

MSBME Study Path (2024 Cohort)  
Full-time Normal Study Path via **Taught Courses** (1 Year)

Yr.	Sem.	Courses				CU's
1	A	<b><u>Elective courses for selection</u></b> <sup>@</sup> :				15
		<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	
	B	<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6118 Biomedical Imaging and Biophotonics - BME6140 Advanced Optical Microscopy for Biomedical Engineering	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME6121 Biomechanics - BME6135 Engineering Principles for Drug Delivery	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6115 Biorobotics - BME6138 Robotics in Minimally Invasive Healthcare	<b><u>Biosensors and Health Informatics</u></b> - BME6005 Micro Systems Technology	
	S	<b><u>Elective courses for selection</u></b> <sup>@</sup> :		<b><u>Biosensors and Health Informatics</u></b>	0 or 3	
		<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6141 Fundamentals and Applications of Single-molecule Biophysics in Rapid Diagnostics		- BME6117 Biomedical Safety and Risk Assessment		
<b>Total CU's =</b>					<b>30</b>	

Remarks:

( ) number of credit units

<sup>@</sup> Courses list may change subject to changes in the programme and/or demand for individual courses.

MSBME Study Path (2024 Cohort)  
Full-time Normal Study Path via **Dissertation** (1 Year)

Yr.	Sem.	Courses				CU's
1	A	<b><u>Elective courses for selection<sup>@</sup>:</u></b>				15
		<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	
	B	BME6008 Dissertation (6 CUs)  + (3CUs)	<b><u>Elective courses for selection<sup>@</sup>:</u></b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6118 Biomedical Imaging and Biophotonics - BME6140 Advanced Optical Microscopy for Biomedical Engineering	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME6121 Biomechanics - BME6135 Engineering Principles for Drug Delivery	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6115 Biorobotics - BME6138 Robotics in Minimally Invasive Healthcare	<b><u>Biosensors and Health Informatics</u></b> - BME6005 Micro Systems Technology
S		<b><u>Elective courses for selection<sup>@</sup>:</u></b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6141 Fundamentals and Applications of Single-molecule Biophysics in Rapid Diagnostics		<b><u>Biosensors and Health Informatics</u></b> - BME6117 Biomedical Safety and Risk Assessment	3	
<b>Total CUs =</b>					<b>30</b>	

14

Remarks:

( ) number of credit units

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MSBME Study Path (2024 Cohort)  
Part-time Normal Study Path via **Taught Courses** (2 Years)

Students are required to complete (i) ten electives OR (ii) dissertation + seven electives. The advice is not to take more than 11 credit units in a semester.

Yr.	Sem.	Courses				CU's
1	A	<b><u>Elective courses for selection<sup>@</sup>:</u></b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	9
	B	<b><u>Elective courses for selection<sup>@</sup>:</u></b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6118 Biomedical Imaging and Biophotonics - BME6140 Advanced Optical Microscopy for Biomedical Engineering	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME6121 Biomechanics - BME6135 Engineering Principles for Drug Delivery	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6115 Biorobotics - BME6138 Robotics in Minimally Invasive Healthcare	<b><u>Biosensors and Health Informatics</u></b> - BME6005 Micro Systems Technology	
2	A	<b><u>Elective courses for selection<sup>@</sup>:</u></b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	6
	B	<b><u>Elective courses for selection<sup>@</sup>:</u></b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	
<b>Total CU's =</b>					<b>30</b>	

Remarks:

( ) number of credit units

@ course list may change subject to changes in programme and/or demand for individual courses

MSBME Study Path (2024 Cohort)  
Part-time Normal Study Path via **Dissertation** (1.5 Years)

Yr.	Sem.	Courses				CU's				
1	A	<b>Elective courses for selection<sup>@</sup>:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation</td> <td style="width: 25%;"><b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices</td> <td style="width: 25%;"><b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems</td> <td style="width: 25%;"><b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications</td> </tr> </table>				<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	9
	<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications						
	B	<b>Elective courses for selection<sup>@</sup>:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6118 Biomedical Imaging and Biophotonics - BME6140 Advanced Optical Microscopy for Biomedical Engineering</td> <td style="width: 25%;"><b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME6121 Biomechanics - BME6135 Engineering Principles for Drug Delivery</td> <td style="width: 25%;"><b><u>Robotics and AI for Biomedical Applications</u></b> - BME6115 Biorobotics - BME6138 Robotics in Minimally Invasive Healthcare</td> <td style="width: 25%;"><b><u>Biosensors and Health Informatics</u></b> - BME6005 Micro Systems Technology</td> </tr> </table>				<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6118 Biomedical Imaging and Biophotonics - BME6140 Advanced Optical Microscopy for Biomedical Engineering	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME6121 Biomechanics - BME6135 Engineering Principles for Drug Delivery	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6115 Biorobotics - BME6138 Robotics in Minimally Invasive Healthcare	<b><u>Biosensors and Health Informatics</u></b> - BME6005 Micro Systems Technology	BME6008 Dissertation (2 CU's) + (3 CU's)  + (4CU's) <i>Maximum 6 semesters</i>
<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6118 Biomedical Imaging and Biophotonics - BME6140 Advanced Optical Microscopy for Biomedical Engineering	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME6121 Biomechanics - BME6135 Engineering Principles for Drug Delivery	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6115 Biorobotics - BME6138 Robotics in Minimally Invasive Healthcare	<b><u>Biosensors and Health Informatics</u></b> - BME6005 Micro Systems Technology							
S	<b>Elective courses for selection<sup>@</sup>:</b> <b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME6141 Fundamentals and Applications of Single-molecule Biophysics in Rapid Diagnostics		<b><u>Biosensors and Health Informatics</u></b> - BME6117 Biomedical Safety and Risk Assessment	3 or 6						
2	A	<b>Elective courses for selection<sup>@</sup>:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"><b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation</td> <td style="width: 25%;"><b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices</td> <td style="width: 25%;"><b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems</td> <td style="width: 25%;"><b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications</td> </tr> </table>				<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications	4 or 7
<b><u>Biomedical Imaging and Bioinstrumentation</u></b> - BME5110 Biomedical Engineering Design - BME6111 Biomedical Instrumentation	<b><u>Cell/Tissue Engineering and Biomechanics</u></b> - BME5111 Regenerative Medicine - BME6101 Manufacturing of Biomedical Devices	<b><u>Robotics and AI for Biomedical Applications</u></b> - BME6114 Advanced Control Systems	<b><u>Biosensors and Health Informatics</u></b> - BME6123 Flexible Bioelectronics for Medical Applications - BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications							
<b>Total CU's =</b>					<b>30</b>					

Remarks:

( ) number of credit units

<sup>@</sup> Courses list may change subject to changes in the programme and/or demand for individual courses

## Course Selection Hints

Course Content	Weighting (0-100%)	Level of challenge (1 lowest - 5 highest)	Weighting (0-100%)	Level of challenge (1 lowest - 5 highest)	Weighting (0-100%)	Level of challenge (1 lowest - 5 highest)
	BME5110 Biomedical Engineering Design		BME5111 Regenerative Medicine		BME6005 Micro Systems Technology	
Biology	30	3	50	4		
Chemistry	10	4	25	3	20	2
Mathematics	10	4			20	2
Engineering	50	5	25	3	60	4
Others						
Total	100%		100%		100%	
	BME6101 Manufacturing of Biomedical Devices		BME6111 Biomedical Instrumentation		BME6114 Advanced Control Systems	
Biology	20	2	10	2	10	1
Chemistry	20	2	10	1		
Mathematics	30	2	15	3	30	3
Engineering	30	3	65	5	60	3
Others						
Total	100%		100%		100%	
	BME6115 Biorobotics		BME6117 Biomedical Safety and Risk Assessment		BME6118 Biomedical Imaging and Biophotonics	
Biology	20	2	35	3		
Chemistry			30	3		
Mathematics	40	3.5			50	4
Engineering	40	3.5	35	3	50	3
Other						
Total	100%		100%		100%	
	BME6121 Biomechanics		BME6123 Flexible Bioelectronics for Medical Applications		BME6135 Engineering Principles for Drug Delivery	
Biology	20	2	20	2	20	1
Chemistry			15	2	20	2
Mathematics	40	3.5	5	2	10	3
Engineering	40	3.5	60	3	30	4
Other					20(Physiology)	3
Total	100%		100%		100%	

## Course Selection Hints

Course Content	Weighting (0-100%)	Level of challenge (1 lowest - 5 highest)	Weighting (0-100%)	Level of challenge (1 lowest - 5 highest)	Weighting (0-100%)	Level of challenge (1 lowest - 5 highest)
	BME6136 Advanced Biomaterials for Healthcare and Biomedical Applications		BME6138 Robotics in Minimally Invasive Healthcare		BME6140 Advanced Optical Microscopy for Biomedical Engineering	
Biology	20	4	10	2	5	1
Chemistry	30	4	5	1	0	1
Mathematics	5	2	15	3	15	2
Engineering	35	4	50	4	40	3
Other	10	3	20 (Medicine)	3	40 (physics/optics)	3
Total	100%		100%		100%	
	BME6141 Fundamentals and Applications of Single-molecule Biophysics in Rapid Diagnostics					
Biology	30	3				
Chemistry	20	2				
Mathematics	25	3				
Engineering	25	2				
Other						
Total	100%					