

1. Zagadnienia dyplomowe kierunku inżynieria środowiska:

1.5 Zagadnienia kierunkowe, studia drugiego stopnia, stacjonarne, zakres: Process Engineering
 Environmental Protection obowiązujące od cyklu kształcenia 2022/2023.

Wydział Geoinżynierii
 kierunek: **INŻYNIERIA ŚRODOWISKA**
 zakres: **Process Engineering and Environmental Protection**
 II stopień, studia stacjonarne
Zagadnienia dyplomowe kierunkowe
 (obowiązujące od cyklu kształcenia 2022/2023)

Student na egzaminie dyplomowym losuje 2 pytania z puli 30 pytań.

Nr pytania	Treść pytania	Oznaczenie*
1.	Research monitoring and its role in environmental protection.	IS_PEEP_II_K
2.	The role of statistics in environmental science; environmental monitoring.	IS_PEEP_II_K
3.	Emerging contaminants in the environment.	IS_PEEP_II_K
4.	Mathematical modeling in environmental engineering.	IS_PEEP_II_K
5.	The types of models used during the engineering design process.	IS_PEEP_II_K
6.	The advantages and disadvantages of modeling of environmental processes.	IS_PEEP_II_K
7.	Criteria for assessing the reliability of engineering systems.	IS_PEEP_II_K
8.	The advantages and disadvantages of using biogas in cogeneration systems.	IS_PEEP_II_K
9.	Types and sources of inhibitors in the biogas production process.	IS_PEEP_II_K
10.	Pretreatment methods for substrates in biotechnological conversion into biogas; the silaging process.	IS_PEEP_II_K
11.	Fermentation chambers in biogas plants.	IS_PEEP_II_K
12.	Technologies of using biomass for energy purposes.	IS_PEEP_II_K
13.	Activated sludge method – definition, processes for removing organic substances from wastewater.	IS_PEEP_II_K
14.	Unit processes in activated sludge with integrated removal of carbon, nitrogen, and phosphorus.	IS_PEEP_II_K
15.	The major operational parameters in wastewater treatment systems.	IS_PEEP_II_K
16.	Biological nitrogen removal from wastewater.	IS_PEEP_II_K
17.	Phosphorus removal from wastewater.	IS_PEEP_II_K
18.	Granular sludge as an example of advanced wastewater treatment technologies.	IS_PEEP_II_K
19.	Types of biomass in wastewater treatment systems.	IS_PEEP_II_K
20.	Iron and manganese removal in water treatment.	IS_PEEP_II_K
21.	Processes for water softening.	IS_PEEP_II_K
22.	Technology of membrane bioreactors in wastewater treatment.	IS_PEEP_II_K
23.	Bioremediation methods for soils contaminated with oil and oil products.	IS_PEEP_II_K
24.	Soil remediation techniques – characteristics and criteria of their classification.	IS_PEEP_II_K
25.	Biodiesel production – technological systems.	IS_PEEP_II_K
26.	Mechanism of biodiesel production; types of substrates used for the process.	IS_PEEP_II_K
27.	Natural polymers for the bioplastic production.	IS_PEEP_II_K
28.	The role of extracellular polymers in biomass formation in wastewater treatment.	IS_PEEP_II_K
29.	Sewage sludge composting – definition, process characteristics, feedstock composition.	IS_PEEP_II_K
30.	Strategies for polyhydroxyalkanoate (PHA) production by mixed microbial cultures with the use of renewable waste materials as substrates.	IS_PEEP_II_K

*IS – Inżynieria środowiska, PEEP – Process Engineering and Environmental Protection, II – studia drugiego stopnia, K – zagadnienia kierunkowe