1.	**Field of study**	**Biotechnology**
2.	Academic year of entry	2016/2017 (winter term), 2017/2018 (winter term)
3.	Level of qualifications/degree	first-cycle studies
4.	Degree profile	general academic
5.	Mode of study	full-time

Module: Enzymology

Module code: 1BT_37

1. Number of the ECTS credits: 4

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
1BT_37_1	Student defines the basic concepts and processes connected with enzymes	1BT_W05 1BT_W07	5 5
1BT_37_2	Student plans experiments allow to characterization of enzymes	1BT_W14	5
1BT_37_3	Student analyzes obtained results and forms proper conclusions	1BT_W05	5
1BT_37_4	Student determines enzyme analysis conditions	1BT_U01	4
1BT_37_5	Student constructs without help experiments with usage enzymatic methods	1BT_U01	4
1BT_37_6	Student reconsiders thesis depending on the obtained results	1BT_U03 1BT_U12	4 4
1BT_37_7	Student adapts to difficulties emergent during experiment	1BT_K03	4
1BT_37_8	Student solves problems in the group connected with enzymology	1BT_K06	4

3. Module description

Description	The module provides broadened knowledge about structure and characterization of enzymes. The course focuses also on the influence of chemical and physical factors on the activity of enzymes. Special attention will be paid to induction of enzyme synthesis in Pro- and Eucaryota, the role of coenzymes and inhibitors in enzymes activity. The module describes also metabolic blocks and detoxification reaction. Module available at the semester 4, 5 or 6.
Prerequisites	Basic knowledge of chemistry, biochemistry, mathematics and statistic.

4. Assessment of the learning outcomes of the module			
code	**type**	**description**	**learning outcomes of the module**
1BT_37_w_1	Continuous assessment of practical skills	Evaluation of following the rules of laboratory work by a student, continuous evaluation of student skills in the use of laboratory equipment, evaluation of the ability to perform experiments according to the protocol, analyses of the results, drawing conclusions	1BT_37_2, 1BT_37_4, 1BT_37_5, 1BT_37_7, 1BT_37_8
1BT_37_w_2	Laboratory report	Preparation of written laboratory report presenting the results and discussion of laboratory experiments.	1BT_37_1, 1BT_37_3, 1BT_37_6
1BT_37_w_3	Final test	Short oral presentation describing set task and short questions test.	1BT_37_1, 1BT_37_3, 1BT_37_6
1BT_37_w_4	Written exam	Written work verifying the level of understanding of the information acquired during the lectures and labs. One condition for admission of a student to the written exam is to pass the laboratory classes.	1BT_37_1, 1BT_37_4, 1BT_37_5

5. Forms of teaching						
code	**form of teaching**			**required hours of student's own work**		**assessment of the learning outcomes of the module**
	type	**description (including teaching methods)**	**number of hours**	**description**	**number of hours**	
1BT_37_fs_1	lecture	Multimedia lecture	15	Working with the textbook, supplementary reading scientific articles, including the English-speaking	25	1BT_37_w_4
1BT_37_fs_2	laboratory classes	Independent work in biochemical laboratory, performing experiments on the basis of the instructions, the analysis of the results opportunity for consultation: Individual work with students on the preparation of reports on laboratory work	45	Preparation for laboratory tasks based on a recommended literature	55	1BT_37_w_1, 1BT_37_w_2, 1BT_37_w_3