

Curriculum for the Master's Degree Program in Medical Biology (shortened version)

Curriculum 2016

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§ 3 Structure of the programme

The master's programme in Medical Biology comprises 12 modules with a total number of 84 ECTS points. In addition, there are 6 ECTS points assigned for elective courses. The master's thesis is worth 26 ECTS points, the final exam 4 ECTS points.

Das Masterstudium Medical Biology beinhaltet 12 Module, für die 84 ECTS-Anrechnungspunkte vorgesehen sind. Weiters sind 6 ECTS-Anrechnungspunkte für die Freien Wahlfächer veranschlagt. Für die Masterarbeit werden 26 ECTS-Anrechnungspunkte und für die kommissionelle Prüfung 4 ECTS-Anrechnungspunkte vergeben.

	ECTS
Modul MBM 01: Advanced Molecular and Structural Biology	6
Modul MBM 02: Advanced Cell Biology	6
Modul MBM 03: Computational Biology in Biomedicine	6
Modul MBM 04: Anatomy and Histology	6
Modul MBM 05: Medical Physiology	6
Modul MBM 06: Science Communication and Soft Skills	6
Modul MBM 07: Molecular Mechanisms in Cancer	6
Modul MBM 08: Nanomedicine and Nanobiology	6
Modul MBM 09: Regenerative Biology and Ageing	6
Modul MBM 10: Advanced Immunology and Allergology	6
Modul MBM 11: Research Lab Training	12
Modul MBM 12: Gebundenes Wahlmodul	12
Freie Wahlfächer	6
Masterarbeit	26
Masterprüfung	4
Summe	120

§ 4 Course Types

Lecture (VO)

Course (UE)

Course with lecture (UV)

Seminar (SE)

§ 5 Required courses and plan of study

Master's degree program in Medical Biology							
Module/Course	SHrs.	Type	ECTS	Semester with ECTS			
				I	II	III	IV
(1) Compulsory Modules							
Module MBM 01: Advanced Molecular and Structural Biology							
Structure & Function of Proteins and Medical Applications	1	VO	1,5	1,5			
Advanced Structural & Molecular Applications in Medical Research	1	SE	1,5	1,5			
Lab Course on Chemical & Structural Biology:	2	UE	3	3			
Subtotal for Module MBM 01	4		6	6			
Module MBM 02: Advanced Cell Biology							
Advanced Cell Biology in Biomedicine	1	VO	1,5	1,5			
Advanced Methods in Cell Biology	2	UV	3	3			
Current Topics in Cell Biology and Applications in Biomedicine	1	SE	1,5	1,5			
Subtotal for Module MBM 02	4		6	6			
Module MBM 03: Computational Biology in Biomedicine							
Biomedical Data – From Molecules to Diseases	1	VO	1,5	1,5			
Hands-on Biomedical Data - Resources and Analysis Tools	3	UE	4,5	4,5			
Subtotal for Module MBM 03	4		6	6			
Module MBM 04: Anatomy and Histology							
Human and Mammalian Anatomy and Histology	1	VO	1,5	1,5			
Lab Course in Human and Mammalian Histology	3	UV	4,5	4,5			
Subtotal for Module MBM 04	4		6	6			
Module MBM 05: Medical Physiology							
Medical Physiology	2	VO	3	3			
Endocrinology and Neurobiology	1	VO	1,5	1,5			
Lab Course in Medical Physiology	1	UE	1,5	1,5			
Subtotal for Module MBM 05	4		6	6			
Module MBM 06: Science Communication and Soft Skills							
Good Laboratory Practice and Ethical Conduct	1	VO	1,5	1,5			
Scientific Writing and Presentation Skills	2	SE	3	3			
Job Applications and Interviews	1	SE	1,5	1,5			
Subtotal for Module MBM 06	4		6	6			

Module MBM 07: Molecular Mechanisms in Cancer							
Molecular Biology of Cancer	2	VO	3		3		
Oncogenic Signaling and (Epi)genetics of Cancer	2	UV	3		3		
Subtotal for Module MBM 07	4		6		6		

Module MBM 08: Nanomedicine and Nanobiology							
Nanomaterials – Risks and Medical Applications	1	VO	1,5		1,5		
Lab Course on Nanomaterials	2	UE	3		3		
Nanomaterial Applications	1	SE	1,5		1,5		
Subtotal for Module MBM 08	4		6		6		

Module MBM 09: Regenerative Biology and Ageing							
Introduction to Regenerative and Stem Cell Biology	2	VO	3		3		
Advanced Cell Culture, Tissue Engineering and Cellular Ageing	2	UE	3		3		
Subtotal for Module MBM 09	4		6		6		

Module MBM 10: Advanced Immunology and Allergology							
Molecular and Cellular Immunology	2	VO	3		3		
Lab Course in Immunobiochemistry	2	UE	3		3		
Subtotal for Module MBM 10	4		6		6		

Module MBM 11: Research Lab Training							
Training Lab I	4	UE	6			6	
Training Lab II	4	UE	6			6	
Subtotal for Module MBM 11	8		12			12	

Total Sum Compulsory Modules	48		72	30	30	12	
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2) Elective Module according to § 6

Module MBM 12: Elective Modules							
Courses worth 12 ECTS points need to be completed from the following areas:							
- Biomedicine	4	UV	6			6	
- Cell Biology and Pathophysiology	4	UV	6			6	
- Molecular Diagnostics and Clinical Chemistry	4	UV	6			6	
Subtotal Elective Module MBM 12	8		12			12	
Total Sum Elective Modules	8		12			12	
(3) Elective Courses			6			6	
(5) Master Thesis			26				26
(6) Master Exam			4				4
Sum total	60		120		60		60

§ 12 Admission Requirements for Exams

For admission to the exams listed in the table below the following requirements apply:

Course:	Requirement for:
At least two compulsory modules of Modules MBM 01-10 need to be completed	Module MBM 11 Research Lab Training