

1. Introduction to internet resources in biochemical research.			4				4	6	Self-study of reference material, preparing for assessment.
2. Classical experimental methods in biochemistry still widely used in laboratories today.			4				4	6	
3. Modern biochemistry methods – from high throughput screening to single molecules approach.			4				4	6	
4. Introduction to experimental work: gathering information and setting up an experiment.			4				4	6	
5. Laboratory work. Enzyme purification by affinity column chromatography, characterization and analysis.			4		16		20	12	Searching and reading of experimental problem relevant information, experimental data processing, lab reports preparation.
6. Laboratory work. Enzyme reaction kinetics and connections with mechanism.			4		12		16	10	
7. Lab work. Functionalization of pyridine derivatives with intact bacterial cells.			4		8		12	8	
Total			28		36		64	54	

Assessment strategy	Weight%	Deadline	Assessment criteria
Written test	25	During the autumn semester	Written test consists of 4 problems with simulated experimental data. Students have to explain experiment objectives, interpret results and draw appropriate conclusions. Each problem evaluated 2.5 points.
Written reports of all experimental works	75	During the autumn semester	For each of three experimental works students prepare report with concise literature analysis, used methods, results analysis and conclusions.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link
Compulsary reading				
D. L. Nelson, M. M. Cox. .	2017	Lehninger Principles of Biochemistry.	7-th ed.	H. Freeman and company
D. R. Appling, S. J. Anthony-Cahill, Ch. K. Mathews	2016	Biochemistry. Concepts and Connections	1-st ed.	Pearson Education, Inc.
R.F. Boyer	2012	Biochemistry laboratory : modern theory and techniques	2-nd ed.	Pearson Education, Inc.
Optional reading				
Jon Lorsch (Eds.)	2014	Laboratory Methods in Enzymology_ Protein Part C	1-st ed.	Elsevier Inc. Academic Press.
H. Bisswanger	2017	Enzyme Kinetics Principles and Methods	3-th ed.	Wiley-VCH Verlag GmbH & Co.