

Subject card

Subject name and code	Human genetics, PG_00154714						
Field of study	Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject			2024/2025	
Education level	postgraduate studies		Subject group			Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study	
Mode of study	full-time studies		Mode of delivery			at the university	
Year of study	1		Language of instruction			Polish	
Semester of study	2		ECTS credits			3.0	
Learning profile	academic		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Jakóbkiewicz-Banecka				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		4.0		41.0	75
Subject objectives	1. Introduction of new concepts in human genetics. 2. Understanding and comprehending disorders in the inheritance patterns of Mendelian traits and polygenic traits. 3. Familiarization with the issues of epigenetic control of gene expression. 4. Acquaintance with the methodology of prenatal and preimplantation diagnostics. 5. Understanding the role of molecular diagnostics in assessing the risk of genetically determined diseases. 6. Learning the role of human genome research in criminalistics and forensic medicine. 7. Understanding the role of factors that may complicate inheritance patterns.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMU2_W05] the graduate knows and understands the dynamic development of the biological sciences and new research directions and disciplines	Recognizes the dynamic development of biological sciences in areas such as genomics and personalized medicine based on genetic knowledge; Possesses knowledge of currently discussed issues related to bioethics and the application of biological achievements in the molecular diagnosis of diseases.	[SW4] test/exam - oral or written
	[BIOLMU2_K04] the graduate is prepared to correctly identify and resolve dilemmas related to the profession of biology	Correctly identifies and resolves dilemmas related to the practice of the biologist profession.	[SK4] test/exam - oral or written
	[BIOLMU2_U07] the graduate is able to critically confront biological information from a variety of sources and, on this basis, draw valid conclusions	Critically confronts information about human genetics from various available sources and draws justified conclusions based on this.	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written
	[BIOLMU2_U02] the graduate is able to make proficient use of the scientific literature of the biological speciality studied	Proficiently utilizes scientific literature in the field of human genetics.	[SU4] test/exam - oral or written
	[BIOLMU2_W04] the graduate has an in-depth knowledge of the chosen specialisation in the biological sciences	Possesses in-depth knowledge in the field of human genetics.	[SW4] test/exam - oral or written
	[BIOLMU2_K07] the graduate is ready to systematically update biological knowledge and information on its practical applications	Analyzes knowledge in the field of genetics and is able to identify its practical applications.	[SK1] oral statement/conversation/discussion [SK4] test/exam - oral or written
Subject contents	- Disorders of Mendelian inheritance patterns. - Epigenetic control of gene expression. - Genetic polymorphism. - Mitochondrial diseases. - Polygenic inheritance. - Prenatal and preimplantation diagnostics. - Teratogenesis and mutagenesis. - Diagnosis of genetic diseases - application of molecular methods in the diagnosis of genetically determined diseases. - Molecular diagnostics in forensic medicine and criminalistics. - Genetic counseling.		
Prerequisites and co-requisites	Basic knowledge in the field of human genetics and genetic diseases. Understanding the specifics of the human genome and the methods used in human genetics; knowledge of the basics of genetic disorders.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test exam	51.0%	100.0%
Recommended reading	Basic literature	- Jorde LB, Carey JC, Bamshad MJ, Genetyka medyczna, red. wyd. polskiego Maciej Borowiec, wydanie 6, Edra Urban&Partner, 2021. - Genetyka medyczna i molekularna, red. J. Bal, Warszawa, Wydawnictwo Naukowe PWN, 2017. - Tobias E. S., Connor M., Ferguson-Smith M., Genetyka medyczna, red. wyd. pol. A. Latos-Bieleńska, Warszawa, PZWL Wydawnictwo Lekarskie, 2013. - Lucchesi JC. Epigenetyka. PWN, Warszawa, 2022. - Drewa G, Ferenc T. Genetyka medyczna, Wrocław, 2011.	

	Supplementary literature	1. Fletcher H, Hickey I, Krótkie wykłady: Genetyka, PZWL 2021. 2. Węgleński P. Genetyka molekularna, wydanie VI, PWN, 2020. 3. Genetyka kliniczna nowotworów, red. J. Lubiński, Szczecin, Print Group, 2018. 4. Medycyna personalizowana, red. A. Fronczak, Warszawa, Oficyna Wydawnicza Warszawskiego Uniwersytetu Medycznego, 2016. 5. Brown T. A., Genomy, Warszawa, Wydawnictwo Naukowe PWN, 2019.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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