University of Gdańsk

Subject card

Subject name and code	Behavioral genetics, PG_00203451		
Field of study	Medical Biology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor's 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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Neurobiology -> Department of Animal and Human Physiology -> Faculty of Biology -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Wojciech Glac	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	3.0	32.0	50

Subject objectives

- Understanding of the genetic foundations of human behavior.
- Knowledge and understanding of the neurogenetic basis of interindividual and sex differences in the context of differential susceptibility to criminal behavior.
- Knowledge of the issue of genotypeenvironment correlation and interaction.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_U10] learns independently and in a focused manner, and is able to set priorities and organise the work of a small team, as well as work effectively within a team	Expands their knowledge of behavioural genetics through focused, independent learning.	[SU4] test/exam - oral or written
[BIOLMEDL3_W08] has an advanced understanding of the development and current state of knowledge and the latest trends in medical biology; indicates their relationship with other disciplines of natural or medical sciences	Describes the development and main directions of current research in behavioural genetics and its links with psychology and psychiatry.	[SW4] test/exam - oral or written
[BIOLMEDL3_K02] is aware of their own limitations and knows when to turn to experts who have the resources, technologies and knowledge to provide certainty on a given topic, save time and avoid mistakes	Is aware of the limitations of their knowledge of behavioural genetics and knows when to consult experts.	[SK1] oral statement/conversation/ discussion
[BIOLMEDL3_K01] is aware of the importance of lifelong learning and keeping up to date with developments in medical biology and related disciplines, and applies this knowledge to the planning and design of professional activities	Understands the need for lifelong learning and for keeping their knowledge of behavioural genetics up to date.	[SK1] oral statement/conversation/ discussion
[BIOLMEDL3_W01] has an advanced knowledge and understanding of the differences in the structure and function of prokaryotic and eukaryotic cells, the structure and properties of the various types of biological macromolecules, the molecular mechanisms of basic metabolic pathways and the flow of genetic information, and the sources of variation in organisms; explains the laws of inheritance	Explains the basic principles of inheritance and the genetic sources of variation in traits and behaviour.	[SW4] test/exam - oral or written
[BIOLMEDL3_K03] is ready to form opinions about individuals, social groups, and the organization of individual and team work; independently undertakes and initiates simple research activities	Formulates opinions on the behaviour of individuals and social groups, taking genetic and environmental influences into account.	[SK1] oral statement/conversation/ discussion
[BIOLMEDL3_W07] has advanced knowledge of methods for assessing health status, as well as the symptoms and causes of selected disorders and pathological changes; understands the basics of a healthy lifestyle and is able to explain and promote them	Describes the contribution of genetic and environmental factors to the development of selected mental disorders.	[SW4] test/exam - oral or written

Subject contents

Theoretical foundations of behavioral genetics and research on personality development. Behavioral genetics in historical and philosophical perspective. Research methods in behavioral genetics. The contribution of genetic and environmental factors to the overall phenotypic variability of traits or behaviors. Genotypeenvironment interaction and correlation. The role of experience and learning in shaping behavior. Heritability of personality traits. Epigenetics in behavioral genetics. Experimental research on the mechanisms of personality development and behavioral genetics. Genetic studies in psychiatry and psychology. Genetic determinants of personality disorders, anxiety and stress-related disorders, addictions, and schizophrenia. Personality research molecular methods (dopamine receptor gene polymorphism, serotonin transporter gene). Research methods in behavioral genetics twin studies, family analyses, adoption method. Additive and non-additive variance. Molecular studies of temperament.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
discussions	51.0%	20.0%
problem-based task	51.0%	20.0%
quizzes	51.0%	60.0%

Recommended reading	Basic literature	• McGuffin P. 2001. Genetyka zachowania. PWN. • Oniszczenko W. 2005. Genetyczne podstawy ludzkich zachowań. Przegląd badań w populacji polskiej. Gdańskie Wydawnictwo Psychologiczne. • Sadowski B. 2005. Biologiczne mechanizmy zachowania się ludzi i zwierząt. PWN.
	Supplementary literature	• Dragan W.Ł., Oniszczenko W. 2008. Genetyka zachowania w psychologii i psychiatrii. Wydawnictwo Naukowe Scholar. • Oniszczenko W. 2000. Elementy genetyki zachowania. [W:] Strelau J. (red.). Psychologia. Podręcznik akademicki. Podstawy psychologii (t. 1, s. 205 - 226). Gdańsk: Gdańskie Wydawnictwo Psychologiczne. • Zagrodzka J., Górska T., Grabowska A. (red.) 2006. Mózg a zachowanie. PWN. • Oniszczenko W. 1997. Genetyczne podstawy temperamentu. Warszawa, Oficyna Wydawnicza Wydziału Psychologii Uniwersytetu Warszawskiego.
	eResources addresses	
Example issues/ example questions/ tasks being completed	• discussions - topic: Which behavioral traits resist explanation from a neurogenetic perspective? • tests (multiple-choice question): Indicate gene variants associated with increased susceptibility to aggressive behavior. • problem-based task - topic: How much given person behavior is dependent on genes	
Work placement	Not applicable	

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