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

Module: Genetic and environmental components in human disease

Module code: 2BT_E_37

1. Number of the ECTS credits: 2

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
2BT_E_37_1	Student possesses knowledge about human genome	2BT_E_W02	5
2BT_E_37_2	Student understands the rules of planning the experiments in genomics including the bioethical aspects.	2BT_E_W03	5
2BT_E_37_3	Student knows basic and advanced methods of genome, transcriptome and proteome analysis.	2BT_E_W07	5
2BT_E_37_4	Student can describe the methods of DNA sequence analysis in respect of the clinical course of disease.	2BT_E_U01	5
2BT_E_37_5	Student can analyze and critically evaluate the results of published research in medical biology.	2BT_E_U06 2BT_E_U10	5 5
2BT_E_37_6	Student searches for scientific literature in databases and can draw conclusions from research communications.	2BT_E_K10 2BT_E_U09	5 5
2BT_E_37_7	Student can evaluate the weak points of applied analytical methods.	2BT_E_K06	5
2BT_E_37_8	Student has in habit using accessible sources of scientific information and using the critical deduction in solving practical problems.	2BT_E_K03 2BT_E_K05	5 5

3. Module description

Description	Module gives the specialist knowledge about medical genetics of common human maladies emphasizing the interactions among the genome, environment and life style. It acquaints student with human genome, transcriptome, proteome and methods of their analysis and also with the methods of the human genome damage analysis connected with the environmental exposure to genotoxic factors including all limitations and bioethical aspects. The seminar will excellence the skills in analysis and interpretation of the results of the experiments published in English scientific articles.
Prerequisites	Knowledge at Bachelor’s level of basic and molecular genetics.

4. Assessment of the learning outcomes of the module			
code	**type**	**description**	**learning outcomes of the module**
2BT_E_37_w1	Colloquium	Written colloquium verifying the knowledge of topics presented during lectures.	2BT_E_37_1, 2BT_E_37_2, 2BT_E_37_3
2BT_E_37_w2	Preparation of presentation	Evaluation of the ability to present the scientific article, discussion and interpretation of the scientific results.	2BT_E_37_4, 2BT_E_37_5, 2BT_E_37_6, 2BT_E_37_7, 2BT_E_37_8

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**	
2BT_E_37_fs1	lecture	Lecture presenting the selected topics as a multimedia presentation.	10	Work with the manual and complementary English research articles.	15	2BT_E_37_w1
2BT_E_37_fs2	seminar	Power Point presentation (by the student) of the selected research article and discussion about the presented results and discussion. Possibility of consultations: Discussion about the problems selected by student, help with the scientific literature and Internet databases to prepare the presentation.	10	Preparation of the presentation using current English research articles.	15	2BT_E_37_w1, 2BT_E_37_w2