

Biology MSc

Molecular, Immuno- and Microbiology Specialisation

University Of Szeged, Faculty of Science and Informatics, Institute of Biology

Program Outline

Abbreviations:

CE – compulsory elective; **l** – lecture; **pr** – practical; **s** – seminar; **cr** – credit

field/subject <i>responsible professor</i>	semester				credits	evaluation
	1.	2.	3.	4.		
	number of classroom hours/semester					
Compulsory courses						
Biomathematics and biostatistics <i>Zsolt Péntzes PhD</i>	30 pr				3 cr	practical grade
Molecular biology - from genes to genomes <i>Bodai László PhD</i>	30 l				2 cr	exam
Separation techniques <i>András Szekeres PhD</i>	30 l				2 cr	exam
Advanced genetics <i>Rita Sinka PhD</i>	30 l				2 cr	exam
Molecular medicine <i>Károly Gulya PhD, DSc</i>	30 l				2 cr	exam
Molecular plant physiology <i>Attila Fehér PhD, DSc</i>	30 l				2 cr	exam
Industrial biotechnology <i>Kornél Kovács PhD, DSc</i>	30 l				2 cr	exam

field/subject <i>responsible professor</i>	semester				credits	evaluation
	1.	2.	3.	4.		
	number of classroom hours/semester					
Advanced microbiology 1 <i>Csaba Vágvölgyi PhD, DSc</i>	30 1				2 cr	exam
Advanced microbiology seminar <i>Ilona Pfeiffer PhD</i>	30 s				2 cr	practical grade
Scientific literature sources and databases C <i>Attila Pécsváradi PhD</i>	30 1				2 cr	exam
Advanced genetics - laboratory practicals <i>Rita Sinka PhD</i>		60 pr			6 cr	practical grade
Gene technology 1 <i>László Bodai PhD</i>		30 1			2 cr	exam
Macromolecule design and manipulation – laboratory practicals <i>Zoltán Villányi PhD</i>		60 pr			6 cr	practical grade
Molecular biotechnology <i>Gábor Rákhely PhD</i>		30 1			2 cr	exam
Advanced microbiology 2 <i>Csaba Vágvölgyi PhD, DSc</i>		30 1			2 cr	exam
Advanced microbiology practicals 1 <i>Miklós Takó PhD</i>		60 pr			6 cr	practical grade

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	number of classroom hours/semester					
Bioinformatics <i>Péter Kós PhD</i>			30 1		2 cr	exam
Advanced molecular biology: qualitative and quantitative analysis of macromolecules <i>László Bodai PhD</i>			30 1		2 cr	exam
Cell and tissue cultures: theory and practice <i>Károly Gulya PhD, DSc</i>			60 pr		6 cr	practical grade
Applied molecular biotechnology <i>Gábor Rákhely PhD</i>			30 pr		3 cr	exam
Advanced immunology <i>Attila. Gácsér PhD DSc</i>			30 1		2 cr	exam
Tumourbiology <i>Imre Boros PhD, DSc</i>				30 1	2 cr	exam
Bioinformatics – laboratory practical <i>Péter Kós PhD</i>				30 pr	3 cr	practical grade
Gene technology 2 <i>Attila Fehér PhD, DSc</i>				30 1	2 cr	exam

field/subject responsible professor	semester				credits	evaluation
	1.	2.	3.	4.		
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Thesis project						
Research project - thesis work in biochemistry/ molecular biology 1-2 CE <i>László Bodai PhD</i>			180 pr	180 pr	30 cr	practical grade, thesis defence, final exam
Research project - thesis work in biotechnology 1-2 CE <i>Gábor Rákhely PhD</i>			180 pr	180 pr	30 cr	practical grade, thesis defence, final exam
Research project - thesis work in cell biology/ neurobiology 1-2 CE <i>Károly Gulya PhD, DSc</i>			180 pr	180 pr	30 cr	practical grade, thesis defence, final exam
Research project - thesis work in genetics 1-2 CE <i>Rita Sinka PhD</i>			180 pr	180 pr	30 cr	practical grade, thesis defence, final exam
Research project - thesis work in microbiology 1-2 CE <i>Csaba Vágvölgyi, PhD, DSc</i>			180 pr	180 pr	30 cr	practical grade, thesis defence, final exam
Research project - thesis work in plant biology 1-2 CE <i>Attila Fehér PhD, DSc</i>			180 pr	180 pr	30 cr	practical grade, thesis defence, final exam

field/subject responsible professor	semester				credits	evaluation
	1.	2.	3.	4.		
	number of classroom hours/semester					
Elective courses						
21 credits must be chosen; offered courses: 17; offered credits: 41						
Current aspects of the pathology of the enteric nervous system <i>Mária Bagyánszki PhD</i>	30 1				2 cr	exam
History of microbiology <i>László Kredics PhD</i>	30 1				2 cr	exam
Molecular anthropology and palaeopathology <i>György Pálfi PhD</i>	30 1				2 cr	exam
Molecular plant physiology – laboratory practicals <i>Ágnes Gallé PhD</i>	30 pr				3 cr	practical grade
Neuroimmunology <i>Ádám Légrádi PhD</i>	30 1				2 cr	exam
Molecular ecology and evolution <i>Zsolt Péntzes PhD</i>		30 1			2 cr	exam
Molecular neurobiology <i>Ádám Légrádi PhD</i>		30 1			2 cr	exam
Industrial applications of microscopic fungi <i>Tamás Papp PhD</i>		30 1			2 cr	exam
Field practice <i>Attila Torma PhD</i>		2x8 pr			3 cr	practical grade
Advanced microbiology practicals 2 <i>Tamás Papp PhD</i>			60 pr		6 cr	practical grade
Biology of human pathogen protist parasites <i>Zsuzsanna Hamari PhD</i>				30 1	2 cr	exam

Cell communication in plants <i>Attila Fehér PhD, DSc</i>				30 1	2 cr	exam
Environmental biotechnology <i>Zsuzsanna Kolbert PhD</i>				30 1	2 cr	exam
Fluorescent methods in plant biology <i>Attila Ördög PhD</i>				30 1	2 cr	exam
Fluorescent methods in plant biology – laboratory practicals <i>Attila Ördög PhD</i>				30 pr	3 cr	practical grade
Plant–microbe interactions <i>László Kredics PhD</i>				30 1	2 cr	exam
Credits from compulsory subjects	240 1 30 pr, 30 s	120 1 180 pr	90 1 270 pr	60 1 210 pr	99 cr	18 exams, 9 practical grades, thesis defence, final exam
	21 cr	26 cr	30 cr	22 cr		
Credits form elective subjects					21 cr	
Total achievement in the program					120 cr	