University of Gdańsk

Subject card

Subject name and code	Genetic modification of animals, PG_00192257		
Field of study	Biotechnology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master'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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Patrycja Koszałka	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	0.0	20.0	20
	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	20	5.0	25.0	50

Subject objectives	The aim of the course is to gain in-depth understanding of issues related to animal transgenesis. During the course, the student will learn the safety rules related to working with GMO organisms in the context of the risks associated with working with these organisms, learn how genetic modification of animals may affect human and animal health, the environment and society, as well as related ethical issues and will expand their knowledge and understanding of techniques and methods used in animal transgenesis.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOTECHMU2_W02] The graduate has in-depth knowledge of the application of laboratory techniques and methods of genetic modification of cells and organisms and their use in biotechnology.	The student knows laboratory techniques and genetic modification methods related to animal transgenesis to an extended extent, as well as the application of the obtained GMOs.	[SW2] presentation/project/paper/ report
[BIOTECHMU2_W06] The graduate has in-depth knowledge and understands the risks associated with conducting laboratory works, including those resulting from working with infectious material, GMOs and GMMs.	The student knows the safety rules related to working with GMO organisms and the risks associated with working with these organisms.	[SW4] test/exam - oral or written
[BIOTECHMU2_K06] The graduate understands the impact of biotechnological achievements on health and quality of life and is aware of their risks, is able to critically and responsibly communicate them to society and engage in pro-social activities.	The student understands the impact of genetic modification of animals on the health and quality of life of animals and humans, on society and the environment, their positive aspects and threats, and is able to present them critically.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[BIOTECHMU2_K04] The graduate understands the ethical dilemmas and risks associated with conducting scientific research and introducing highly advanced technologies using biotechnology; appreciates the importance of intellectual property; and acts ethically, reflecting on one's own worldview, attitudes and professional responsibility.	The student understands the ethical dilemmas and threats related to the impact of genetic modification of animals on human health, society and the environment, as well as the principles of ethical behavior in this area.	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written [SK5] implementation of a problem task [SK7] entries and opinions in the internship diary [SK8] observation of student's independent or team work

Subject contents

1. Introduction to working with transgenic animals: legal regulations regarding genetically modified animals, including those related to the biosafety of GMOs.

2. Analysis of selected general issues in animal transgenesis in terms of laboratory techniques and extended genome modification methods (genetic modification of insects, fish, birds and other organisms), along with the presentation of aspects related to the use of GMOs and the associated threats and ethical dilemmas.

3. Analysis of selected detailed issues related to animal transgenesis, allowing for a deeper understanding of a given topic.

T **his course includes CGT-related training content, contributing to the Talent-CGT project under the EIT HEI initiative. It is supported by the European Institute of Innovation & Technology (EIT), a body of the European Union.**

Prerequisites and co-requisites

Passing lectures on the Genetic mofification of animals. Knowledge of basic issues related to animal transgenesis.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
[BIOTECHMU2_K06]	51.0%	50.0%
[BIOTECHMU2_W02]	51.0%	50.0%
[BIOTECHMU2_K04]	51.0%	0.0%
[BIOTECHMU2_W06]	51.0%	0.0%

Recommended reading

Basic literature	- variable literature sources provided in lecture materials - scientific publications and legal regulations selected by the teacher
Supplementary literature	- students independently search and select materials related to classes, using library resources and electronic information sources

	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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