GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	ECOLOGICAL, ECONOMIC AND ETHICAL PROBLEMS FOR TODAY, PG_00070031		
Field of study	InfoBioChem		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	Humanistic-social subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Chemistry and Technology of Functional Materials -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Anna Schmidt	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	15.0	0.0	30

E-learning hours included: 0.0

eNauczanie source address: https://enauczanie.pg.edu.pl/2025/my/

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	5.0	40.0	75

Subject objectives

The purpose of the course is to point out the essence of the balance between ecology and economics in respecting ethical standards when modifying and implementing new technologies.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_K71] is able to explain the need to apply knowledge from humanistic, social, economic or legal sciences in order to function in a social environment	The student understands the importance of social, ethical, and economic aspects in the design and implementation of chemical technologies, taking into account the principles of sustainable development.	[SK3] Assessment of ability to organize work [SK2] Assessment of progress of work [SK1] Assessment of group work skills
[K7_W71] has general knowledge in humanistic, social, economic or legal sciences, including their fundamentals and applications	The student has a general knowledge of today's problems arising from the design and implementation of ecological and economic processes in an ethical manner.	[SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
[K7_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems	The student applies the acquired knowledge when solving technological (economic) problems concerning the environment and following ethical principles.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment

<table>
<tr><td>Subject contents</td><td>Course content – lecture
Students integrate their existing knowledge of ecology, ethics, and economics to identify, analyse, and evaluate contemporary technological and societal challenges. The course focuses on understanding the interrelationships between economic, environmental, and ethical dimensions, as well as on developing practical approaches to balancing these aspects in engineering and industrial practice. Topics include the application of sustainable development principles to the reassessment of economic models, the interpretation of ecological issues as social challenges, and the ethical implications of technological decision-making. Students examine current problems at the interface of ecology, economics, and ethics, seeking solutions that balance environmental, economic, and societal interests.

Course content – project
Working in teams of 2 - 4 people on the analysis of a selected issue combining ecological, economic, and ethical aspects. Identification of conflicts of interest and potential compromises between environmental, cost, and social requirements. Assessment of the impact of a selected technological process, product, or engineering solution in the context of sustainable development. Development of variants of solutions that minimize negative impact and proposal of an optimal solution justified by analysis of three areas: economic, ecological, and ethical. Preparation of a team project in written form (report). Development and presentation of a multimedia presentation summarizing the results of the team's work, together with justification for the decisions made. Assessment of teamwork, division of responsibilities, and effectiveness of communication within the group.

Translated with DeepL.com (free version)</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
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<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td></td><td>60.0%</td><td>50.0%</td></tr>
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<tr><td>Recommended reading</td><td>
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<tr><td>Basic literature</td><td>1. Ethics and Economics edited by Dorota Probudzka, 1st Edition: SILVA RERUM Scientific Publishing House Poznan 2022
2. Ronald Zarzycki, Ethics of everyday life or can one be good simply? A socio-political analysis of morality as a commodity, weapon and distinction; Publisher: Collegium Civitas Press, Warsaw 2021.
3. Fundamentals of Economics, Scientific Editors: Roman Milewski, Eugeniusz Kwiatkowski, PWN Scientific Publishers 2018.</td></tr>
<tr><td>Supplementary literature</td><td>The concept of sustainable development in economics, finance and management, scientific editor Ryszard Kaminski, Polish Economic Society Poznań Branch, Poznań 2023</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>1. Does electric car production meet the principles of sustainability in the environmental, economic and ethical sense?
2. Is it possible to produce a shirt profitably without violating environmental and ethical standards?
3. What conditions must energy storage devices meet to make their production environmentally and socially acceptable?</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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