

Curriculum List of BME

(1)Sorted by Semester

Semester	Course	Contact Hour	Self-study Hour	Total Hour	ECTS
1	Advanced Mathematics (1)	80	70	150	5
	College Physics	64	86	150	5
	College English (1)	64	26	90	3
	C Program Design	48	72	120	4
	Introduction to Biomedical Engineering	32	43	45	2.5
	Outline of Modern Chinese History	48	12	60	2
	Situation and Policy	32	13	45	1.5
	Physical Education (1)	30	0	30	1
	College Chinese	32	13	45	1.5
	Public electives-1	16	14	30	1
		Total-1		795	26.5
2	College Physics Experiment	16	14	30	1
	Advanced Mathematics (2)	80	70	150	
	Medical Chemistry (Organic)	16	14	30	1
	Medical Chemistry (Inorganic)	16	14	30	1
	College English (2)	64	26	90	3
	Python Program Design	32	43	75	2.5
	Introduction to Engineering	32	28	60	2
	Circuit Theory	48	27	75	2.5
	Morality and Law	48	12	60	2
	Military Theory & Training	64	11	75	2.5
	Mental health education for university students	32	13	45	1.5
	Fundamentals and Applications of MATLAB	64	11	75	2.5
	Physical Education (2)	30	0	30	1
	Public electives-2	16	14	30	1
		Total-2		855	28.5
3	Linear Algebra	32	58	90	3
	Probability Theory and Mathematical Statistics	48	57	105	3.5
	Preclinical Medicine Theories	128	52	180	6
	College English (3)	64	26	90	3
	Engineering Mechanics	48	72	120	4
	Analog Electronic Technology	64	56	120	4
	Basic Principles of Marxism	48	12	60	2
	Career Planning and Employment	16	14	30	1

Semester	Course	Contact Hour	Self-study Hour	Total Hour	ECTS
	Guidance				
	Physical Education (3)	30	0	30	1
	Public electives-3	16	14	30	1
		Total-3		855	28.5
4	Medical Statistics	32	58	90	3
	College English (4)	64	26	90	3
	Digital Electronic Technology	48	72	120	4
	Mechanical Drawing	64	71	135	4.5
	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	48	12	60	2
	Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	32	13	45	1.5
	Comprehensive Experiment of Analog Electronic Technology	32	43	75	2.5
	Comprehensive Experiment of Digital Electronic Technology	32	43	75	2.5
	Comprehensive Design of Electronics	64	56	120	4
	Physical Education (4)	30	0	30	1
	Public electives-4	16	14	30	1
		Total-4		870	29
5	Principal of Clinical Medicine	32	73	105	3.5
	Signals and Systems	48	102	150	5
	Biomedical Engineering Research Norms and Ethics	16	44	60	2
	Biomedical Sensors	32	58	90	3
	Application Technique of Single Chip Microcomputer	48	72	120	4
	Artificial Intelligence and Medical Applications	32	88	120	4
	Biomedical Optics*	32	28	60	2
	Principles of Medical Imaging*	32	28	60	2
	Medicine and Humanities*	32	28	60	2
	Medical Device Regulatory Science*	32	28	60	2
	Biomedical Materials*	32	28	60	2
	Biomedical Detection Technology*	32	28	60	2
	Public electives-5	16	14	30	1
		Total-5		1035**	34.5**
6	Digital Signal Processing	32	58	90	3
	Biomedical Electronics	32	58	90	3

Semester	Course	Contact Hour	Self-study Hour	Total Hour	ECTS
	Principle and Application of Medical Instruments	32	58	90	3
	Intelligent Medical Control Technology	48	57	105	3.5
	Biomechanics*	32	28	60	2
	Biomedical Ultrasound Technology*	32	28	60	2
	Virtual Medical Instrument Design*	32	28	60	2
	Mathematical Modeling*	32	28	60	2
	Human body Function Replacement Device*	32	28	60	2
	Introduction to Brain Science*	32	28	60	2
	Microcomputer Principle and Application*	64	26	90	3
	Digital Signal Processing Course Design	32	13	45	1.5
	Biomedical Electronics Course Design	32	13	45	1.5
	Professional Internship	64	26	90	3
	Public electives-6	16	14	30	1
		Total-6		1035**	34.5**
7	Principle and Application of Embedded System*	32	28	60	2
	Medical Image Processing and Analysis*	32	28	60	2
	Medical Laboratory Instruments and Technology*	32	28	60	2
	Integrated Biomedical Engineering Design	64	56	120	4
	Physical Education (5)	30	0	30	1
	Social practice	128	22	150	5
	Labor education	32	13	45	1.5
	Innovation and entrepreneurship	64	56	120	4
		Total-7		645**	21.5**
8	Bachelor Thesis	0	480	480	16
		Total-8		480	16
		OFFERED		6570	219
		REQUIREMENT		(6000**)	(200**)

Directions:

* Professional electives. Each student should achieve 14 ECTS in total before graduation.

** The actual study hour for each student is 6000 (ECTS = 200).

(2) Sorted by Type

Type of Curriculum	Name	Study Hour (Contact+ Self-study)	EC TS	Semester							
				S1	S2	S3	S4	S5	S6	S7	S8
Mathematics and natural sciences 36 ECTS	Advanced Mathematics	160+35	6.5	3.5	3						
	Linear Algebra	32+58	3			3					
	Probability Theory and Mathematical Statistics	48+57	3.5			3.5					
	College Physics	64+86	5	5	0						
	College Physics Experiment	16+14	1		1						
	Medical Chemistry (Organic)	16+14	1		1						
	Medical Chemistry (Inorganic)	16+14	1		1						
	Preclinical Medicine Theories	128+52	6			3	3				
	Principal of Clinical Medicine	32+73	3.5					3.5			
	Medical Statistics	32+58	3				3				
Foreign Languages 12 ECTS	College English (1)	64+26	3	3							
	College English (2)	64+26	3		3						
	College English (3)	64+26	3			3					
	College English (4)	64+26	3				3				
Informatics 6.5 ECTS	C Program Design	48+72	4	4							
	Python Program Design	32+43	2.5		2.5						
Engineering Fundamentals 27.5 ECTS	Introduction to Engineering	32+28	2		2						
	Introduction to Biomedical Engineering	32+43	2.5	2.5							
	Circuit Theory	48+27	2.5		2.5						
	Engineering Mechanics	48+72	4			4					
	Analog Electronic Technology	64+56	4			4					
	Digital Electronic Technology	48+72	4				4				
	Mechanical Drawing	64+71	4.5				4.5				
	Signals and Systems	48+102	5					5			
Engineering Applications 29.5 ECTS	Biomedical Engineering Research Norms and Ethics	16+44	2					2			
	Biomedical Sensors	32+58	3					3			
	Application Technique of Single Chip Microcomputer	48+72	4					4			
	Artificial Intelligence and	32+88	4					4			

Type of Curriculum	Name	Study Hour (Contact+ Self-study)	EC TS	Semester							
				S1	S2	S3	S4	S5	S6	S7	S8
	Medical Applications										
	Digital Signal Processing	32+58	3						3		
	Biomedical Electronics	32+58	3						3		
	Principle and Application of Medical Instruments	32+58	3						3		
	Intelligent Medical Control Technology	48+57	3.5						3.5		
Electives 14 ECTS	Biomedical Optics	32+28	2					2			
	Principles of Medical Imaging	32+28	2					2			
	Medicine and Humanities	32+28	2					2			
	Biomechanics	32+28	2						2		
	Biomedical Ultrasound Technology	32+28	2						2		
	Virtual Medical Instrument Design	32+28	2						2		
	Mathematical Modeling	32+28	2						2		
	Principle and Application of Embedded System	32+28	2							2	
	Microcomputer Principle and Application	64+26	3						3		
	Medical Image Processing and Analysis	32+28	2							2	
	Medical Laboratory Instruments and Technology	32+28	2							2	
	Medical Device Regulatory Science	32+28	2					2			
	Biomedical Materials	32+28	2					2			
	Biomedical Detection Technology	32+28	2					2			
	Human body Function Replacement Device	32+28	2						2		
	Introduction to Brain Science	32+28	2						2		
General Courses 39 ECTS	Morality and Law	48+12	2		2						
	Outline of Modern Chinese History	48+12	2	2							
	Basic Principles of Marxism	48+12	2			2					
	Introduction to Mao Zedong Thought and the Theoretical System of	48+12	2				2				

Type of Curriculum	Name	Study Hour (Contact+ Self-study)	EC TS	Semester							
				S1	S2	S3	S4	S5	S6	S7	S8
	Socialism with Chinese Characteristics										
	Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	32+13	1.5				1.5				
	Situation and Policy	32+13	1.5	0.5	0.5	0.5					
	Military Theory & Training	64+11	2.5		2.5						
	Physical Education	6+144	5	1	1	1	1	0.5		0.5	
	Mental health education for university students	32+13	1.5		1.5						
	Career Planning and Employment Guidance	16+14	1			0.25	0.25	0.25	0.25		
	College Chinese	32+13	1.5	1.5							
	Public electives	(16+14) ×6	6	1	1	1	1	1	1		
	Social practice	128+22	5								
	Labor education	32+13	1.5								
	Innovation and entrepreneurship	64+56	4								
Experiments and Practice 21.5 ECTS	Fundamentals and Applications of MATLAB	64+11	2.5		2.5						
	Comprehensive Experiment of Analog Electronic Technology	32+43	2.5				2.5				
	Comprehensive Experiment of Digital Electronic Technology	32+43	2.5				2.5				
	Comprehensive Design of Electronics	64+56	4				4				
	Digital Signal Processing Course Design	32+13	1.5					1.5			
	Biomedical Electronics Course Design	32+13	1.5						1.5		
	Integrated Biomedical Engineering Design	64+56	4							4	
	Professional Internship	64+26	3						3		
Experiments and Practice 16 ECTS	Bachelor Thesis	0+480	16								16

Type of Curriculum	Name	Study Hour (Contact+ Self-study)	EC TS	Semester							
				S1	S2	S3	S4	S5	S6	S7	S8
	Total	6000	200								