

Table 1. Track Bioengineering Technologies

	Course	1A	1B	2A	2B
1	201400285 Biostatistics (Dr. K. Poortema)		Compulsory		
2	201500222 Technology for Health (Dr. ir. J.R. Buitenweg)	Compulsory			
3	201900088 Applied Cell biology (Dr. ing. J.N. Post)		Compulsory		
4	201400284 Biomedical Membranes & Artificial Organs (Prof. dr. D. Stamatialis)			Compulsory	
5	201600327 Tissue Engineering (Dr. J.C.H. Leijten)				Compulsory
6	201900123 Advanced Organic Chemistry (Prof. dr. ir. P. Jonkheijm)			Compulsory	
6	201700040 In Vitro Diagnostics (Prof. dr. ir. S. Le Gac)	Elective			
7	193740010 Controlled Drug and Gene Delivery (R. Bansal)	Elective			
8	193640020 Biophysical Techniques & Molecular Imaging (Dr. C. Otto)	Elective			
9	201400283 Biomedical Materials Engineering (Dr. A.A. Poot)		Elective		
10	201200220 Nanomedicine (Prof. dr. J. Prakash)		Elective		
11	202001414 Physical Biology (Prof. dr. M.M.A.E. Claessens)	Elective			
12	191211120 Lab-on-a-chip (Prof. dr. J.C.T. Eijkel) (don't sign up if you already completed 201500054 due to overlap)		Elective		
13	193400111 Bionanotechnology (Dr. ir. M.L. Bennink)			Elective	
14	193700050 AMM-project Organic Materials (Dr. M.A. Hempenius)			Elective	
15	191210720 Biomedical Signal Acquisition (Dr. ir. W. Olthuis)			Elective	
16	193640050 Clinical Chemistry (max. 15 participants) (external lecturer)				Elective
17	200900040 Topics in Human Anatomy & Sports Physiology (Dr. J. Reenalda)				Elective
18	201800288 Introduction to Bioengineering Technologies (note: only for students who didn't follow B-BMT) (Dr. J.C. Alers)	Compulsory			

 Compulsory

 Elective

 Pre-approved elective

Table 2. Track Imaging and In Vitro Diagnostics

	Course	1A	1B	2A	2B
1	201700040 In Vitro Diagnostics (Prof. dr. ir. S. Le Gac)	■			
2	201400285 Biostatistics (Dr. K. Poortema)		■		
3	193640020 Biophysical Techniques & Molecular Imaging (Dr. C. Otto)	■			
4	201800114 Imaging Technology in Radiology (Dr. ir. F.F.J. Simonis)				■
5	201500222 Technology for Health (Dr. ir. J.R. Buitenweg)	■			
6	191506001 Mathematical Methods (Dr. H.G.E. Meijer)		■		
7	201900044 Radiation Protection Expertise (Ir. E. van Dijk)	■	■		
8	193572010 Physics of Bubbles (Prof. dr. M. Versluis)		■		
9	191551150 Numerical Techniques for PDE (Dr. M. Schlottbom)		■		
10	193542070 Medical Acoustics (Prof. dr. M. Versluis)			■	
11	201900260 Magnetic Methods in Medicine (Dr. ir. L. Alic)			■	
12	193810020 Advanced Techniques for Signal Analysis (Dr. ir. T. Heida)			■	
13	191210910 Image Processing and Computer Vision (Dr. ir. M. Abayazid)			■	
14	193500000 Biomedical Optics (Prof. dr. ir. I.M. Vellekoop)				■

■ Compulsory

■ Elective

■ Pre-approved elective

Table 3. Track Physiological Signals and Systems

	Course	1A	1B	2A	2B
1	201500222 Technology for Health (Dr. ir. J.R. Buitenweg)				
2	201400285 Biostatistics (Dr. K. Poortema)				
3	201400286 Clinical Research Methods (Prof. dr. C.J.M. van Doggen)				
4	193810020 Advanced Techniques for Signal Analysis (Dr. ir. T. Heida)				
5	191150700 Integrative Design of Biomedical Products (Prof. dr. ir. G.J. Verkerke)				
6	201700071 Identification of Human Physiological Systems (Dr. E.H.F. van Asseldonk)				
7	193810010 Biological Control Systems (Prof. dr. H.J. Zwart)				
8	201800156 Biomechanics of human movement (Dr. ir. M. Sartori)				
9	191210720 Biomedical Signal Acquisition (Dr. ir. W. Olthuis)				
10	201400282 Bioelectromagnetics (Dr. ir. T. Heida)				
11	191150480 Human Movement Control (Dr. E.H.F. van Asseldonk)				
12	201600028 Telemedicine and Data Analysis for Monitoring (Dr. ir. M. Tabak)				
13	193810100 Dynamic Behavior of Neuronal Networks (Prof. dr. ir. M.J.A.M. van Putten)				
14	191506001 Mathematical Methods (Dr. H.G.E. Meijer)				
15	191560430 Nonlinear Dynamics (Dr. H.G.E. Meijer)				
16	191210920 Optimal Estimation in Dynamic Systems (Dr. ir. F. van der Heijden)				
17	191131700 System Identification and Parameter Estimation (Dr. ir. R.G.K.M. Aarts)				
18	201600070 Machine Learning I (Dr. ing. G. Englebienne)				
19	191154740 Biophysical Fluid Dynamics: The Respiratory System (Dr. ir. F.H.C. de Jongh)				


 Compulsory


 Elective

 Pre-approved elective

Table 4. Track Medical Device Design

	Course	1A	1B	2A	2B
1	191150700 Integrative Design of Biomedical Products (Prof. dr. ir. G.J. Verkerke)	Compulsory			
2	201400286 Clinical Research Methods (Prof. dr. C.J.M. van Doggen)	Compulsory			
3	201400285 Biostatistics (Dr. K. Poortema)		Compulsory		
4	201500222 Technology for Health (Dr. ir. J.R. Buitenweg)	Compulsory			
5	201400287 Ergonomics (Dr. ir. D. van de Belt)		Compulsory		
6	201800156 Biomechanics of Human Movement (Dr. ir. M. Sartori)			Compulsory	
7	200900040 Topics in Human Anatomy & Sports Physiology (Dr. J. Reenalda)				Compulsory
8	202000255 Advanced Control Engineering (Dr. ir. W.B.J. Hakvoort)	Elective			
9	191211060 Modern Robotics (Prof. dr. ir. S. Stramigioli)				Pre-approved elective
10	201400283 Biomedical Materials Engineering (Dr. A.A. Poot)		Elective		
11	202001409 Development of Artificial Internal Organs (Prof. dr. ir. J. Arens)			Elective	
12	201300004 Robotics for Medical Applications (Prof. dr. S. Misra)		Elective		
13	191150480 Human Movement Control (Dr. E.H.F. van Asseldonk)			Elective	
14	201400046 Experimental Methods (Dr. ir. L. Warnet)			Pre-approved elective	Pre-approved elective
15	191121720 Design, Production and Materials (Dr. I. Baran)	Elective			
16	201400048 Moulding Technology (Dr. ir. T.C. Bor)				Pre-approved elective
17	191210910 Image Processing and Computer Vision (Dr. ir. M. Abayazid)			Pre-approved elective	
18	191131360 Design Principles for Precision Mechanisms 2 (Prof. dr. ir. D.M. Brouwer)			Pre-approved elective	Pre-approved elective
19	201700294 Engineering Project Management (Dr. M.V. Pereira Pessoa)				Elective
20	191211080 System Engineering (Dr. ir. J.F. Broenink)		Pre-approved elective		
21	202000040 Introduction to Robotics Design (Dr. V. Kalpathy Venkiteswaran)				Pre-approved elective
22	201400103 3D Printing; Processes and Use (Dr. ir. T.H.J. Vaneker)	Elective			

 Compulsory

 Elective


 Pre-approved elective

Table 5. Track Biorobotics

	Course	1A	1B	2A	2B
1	201400285 Biostatistics (Dr. K. Poortema)		■		
2	201300004 Robotics for Medical Applications (Prof. dr. S. Misra)		■		
3	201500222 Technology for Health (Dr. ir. J.R. Buitenweg)	■			
4	202000255 Advanced Control Engineering (Dr. ir. W.B.J. Hakvoort)	■			
5	201800335 Programming 2 (Dr. ir. J.F. Broenink)			■	
6	191211060 Modern Robotics (Prof. dr. ir. S. Stramigioli)			■	
7	201700071 Identification of Human Physiological Systems (Dr. E.H.F. van Asseldonk)				■
8	201200133 Biomechatronics (Prof. dr. ir. H. van der Kooij)				■
9	191210910 Image Processing and Computer Vision (Dr. ir. M. Abayazid)			■	
10	191561620 Optimal Control (Dr. ir. G. Meinsma)		■		
11	201600070 Machine Learning I (Dr. ing. G. Englebienne)	■			
12	201900037 Flexible Multibody Dynamics (Dr. ir. J.P. Schilder)		■		
13	191150480 Human Movement Control (Dr. E.H.F. van Asseldonk)			■	
14	201800156 Biomechanics of Human Movement (Dr. ir. M. Sartori)			■	
15	201400286 Clinical Research Methods (Prof. dr. C.J.M. van Doggen)	■			
16	191150700 Integrative Design of Biomedical Products (Prof. dr. ir. G.J. Verkerke)	■			
17	193810020 Advanced Techniques for Signal Analysis (Dr. ir. T. Heida)			■	



Compulsory



Elective



Pre-approved elective

Pre-approved free electives

These courses are part of all the BME tracks or other MSc programmes. Always check your eligibility and entry requirements in Osiris before choosing these courses as free electives.

Table 6. Quartile 1

	Course	1A	1B	2A	2B
201400103	3D Printing: Processes And Use				
201800083	Advanced Colloids & Interfaces				
201600070	Machine Learning I				
193810010	Biological Control Systems				
191154740	Biophysical Fluid Dynamics: The Respiratory System				
193640020	Biophysical Techniques & Molecular Imaging				
201400286	Clinical Research Methods				
201900093	Control System Design for Mechatronics				
193740010	Controlled Drug and Gene Delivery				
201400584	Design of Persuasive Health Technology				
201900074	Fundamentals of Numerical Methods				
201200167	Imaging Techniques				
201700040	In Vitro Diagnostics				
191150700	Integrative Design of Biomedical Products				
201200146	Maintenance Engineering & Management				
191560430	Nonlinear Dynamics				
202001414	Physical Biology				
191158510	Programming in Engineering				
201900044	Radiation Protection Expertise				
191820210	Simulation				

Courses in 2 quartiles have a spread studyload (e.g. 2,5EC each quartile, 5EC total)

Table 7. Quartile 2

	Course	1A	1B	2A	2B
201600071	Machine Learning II				
201900091	Advanced Topics in Finite Element Methods				
191158500	Advanced Programming in Engineering				
201900088	Applied Cell biology				
201400283	Biomedical Materials Engineering				
201400174	Data Science				
201800177	Deep Learning - From Theory to Practice				
201400287	Ergonomics				
191210001	Instrumentation for Embedded Systems				
191211120	Lab-on-a-chip				
191506001	Mathematical Methods				
201200220	Nanomedicine				
191551150	Numerical Techniques for PDE				
191561620	Optimal Control				
191210920	Optimal Estimation in Dynamic Systems				
193572010	Physics of Bubbles				
191211090	Real-Time Software Development				
201300004	Robotics for Medical Applications				
201600028	Telemedicine and Data Analysis				

Courses in 2 quartiles have a spread studyload (e.g. 2,5EC each quartile, 5EC total)

Table 8. Quartile 3

	Course	1A	1B	2A	2B
201900123	Advanced organic chemistry				
193810020	Advanced Techniques for Signal Analysis				
193700050	AMM-Project Organic Materials				
191551161	Applied Finite Element Methods for PDE's				
201800156	Biomechanics of Human Movement				
201400284	Biomedical Membranes & Artificial Organs				
191210720	Biomedical Signal Acquisition				
193400111	Bionanotechnology				
201400584	Design of Persuasive Health Technology				
191131360	Design Principles for Precision Mechanisms 2				
201000159	Durability of Consumer Products				
193580020	Experimental Techniques in Physics of Fluids				
201400046	Experimental Methods				
191150480	Human Movement Control				
191210910	Image Processing and Computer Vision				
201900260	Magnetic Methods for Imaging				
193542070	Medical Acoustics				
193400121	Nano-Fluidics				
194121020	Optimization of Healthcare Processes				
201800335	Programming 2				
191551200	Scientific Computing				
191131700	System Identification and Parameter Estimation				
191155730	Tribology				

Courses in 2 quartiles have a spread studyload (e.g. 2,5EC each quartile, 5EC total)

Table 9. Quartile 4

	Course	1A	1B	2A	2B
201100254	Advanced Computer Vision and Pattern Recognition				
201400282	Bioelectromagnetics				
201200133	Biomechanics				
193500000	Biomedical Optics				
193640050	Clinical Chemistry (max. 15 participants)				
193810100	Dynamic Behaviour of Neuronal Networks				
192360501	E-health Strategies				
201700071	Identification of Human Physiological Systems				
201800114	Imaging Technology in Radiology				
191211110	Modelling and Simulation				
201400048	Moulding Technology				
193730040	Polymers and Material Science Practice				
201000262	Surgical Navigation Technology				
191622510	Technology and Social Order				
191571090	Time Series Analysis				
201600327	Tissue Engineering				
200900040	Topics in Human Anatomy & Sports Physiology				

Table 10. Capita Selecta

	Course	1A	1B	2A	2B
193640010	Capita Selecta BME				
201400267	Capita Selecta BW				
201800207	Capita Selecta RAM				
201400270	Capita Selecta BIOS				
201400269	Capita Selecta BSS				
(code t.b.a.)	Capita Selecta AST				
201400268	Capita Selecta BMPI				
201400266	Capita Selecta BST				
201400271	Capita Selecta CNPH				
201400272	Capita Selecta DBE				
201400275	Capita Selecta NBP				
201400273	Capita Selecta MCBP				
201400274	Capita Selecta MTG				
201400276	Capita Selecta NIM				
201600219	Capita Selecta POF				
202001596	Capita Selecta BioEE				