University of Gdańsk

Subject card

Subject name and code	Ethical dilemmas in biotechnology, PG_00080805		
Field of study	Chemical Business		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2026/2027
Education level	Bachelor's studies	Subject group	Optional subject group
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	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Bionanotechnology -> Department of Molecular Biotechnology -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Joanna Jeżewska-Frąckowiak	
	Teachers		

Lesson types

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

E-learning hours included: 0.0

Additional information:

work with source material, scientific and non-scientific sources of information - media, presentation, discussion, analysis of critical events (cases), team work

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	2.0	8.0	25

Subject objectives

Substantive approximation of contemporary molecular biotechnology as a subject of disputes in the context of bioethics issues. Ethical considerations surrounding the progress of science, indication of potential sources of ethical conflicts in biosciences. Determining the impact of the source of scientific/non-scientific information on opinion formation.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BCHINŻ_U09] Using the acquired knowledge, skills and various sources of scientific information independently prepares written papers and oral presentations.	The student presents a selected bioethical problem and takes part in the discussion.	[SU2] presentation/project/paper/ report [SU8] observation of student's independent or team work
[BCHINŻ_K05] Is convinced of the importance of behaving in a professional manner in every situation, taking full responsibility in the field of engineering activities and their impact on the natural environment and compliance with the principles of professional ethics.	The student is able to recognize and name the sources of ethical problems in contemporary biotechnology. The student cares about the ethical value of his work.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[BCHINŻ_W12] Has basic knowledge of man as an entity creating economic structures in the chemical business and has elementary knowledge of the principles and motives of human action in these structures.	The student knows the principles of extracting reliable scientific information from available sources.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[BCHINŻ_K02] Works individually demonstrating initiative and independence in actions, and effectively cooperates in a team, performing various roles in it.	The student takes part in the discussion and respects the opinions of other discussants.	[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work
[BCHINŻ_W06] Enumerates basic unit processes and describes issues in the field of technology and chemical engineering.	The student knows the processes of molecular biotechnology, including issues of genetic engineering, modifications of plants and animals, and therapies.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[BCHINŻ_K01] Identifies the level of her/his own knowledge and skills as well as the need to update engineering knowledge, continuous professional training and personal development.	Oceania information available from various sources in terms of their substantive and ethical value.	[SK1] oral statement/conversation/ discussion [SK3] text preparation/written work
[BCHINŻ_W11] Enumerates legal and ethical aspects related to scientific, research and didactic work.	The student knows the basics of the humanistic theory of bioethics in a systematic approach.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work

Subject contents

Substantive basics of genetic engineering, including: cloning, genetic modifications of plants and animals, therapies, prevention of infectious diseases. An outline of the humanistic theory of bioethics in a systematic approach. Sources of ethical conflicts. The influence of the media on shaping non-scientific opinions. Verification of the credibility of the information source. Scientific and non-scientific sources of information.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
speech - presentation	51.0%	60.0%
participation in the discussion	0.0%	30.0%
presentation abstract - printing	50.0%	10.0%

Recommended reading

Basic literature	1. Glick, B.R., Pasternak, J.J., Patten, C.L.: Molecular biotechnology: Principles and applications of recombinant DNA. ASM Press (American Society of Microbiology), Washington, 2010 2. Gert B., Culver C.M., Clouser K.D.: Bioetyka. Ujęcie systematyczne. słowo/obraz/terytoria, Gdańsk, 2009
Supplementary literature	3. Indicated web sites and on-line resources
eResources addresses	

Example issues/ example questions/ tasks being completed	Interference with the human genome *In vitro* GMO food Population vaccinations Medical secrecy students' proposals
Work placement	Not applicable

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