

Biochemical Engineering BSc Biotechnology Specialization

University of Szeged, Faculty of Science and Informatics, Institute of Biology
Program Outline

Abbreviations:

l – lecture; **p** – practical; **s** – seminar; **cr** – credit

field/subject <i>responsible professor</i>	semester							credits	evaluation
	1.	2.	3.	4.	5.	6.	7.		
	number of classroom hours/semester								
<i>Basic scientific knowledge</i>									
General Chemistry <i>István Szilágyi PhD</i>	28 l							2	exam
General Chemistry laboratory <i>Ágota Tóth PhD DSc</i>		28 p						2	practical grade
Organic Chemistry <i>Éva Frank PhD</i>	28 l							3	exam
Organic Chemistry laboratory <i>Éva Frank PhD</i>		28 p						2	practical grade
Physics for Engineers I. <i>Béla Hopp PhD DSc</i>	28 l							3	exam
Physics for Engineers I. practice <i>Judit Budai PhD</i>	28 p							2	practical grade
Physics for Engineers II. <i>Béla Hopp PhD DSc</i>		28 l						3	exam
Physics for Engineers II. practice <i>Judit Budai PhD</i>		28 p						2	practical grade
Basics of Biology <i>Attila Gácsér PhD DSc</i>	70 s							6	practical grade
Biochemistry <i>Mónika Kiricsi PhD</i>		42 l						3	exam
Biochemistry seminar <i>Mónika Kiricsi PhD</i>		14 s						2	practical grade
Biochemistry practice <i>Mónika Kiricsi PhD</i>			28 p					3	practical grade
Mathematics I. <i>Tamás Zoltán Szabó PhD</i>	28 l							4	exam

Mathematics I. practice <i>Tamás Zoltán Szabó PhD</i>	28 p							2	practical grade
Mathematics II. <i>Tamás Zoltán Szabó PhD</i>		28 1						4	exam
Mathematics II. practice <i>Tamás Zoltán Szabó PhD</i>		28 p						2	practical grade
<i>Basics of IT and mathematical statistics</i>									
Basics of Informatics <i>Tamás Németh PhD</i>	28 p							2	practical grade
Mathematical Statistics <i>Judit Nagy-György PhD</i>		28 s						2	practical grade
<i>Economic and human knowledge</i>									
Principles of Economics <i>Benedek Nagy PhD</i>	28 1							3	exam
Management <i>Márton Vilmányi PhD</i>						28 1		3	exam
<i>Basics of law</i>									
Economic Law <i>Samantha Joy Cheesman PhD</i>		28 1						3	exam
Protection of Intellectual Property <i>Kitti Bakos-Kovács PhD</i>		28 1						3	exam
<i>Quality management, engineering communication and safety</i>									
Quality Management <i>Krisztián Kis PhD</i>			28 1					3	exam
Engineering Communication and Behavior <i>Sándor Nagy PhD</i>			28 1					3	exam
Occupational Health and Safety <i>Zsolt István Benkő PhD</i>					28 1			3	exam
<i>Biochemical Engineering professional knowledge</i>									
Engineering Design Systems <i>István Péter Szabó PhD</i>		28 1						3	exam
Engineering Design Systems practice <i>István Péter Szabó PhD</i>		28 p						2	practical grade
Fundamentals of Mechanical Engineering			28 1					2	exam

<i>István Tibor Tóth CSc</i>									
Fundamentals of Mechanical Engineering practice <i>István Tibor Tóth CSc</i>			28 p					2	practical grade
Electrical Engineering <i>János Simon PhD</i>			28 1					2	exam
Chemical Engineering <i>Cecília Hodúr PhD DSc</i>			28 1					3	exam
Chemical Engineering Equipment <i>István Tibor Tóth CSc</i>					28 1			3	exam
Chemical Engineering Equipment practice <i>István Tibor Tóth CSc</i>					28 p			2	practical grade
Molecular Biology <i>László Bodai PhD</i>			42 1					3	exam
Molecular Biology seminar <i>László Bodai PhD</i>			14 s					2	practical grade
Molecular Biology practice <i>László Bodai PhD</i>				56 p				5	practical grade
Genetics <i>Rita Sinka PhD</i>			42 1					3	exam
Genetics seminary <i>Tibor Török PhD</i>			14 s					2	practical grade
Biophysical Chemistry <i>László Nagy PhD</i>			28 1					3	exam
Microbiology <i>Tamás Papp PhD DSc</i>				42 1				3	exam
Microbiology seminar <i>Tamás Papp PhD DSc</i>				14 s				2	practical grade
Microbiology practice <i>Tamás Papp PhD DSc</i>					56 p			5	practical grade
Bioprocess Engineering I. <i>Cecília Hodúr PhD DSc</i>				56 1				5	exam
Bioprocess Engineering I. practice <i>Cecília Hodúr PhD DSc</i>				28 p				2	practical grade

Bioprocess Engineering II. <i>Cecilia Hodúr PhD DSc</i>					28 l			3	exam
Bioprocess Engineering II. practice <i>Cecilia Hodúr PhD DSc</i>					28 p			2	practical grade
Experimental Method-Biometrics <i>László Csizmadia PhD</i>				28 l				3	exam
Process Control <i>László Gogolák PhD</i>				28 s				3	practical grade
Biotechnology <i>László Norbert Galgóczi PhD</i>					42 l			3	exam
Biotechnology seminar <i>Zoltán Bagi PhD</i>					14 s			2	practical grade
Renewable Energy Sources <i>Henrik Haspel PhD</i>					28 l			3	exam
Energy Management <i>Zsolt István Benkő PhD</i>						28 l		3	exam
Technical Fluid Dynamics and Thermodynamics <i>István Péter Szabó PhD</i>						42 l		4	exam
Technical Fluid Dynamics and Thermodynamics practice <i>István Péter Szabó PhD</i>						14 p		2	practical grade
<i>Applied Biotechnology specialization</i>									
Industrial Bioconversion and Fermentation Methods <i>Zoltán Bagi PhD</i>					28 p			2	practical grade
Data Analysis and Modeling in Biotechnology <i>Tamás Papp DSc</i>						28 p		3	practical grade
Biotechnology practice <i>Krisztián Laczi PhD</i>						56 p		4	practical grade
Plant Biotechnology I. <i>Zsuzsanna Kolbert PhD</i>					28 l			3	exam
Plant Biotechnology II.						28 l		3	exam

<i>Jolán Csiszár PhD</i>									
From organic agriculture to application of genetically modified plants <i>Jolán Csiszár PhD</i>						28 l		3	exam
Synthetic Biology <i>Nóra Igaz PhD</i>					28 l			3	exam
Microbial Physiology <i>Miklós Takó PhD</i>						28 l		3	exam
Genetics practice <i>László Kozma-Bognár PhD</i>							42 p	3	practical grade
Microbial Production of Secondary Metabolites <i>Tamás Papp PhD DSc</i>							28 l	3	exam
Separation Operations in Bioengineering <i>Cecilia Hodúr PhD DSc</i>							28 l	3	exam
<i>Thesis work</i>									
Thesis work I						70 p		5	project reports, final exam
Thesis work II							140 p	10	
<i>Elective courses</i>									
								10	exam, practical grade
<i>Professional practice</i>									
Professional practice							240 p (6 weeks: 6x40)	0	reports
Hours and credits from all subjects	140 l, 70 s, 84 p	182 l, 42 s, 140 p	224 l, 28 s, 84 p	126 l, 42 s, 84 p	238 l, 14 s, 140 p	210 l, 98 p, 70 thesis work	56 l, 98 p, 140 thesis work	210	38 exams, 33 practical grades
	27 cr	33 cr	31 cr	23 cr	37 cr	36 cr	23 cr		