

## STUDY PROGRAMME CURRICULUM BIOTECHNOLOGY

2023/2024

Name of study programme	<b>Biotechnology</b>
Programme characteristics	
Type	master's
Cycle	master
University of Ljubljana members	• Biotechnical Faculty, Jamnikarjeva ulica 101, 1000 Ljubljana, Slovenija

Year 1, obvezni

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0625721	Analytical Biotechnology	Aleš Podgornik, Blaž Cigič, Lea Pogačnik da Silva, Neža Čadež, Polona Jamnik	30	15	30	0	0	75	150	6	1st semester	no
2.	0625722	Industrial Biotechnology	Hrvoje Petković	20	10	45	0	0	75	150	6	1st semester	no
3.	0625723	Industrial Biochemical Engineering	Aleš Podgornik, Hrvoje Petković	40	0	15	0	0	95	150	6	1st semester	no
4.	0625724	Biotechnology of drug substances	Borut Štrukelj, Tomaž Bratkovič	30	15	55	0	0	100	200	8	2nd semester	no
5.	0625725	Environmental Biotechnology	Domen Leštan, Ines Mandić Mulec, Marjana Regvar	30	15	55	0	0	100	200	8	2nd semester	no
6.	0625726	Plant breeding by Biotechnological methods	Jana Murovec, Jernej Jakše	30	15	55	0	0	100	200	8	2nd semester	no

7.	0625665	Elective Subjects		0	0	0	0	0	150	150	6	1st semester	yes
8.	0625728	Fiziologija po izbiri		30	15	30	0	0	75	150	6	2nd semester	yes
9.	0625729	Physical Chemistry of Biomolecular Systems	Jurij Lah	45	0	30	0	0	75	150	6	1st semester	no
Total				255	85	315	0	0	845	1500	60		

### System biotechnology (direction/track)

#### Year 2, Obvezni predmeti

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0625714	Protection of intellectual property	Mojca Benčina	30	0	5	0	0	40	75	3	1st semester	no
2.	0625687	Entrepreneurship	Aleš Kuhar	20	10	10	0	0	35	75	3	1st semester	no
3.	0625716	System Biotechnology	Hrvoje Petković	30	10	35	0	0	75	150	6	1st semester	no
4.	0625717	Design of Bioproducts	Hrvoje Petković	30	10	35	0	0	75	150	6	1st semester	no
5.	0625718	Mathematics 2	Petar Pavešič	30	0	45	0	0	75	150	6	1st semester	no
6.	0625665	Elective Subjects		0	0	0	0	0	150	150	6	1st semester	yes
7.	0625692	M. Sc. Thesis		0	45	0	0	330	375	750	30	2nd semester	no
Total				140	75	130	0	330	825	1500	60		

### General biotechnology (direction/track)

#### Year 2, obvezni

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0625686	Protection of Intellectual Property	Mojca Benčina	30	0	5	0	0	40	75	3	1st semester	no
2.	0625687	Entrepreneurship	Aleš Kuhar	20	10	10	0	0	35	75	3	1st semester	no

3.	0625688	Metabolic Engineering of Microorganisms	David Stopar, Hrvoje Petković, Ines Mandić Mulec	30	10	35	0	0	75	150	6	1st semester	no
4.	0625689	Immuno-technologies	Mojca Narat	30	10	35	0	0	75	150	6	1st semester	no
5.	0625690	Genomics	Tanja Kunej	30	15	30	0	0	75	150	6	1st semester	no
6.	0625665	Elective Subjects		0	0	0	0	0	150	150	6	1st semester	yes
7.	0625692	M. Sc. Thesis		0	45	0	0	330	375	750	30	2nd semester	no
		Total		140	90	115	0	330	825	1500	60		

### Izbirni predmeti

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0625693	Biomass and Secondary Metabolites	Hrvoje Petković	30	10	35	0	0	75	150	6	1st semester	yes
2.	0625694	Human Physiology	Marko Kreft	20	0	25	0	0	30	75	3	1st semester	yes
3.	0625695	Microbial Physiology	Ines Mandić Mulec	30	15	30	0	0	75	150	6	1st semester	yes
4.	0625696	Plant Physiology	Marjana Regvar	30	15	30	0	0	75	150	6	1st semester	yes
5.	0625697	Animal Physiology	Gregor Majdič	30	15	30	0	0	75	150	6	1st semester	yes
6.	0625698	Nature conservation Biotechnology	Romana Marinšek Logar	20	10	45	0	0	75	150	6	1st semester	yes
7.	0625699	Therapeutic Biotechnology	Elvira Maličev	35	5	35	0	0	75	150	6	1st semester	yes
8.	0625700	Biotechnology of plant microbe interactions	Denis Kutnjak, Marjana Regvar	30	15	30	0	0	75	150	6	1st semester	yes

9.	0625703	Molecular evolution	Gorazd Avguštin, Peter Trontelj	30	0	45	0	0	75	150	6	1st semester	yes
10.	0625705	Up and downstream processing in biotechnology	Aleš Podgornik	30	10	35	0	0	75	150	6	1st semester	yes
11.	0625706	Plant secondary metabolites	Dea Baričević	25	5	10	0	0	35	75	3	1st semester	yes
12.	0625707	Applied Biostatistics	Damijana Kastelec	45	5	25	0	0	75	150	6	2nd semester	yes
13.	0625708	Molecular mechanisms of toxicity	Damjana Drobne, Tom Turk	45	0	15	0	15	75	150	6	1st semester	yes
14.	0625709	Information science and communication	Tomaž Bartol	25	10	40	0	0	75	150	6	1st semester	yes
15.	0625710	Proteomics	Polona Jamnik	20	5	15	0	0	35	75	3	1st semester	yes
16.	0625711	Bioeconomy	Luka Juvančič	20	10	0	0	7	40	77	3	1st semester	yes
17.	0625712	Bacteriophages	Matej Butala	30	0	15	0	0	30	75	3	1st semester	yes
18.	0625713	Development of molecular genetic diagnostic methods	Tanja Kunej	30	10	10	0	10	15	75	3	1st semester	yes
19.	0640099	Molecular and cellular basis of neurodegeneration	Boris Rogelj	25	5	10			35	75	3	1st semester	yes
20.	0642685	Molecular mechanisms of aging	Polona Jamnik	25	20	0	0	0	30	75	3	1st semester	yes
		Total		575	165	480	0	32	1150	2402	96		