

MEDICAL BIOTECHNOLOGY MSc	Hrs/wk L/S/P	L	S-P	Semesters and credits				Examination	Co-ordinators
				I	II	III	IV		
Moduls/course (min.-max. credits)	Total credits	Credit	Credit						
A. CORE MATERIAL									
A.1. Foundation modul (25-40)									
<i>Basic science courses (20-30)</i>									
Biochemistry	4	2	2	4				Examination + progress grade	Balázs Sümeği
Introduction to molecular and cell biology	4	1	3	4				Examination + progress grade	Mariann Pap
Human Physiology	4	2	2	4				Examination + progress grade	Zoltán Karádi
Genetics	4	2	2	4				Examination + progress grade	Béla Melegh
Biophysics	4	2	2	4				Examination + progress grade	Miklós Nyitrai
Informatics	4	1	3	4				Examination + progress grade	Gábor Pauler
<i>Basic economics and ethics courses (5-15)</i>									
Introduction to Economics	2	1	1	2				Examination	Attila Varga
Management	2	1	1	2				Examination	Ákos Jarjabka
Business law	1	1		1				Examination	Tibor Nochta
Ethics in Biotechnology	1	1		1				Examination	János Kállai
Foundation modul	30	14	16						
A.2. Specialized core material (20-40)									
Nucleic acid manipulation and vector design	4	1	3		4			Examination + progress grade	Judit Pongrácz
Proteins and protein networks	4	2	2		4			Examination +	Ferenc Kílár

								progress grade	
Signal transduction	4	2	2		4			Examination + progress grade	Tímea Berki
Immunology	3	1	2		3			Examination + progress grade	Péter Németh
Microbiology	3	1	2		3			Examination + progress grade	Júlia Szekeres- Barthó
Molecular basis of microbial pathogenesis	3	1	2		3			Examination + progress grade	Csaba Fekete
Molecular pathology	2	2			2			Examination + progress grade	László Pajor
Developmental biology	2	2			2			Examination	Péter Balogh
In vivo test systems and transgenic animals	2	1	1		2			Examination	Péter Balogh
Tissue culture techniques	3	1	2		3			Examination + progress grade	Judit Pongrácz
Specialized core material	30	13	17						
<i>Total A. Core material</i>	60								
<i>B. Specialty courses (30-50)</i>	40								
<i>C. Masters thesis (20)</i>	20		20						
MEDICAL BIOTECHNOLOGIST MSc (120-140)	120								

Elective courses	Total credits (hrs/wk)	Credit L	Credit S/P	I	II	III	IV	Examination	Co-ordinators
Biotechnological methods in forensic medicine	3	1	2			3		Examination + progress grade	Katalin Sipos
Application of biomarkers in public health	3	1	2			3		Examination + progress grade	Zoltán Gyöngyi
Application of high throughput screening methods and biorobotics in biotechnology	3	1	2			3		Examination + progress grade	Péter Németh
Antibody and vaccine production in plants	4	2	2			2	2	Examination +progress grade	Gábor Jakab
Neurobiology	4	2	2			2	2	Examination + progress grade	Róbert Gábrriel
Enzyme biotechnology	2	2				2		Examination	Tímea Berki
Laboratory diagnostics	2	2					2	Examination	Attila Miseta
Introduction to Gerontology	2	2				2		Examination	Miklós Székely
Molecular gerontology	2	1	1			2		Examination	Judit Pongrácz
Protein expression systems in laboratory and industry	3	1	2			1	2	Examination + progress grade	Péter Németh
Basics and application of fluorescence microscopy	2	1	1			2		Examination + progress grade	Gábor Hild
Modern biophysical research methods	2	1	1			2		Examination + progress grade	Gábor Hild
Nanobiotechnology	3	1	2			1	2	Examination +progress grade	László Grama
The cytoskeletal system	1	1				1		Examination	Miklós Nyitrai
Applied virology	2	1	1			1	1	Examination +progress grade	Ferenc Jakab
Immunopathology 1	2	2				2		Examination	Péter Németh
Immunopathology 2	2	2					2	Examination	Júlia Szekeres-Barthó

Basic principles of electron microscopy in clinical practice and biological research	2	1	1					Examination +progress grade	László Seress
Capillary electrophoresis	2	1	1			1	1	Examination progress grade +	Ferenc Kilár
Statistical analysis	3	1	2			1	2	Examination + progress grade	László Pótó
Biometrics	1		1				1	Progress grade	László Pótó
Clinicopathology	1	1					1	Examination	László Pajor
Biophysical background and clinical application of isotopdiagnostic and radiotherapeutic methods	2	1	1			2		Examination progress grade +	Katalin Zámbo
Genetic toxicology	1	1				1		Examination	Csaba Varga
Theoretical and clinical aspects of neuroendocrine experiments	1	1					1	Examination	Valér Csernus
Archeogenetics	1	1					1	Examination	István Ember
Population genetics	1	1					1	Examination	István Ember
Inborn errors of metabolism	2	1	1				2	Examination	Tamás Decsi
Theory and practice of evidence based medicine	1	1					1	Examination	Tamás Decsi
Total credit	60	35	25						

Additional Elective Courses	Total credits (hrs/wk)	Credit L	Credit S/P	I	II	III	IV	Examination	Co-ordinators
Communication in science	2	1	1				2	Progress grade	Péter Balogh
Intellectual property law	3	2	1				3	Examination	Zsolt György Balogh
Marketing in biotechnology	3	2	1			3		Examination	Gábor Pauler
Global business strategies	1	1					1	Progress grade	Péter Németh
<i>Total credit</i>	<i>12</i>	<i>8</i>	<i>4</i>						