

Study plan of the Master of Science study programme

Biofabrication

Engineering Science Faculty

at the Universität Bayreuth

Version 12.01.2022

General Part

Abbr.	Course	1. Semester				2. Semester				3. Semester				4. Semester				Σ	
		L	T	P	CP	L	T	P	CP	L	T	P	CP	L	T	P	CP	CH	CP
	Biofabrication																		
BF	Module Biofabrication																	4	5
BF	Biofabrication	2	2		5													4	5
CB	Module Cell Biology																	4	5
CB	Fundamentals of Cell Biology	2		2	5													4	5
WBF	Biofabrication – Competence Enhancement Core Elective Module Area																	x	15
WBF1	Elective course, see selection catalogue ¹⁾		x		5													x	5
WBF2	Elective course, see selection catalogue ¹⁾		x		5													x	5
WBF3	Elective course, see selection catalogue ¹⁾		x		5													x	5
	Biomaterials																		
BMA	Module Biomaterials																	4	5
BMA	Biomaterials					2	2		5									4	5
CAE	Module Medical Implant Engineering																	5	5
MIE1	Fundamentals of Implant Engineering						3		3,5									3	3,5
MIE2	Development Process of Implants						1		1,5									2	1,5
WPE / WTE	Biomaterials – Competence Enhancement Core Elective Module Area																	x	15
WPE1 / WTE1	Elective course, see selection catalogue WPE/WTE ²⁾						x		5									x	5
WPE2 / WTE2	Elective course, see selection catalogue WPE/WTE ²⁾						x		5									x	5
WTE3 / WPE3	Elective course, see selection catalogue WTE/WPE ²⁾						x		5									x	5
	Transferable Skills																		
SF	Module Scientific Working																	5	5
SF1	Ethics in Science						1		1									1	1
SF2	Reception of Scientific Literature		1		1													1	1
SF3	How to Write a Paper						3		3									3	3
IM	Module Innovation Management																	4	5
IM1	Innovationmanagement 1	2			2,5													2	2,5
IM2	Innovationmanagement 2					2			2,5									2	2,5
	Master's Thesis																		
MT	Module Master's Thesis																	x	30
MT	Master's Thesis														x	30		x	30
	Subtotal		x		30		x		31					x	30		x	90	

Advanced Studies

Abbr.	Course	1. Semester				2. Semester				3. Semester				4. Semester				Σ	
		CH			CP	CH			CP	CH			CP	CH			CP	CH	CP
		L	T	P		L	T	P		L	T	P		L	T	P			
SA	Module Summer Academy																	x	5
SA	Bayreuth International Summer School Biofabrication									x				5				x	5
AM ³⁾	Advanced Module																	x	24
AM1	Elective course, see selection catalogue ⁴⁾									x			8					x	8
AM2	Elective course, see selection catalogue ⁴⁾									x			8					x	8
AM3	Elective course, see selection catalogue ⁴⁾									x			8					x	8
IAM ³⁾	International Advanced Module																	x	24
IAM	Elective course, see selection catalogue ⁵⁾									x			24					x	24
Subtotal Advanced Studies										x			29					x	29
Sum (General Part + Advanced Studies)		x			29	x			31	x			29	x			30	x	119

„Biofabrication“ catalogue of core elective modules, WS

Abbr.	Course	1. Semester					2. Semester					3. Semester					4. Semester					Σ							
		CH		CP			CH		CP			CH		CP			CH		CP			CH	CP						
		L	T	P		CP	L	T	P		CP	L	T	P		CP	L	T	P		CP	L	T	P		CP			
BIS	Bioinspired Surfaces																										4	5	
BIS	Bioinspired Surfaces	2				5																						4	5
BIT	Biotechnology																											4	5
BIT	Biotechnology	2				5																						4	5
CSI	Characterization of Soft (Bio)Interfaces																											4	5
CSI	Characterization of Soft (Bio)Interfaces	2				5																						4	5
PMA	Polymer Materials																											4	5
PMA	Polymer Materials	2				5																						4	5
SAB	Self-assembling Biopolymers																											4	5
SAB	Self-assembling Biopolymers	2	2			5																						4	5

„Biomaterials – Competence Enhancement“ catalogue of core elective modules, SS

Abbr.	Course	1. Semester					2. Semester					3. Semester					4. Semester					Σ							
		CH		CP			CH		CP			CH		CP			CH		CP			CH	CP						
		L	T	P		CP	L	T	P		CP	L	T	P		CP	L	T	P		CP	L	T	P		CP			
WPE	Process Engineering																												
CAE	Computer Aided Engineering																											4	5
CAE	Computer Aided Engineering						2	2		5																		4	5
CPC	Chemistry and Polymer Chemistry																											4	5
CPC	Chemistry and Polymer Chemistry						2	2		5																		4	5
LCA	Labcourse Automation core elective module																											x	5
LCA1	Automation Practical Course										1	1																1	1
LCA2	Study Project Automation							x		4																		x	4
PPP	Polymers and Polymer Processing																											4	5
PPP	Polymers and Polymer Processing						2		2	5																		4	5
PTM	Polymer Testing and Modelling																											4	5
PTM	Polymer Testing and Modelling						2	1	1	5																		4	5
WTE	Tissue Engineering																												
BPE	Bioprocess Engineering																											4	5
BPE	Bioprocess Engineering						2	2		5																		4	5
BTR	Bioengineering for Tissue Regeneration																											4	5
BTR	Bioengineering for Tissue Regeneration						2	2		5																		4	5
EPE	Electrocatalysis and Electrochemical Process Engineering																											5	5

EPE1	Electrocatalysis and Electrochemical Process Engineering					2		2							5	5
EPE2	Electrochemical Energy Technologies						2	2								
EPE3	Electrochemistry Lab Course							1	1							
FTE	Fundamentals of Tissue Engineering and Quality Management														4	5
FTE	Fundamentals of Tissue Engineering and Quality Management					3	1	5							4	5
SOM	Soft Matter Simulation														4	5
SOM	Soft Matter Simulation					2	2	5							4	5

1) Three modules of the respective catalogue "Biofabrication – Competence Enhancement core elective modules" has to be selected.

2) Three modules of the respective catalogue "Biomaterials – Competence Enhancement core elective modules" has to be selected.

If you choose the route "Process Engineering", two modules of the list of Process engineering (WPE) and one module of the list of Tissue engineering (WTE) has to

If you choose the route "Tissue Engineering", two modules of the list of Tissue engineering (WTE) and one module of the list of Process engineering (WPE) has to

3) Either the elective module AM or IAM has to be selected.

4) AMx courses can be taken at participating chairs/prof. in the study programme (University of Bayreuth, and national partner universities / institutions according to a regularly updated list.

5) The IAM module can be taken at participating profs./groups of international partner universities / institutions according to a regularly updated list.