SYLLABUS – A COURSE DESCRIPTION

I. General information

1. Course name: **Human molecular genetics**
2. Course code: **01-HUMMOLGEN**
3. Course type (compulsory or optional): **compulsory**
4. Study programme name: **Biotechnology**
5. Cycle of studies (1st or 2nd cycle of studies or full master's programme): **2nd cycle of studies**
6. Educational profile (general academic profile or practical profile): **general academic profile**
7. Year of studies (if relevant): **II**
8. Type of classes and number of contact hours (e.g. lectures: 15 hours; practical classes: 30 hours):
   lectures: 30 hours
   practical classes: 30 hours
   conversatorium: 15 hours
9. Number of ECTS credits: **6**
10. Name, surname, academic degree/title of the course lecturer/other teaching staff:
    prof. dr hab. Joanna Wesoły, j.wesoly@amu.edu.pl
11. Language of classes: **English**
12. Online learning – yes (partly – online / fully – online) / no: **NA**

II. Detailed information

1. Course aim (aims)
   Introduction of basic concepts of genetics in relation to human diseases and inheritance
2. Pre-requisites in terms of knowledge, skills and social competences (if relevant)
   Basic knowledge of statistical tests, likelihood calculation-mathematics
3. Course learning outcomes (EU) in terms of knowledge, skills and social competences and their reference to study programme learning outcomes (EK)

Course learning outcome symbol (EU)	On successful completion of this course, a student will be able to:	Reference to study programme learning outcomes (EK)
EU_01	list basic topics, issues and problems connected to analysis of traits and diseases in humans	BT_W01, BT_W04, BT_W08, U_03
EU_02	Design, perform and analyze results of experiments dealing with identification of genes underlying monogenic and polygenic disease,	BT_W05, BT_W01, BT_W04, U01
EU_03	critically analyze scientific papers written in English, prepare and present scientific presentation and participate in discussion	BT_W04, BT_K01, BT_U04

4. Learning content with reference to course learning outcomes (EU)

Course learning content	Course learning outcome symbol (EU)
Modes of inheritance	EU_01, EU_02
LiBTage analysis for monogenic traits	EU_01, EU_02
Multifactoral inheritance and common diseases	EU_01, EU_02
Genetics and Genomics of human population	EU_01, EU_02
Genetic epidemiology	EU_01, EU_02
Genome-Wide association studies	EU_01, EU_02
Cancer Genetics	EU_01
Human genome analysis- history and new developments	EU_01

5. Reading list

1. Vogel, Motulsky: Human Genetics, Springer, ,
2. McDonald, Ford, Casson: Molecular Biology of cancer, Advanced Text, ,

III. Additional information

1. Teaching and learning methods and activities to enable students to achieve the intended course learning outcomes (please indicate the appropriate methods and activities with a tick or/and suggest different methods)

Teaching and learning methods and activities	
Lecture with a multimedia presentation	X
Interactive lecture	X
Problem – based lecture	
Discussions	X
Text-based work	
Case study work	
Problem-based learning	
Educational simulation/game	
Task – solving learning (eg. calculation, artistic, practical tasks)	X
Experiential work	X
Laboratory work	X
Scientific inquiry method	
Workshop method	
Project work	
Demonstration and observation	
Sound and/or video demonstration	
Creative methods (eg. brainstorming, SWOT analysis, decision tree method, snowball technique, concept maps)	
Group work	

2. Assessment methods to test if learning outcomes have been achieved (please indicate with a tick the appropriate methods for each LO or/and suggest different methods)

Assessment methods	Course learning outcome symbol		
	EU_1	EU_2	EU_3
Written exam	X	X	
Oral exam			
Open book exam			
Written test			
Oral test			
Multiple choice test	X	X	
Project			
Essay			
Report			
Individual presentation			X
Practical exam (performance observation)			
Portfolio			

1. Student workload and ECTS credits

Activity types	Mean number of hours spent on each activity type
Contact hours with the teacher as specified in the study programme	75
Preparation for classes	20
Reading for classes	15
Essay / report / presentation / demonstration preparation, etc.	20
Project preparation	
Term paper preparation	
Exam preparation	20
Total hours	150
Total ECTS credits for the course	6

4. Assessment criteria according to AMU in Poznan grade system

Very good (bdb; 5,0):): all elements of the prsentation prepared on time, in accordance with the given principles, student correctly solves min. 89% of tasks in a written exam /test

Good plus (+db; 4,5):): generally elements of the presentation prepared on time, in accordance with the given principles, student correctly solves 83-88% of tasks in a written exam/test

Good (db; 4,0): generally elements of the presentation prepared on time, in accordance with the given principles, non-compliance with the given rules, student correctly solves 74-82% of tasks in a written exam/test

Satisfactory plus (+dst; 3,5): some elements of the presentation prepared with the significant delay or without accordance with the given principles, student correctly solves 69-73% of tasks in a written exam/test

Satisfactory (dst; 3,0): some elements of the presentation prepared with the significant delay or without accordance with the given principles, student correctly solves 65-68% of tasks in a written exam/test

Unsatisfactory (ndst; 2,0): no completed presentation, student correctly solves less than 64% of tasks in a written exam/test