematics I	3	2	4	5	OMAT102	Mathematics II	3	2	4	5
TDİ101	Turkish Language-I	2	0	2	2	TDİ102	Turkish Language-II	2	0	2	2
YDİ101	Foreign Language I	2	0	2	2	YDİ102	Foreign Language II	2	0	2	2
ATI101	Atatürk's Principles and Turkish Revolution History-I	2	0	2	2	ATI102	Atatürk's Principles and Turkish Revolution History-II	2	0	2	2
OKİM101	Chemistry	3	0	3	3	GİR102	Entrepreneurship	2	0	2	2
MBYM101	Introduction to Biomedical Engineering	2	0	2	6	MBYM102	Medical Biology	3	0	3	4
MBYM103	Computer Programming and Algorithm-I	2	2	3	6	MBYM104	Organic Chemistry	3	0	3	4
						MBYM106	Computer Programming and Algorithm-II	2	2	3	5
	Total	**19**	**4**	**21**	**30**		**Total**	**22**	**4**	**24**	**30**

SECOND GRADE

CODE	3rd Semester	T	P	C	E	CODE	4th Semester	T	P	C	E
MBYM201	Circuit Theory	3	0	3	3	MBYM202	Electronic	3	0	3	3
MBYM203	Electromagnetic Fields and Waves	3	2	3	6	MBYM204	Medical Physics	2	0	2	3
MBYM205	Biochemistry	4	0	4	5	MBYM206	Cell Biology	2	1	3	3
MBYM207	Human Anatomy & Physiology	3	0	3	4	MBYM208	Biomechanics and Applications	1	2	2	4
MBYM209	Electrical Measurement and Analysis Laboratory	0	2	1	3	MBYM210	Logic Circuits	2	2	3	5
OMAT203	Linear Algebra	3	0	3	4	MBYM212	Electronic Laboratory	0	2	1	3
OBDE201	Nature of Science and Critical Thinking	2	0	2	2	OMAT204	Differential Equations	4	0	4	6
OYDİ201	Academic English I	2	0	2	3	OYDİ202	Academic English II	2	0	2	3
	University Elective Courses*						University Elective Courses*				
	Total	**20**	**4**	**21**	**30**		**Total**	**16**	**7**	**20**	**30**

THIRD GRADE

CODE	5th Semester	T	P	C	E	CODE	6th Semester	T	P	C	E
MBYM301	Signals and Systems	2	2	3	5	MBYM302	Biosensors	3	0	3	5
MBYM303	Microprocessors and Microcontrollers	2	2	3	5	MBYM304	Medical Imaging Systems	2	0	2	4
MBYM305	Biomedical Instrumentation	3	0	3	4	MBYM306	Materials Science and Biomaterials	2	0	2	4
MBYM307	Biomedical Instrumentation Laboratory	0	2	1	3	MBYM308	Fluid Mechanics	2	0	2	5
OMAT301	Numerical Methods	3	0	3	4	OYDİ302	Academic English IV	2	0	2	3
OYDİ301	Academic English III	2	0	2	3	MBYM310	Summer Internship	0	0	0	8
	4 credits will be selected from Vocational Elective Courses I	2	4	4	6		6 credits will be selected from Vocational Elective Courses II	3	6	6	9
	Total	**14**	**10**	**19**	**30**		**Total**	**14**	**6**	**17**	**30**

CODE	Vocational Elective Courses I	T	P	C	E	CODE	Vocational Elective Courses II	T	P	C	E
MBYM351	Medical Device Design	1	2	2	3	MBYM350	Biomedical Robot Design	1	2	2	3
MBYM353	Bioinformatics	1	2	2	3	MBYM352	Clinical Engineering	1	2	2	3
MBYM355	Cell Culture Systems	1	2	2	3	MBYM354	Cell Cultures and Cancer Biology	1	2	2	3
MBYM357	Cardiovascular Instrumentations	1	2	2	3	MBYM356	Biopolymers	1	2	2	3
MBYM359	Radiation and Nuclear Medicine	1	2	2	3	MBYM358	Current Issues in Biomedical Engineering	1	2	2	3
MBYM361	Genetics	1	2	2	3	MBYM360	Modeling and Control of Biomedical Systems	1	2	2	3
MBYM363	Biopharmaceutics	1	2	2	3	MBYM362	Biomedical Signal Processing	1	2	2	3
MBYM365	Bioanalytic Methods in Biomedical Engineering	1	2	2	3	MBYM364	Biotechnology	1	2	2	3
MBYM367	Manufacturing Processes	1	2	2	3	MBYM366	Bioseperation and Purification	1	2	2	3
MBYM369	Scientific Research Methods	1	2	2	3	MBYM368	Modern Optics and Lasers	1	2	2	3

FOURTH GRADE

CODE	7th Semester	T	P	C	E	CODE	8th Semester	T	P	C	E
	12 credits will be selected from Vocational Elective Courses III	12	0	12	30	MBYM402	Medical Device Maintenance, Repair and Calibration	1	2	2	4
	Total	**12**	**0**	**12**	**30**	MBYM404	Biomedical System Design	1	2	2	5
	OR					MBYM406	Graduation Project	0	4	2	6
MBYM 401	Vocational Education in Business	12	0	12	30		6 credits will be selected from Vocational Elective Courses IV	3	6	6	15
	Total	**12**	**0**	**12**	**30**		**Total**	**5**	**14**	**12**	**30**

CODE	Vocational Elective Courses III	T	P	C	E	CODE	Vocational Elective Courses IV	T	P	C	E
MBYM451	Biomedical Image Processing	2	0	2	5	MBYM450	Tissue Engineering	1	2	2	5
MBYM453	Nanotechnology and Bionanotechnology	2	0	2	5	MBYM452	Modern Techniques in Molecular Biology	1	2	2	5
MBYM455	Biostatistics and Probability	2	0	2	5	MBYM454	Forensic Chemistry and Toxicology	1	2	2	5
MBYM457	Bioelectromagnetism	2	0	2	5	MBYM456	Gas Sensors and Medical Applications	1	2	2	5
MBYM459	Controlled Release Systems and Drug Targeting	2	0	2	5	MBYM458	Wearable Technology and Sensors	1	2	2	5
MBYM461	Prosthesis and Artificial Organs Implant Design	2	0	2	5	MBYM460	Nervous Systems, Neurophysiology and Physiological Control	1	2	2	5
MBYM463	Fuzzy Logic and Artificial Neural Network	2	0	2	5	MBYM462	Biomedical Optics	1	2	2	5
MBYM465	Computer Aided Visualization	2	0	2	5	MBYM464	Ultrasonography Techniques and Applications	1	2	2	5
MBYM467	Nuclear Magnetic Resonance Imaging Systems	2	0	2	5	MBYM466	Artificial Intelligence Systems	1	2	2	5
MBYM469	Biomedical Sensor Technologies	2	0	2	5	MBYM468	Modelling Nervous Systems	1	2	2	5
MBYM471	Microprocessors and Biomedical Applications	2	0	2	5	MBYM470	Engineering Analysis with MATLAB	1	2	2	5
MBYM473	Visual Programming Language	2	0	2	5	MBYM472	Database Management Systems	1	2	2	5
MBYM475	Computer Aided Drawing	2	0	2	5	MBYM474	Biomedical Image Processing with FBGA	1	2	2	5
MBYM477	Computer Aided Circuit Design	2	0	2	5	MBYM476	Communication Skills and Management Systems	1	2	2	5
MBYM479	Instrumental Analysis Methods	2	0	2	5	MBYM478	Ethics in Biomedical Engineering	1	2	2	5
MBYM481	Optimization Methods	2	0	2	5						

* Courses to be taken from the University Elective Course pool are shown as information on the transcript in accordance with Article 10, paragraph 10 of Samsun University Undergraduate Education and Training Regulation; However, it is not included in the credit load and GPA calculation. These courses depend on the students' preferences.

Total ECTS	240	**Total Elective Course ECTS**	60
Total Credit	146 (Including 5i Courses)	**Total Elective Course Credit**	28
Total Theoretical Course Session	122	**Total Practical Course Sessions**	49