

Adaptation of mines to new functions – legal, technical, social and environmental conditions

No	Name of thematic block	Class topics	Lecturer	Date	Duration
1.	Legal issues related to the liquidation of a mining plant	Introduction to the subject	Aleksandra Kuzior, PhD, Prof. PŚ Małgorzata Waksmańska WUG Robert Odrobina SRK	24 May 2025	8
		Geological and mining law and other legal acts regulating the liquidation of a mining plant			
		The model used for the liquidation of a mining plant			
10.	Social communication and negotiations	Internal and external communication management	Dr Dariusz Krawczyk Silesian University of Technology	25 May 2025	8
		Crisis communication activities			
		Conflict in the organisation – causes, resolution and prevention			
		Social media in maintaining communication relations			
		Contact with the mass media (media relations)			
		Tools and techniques for communicating with the social, economic and political environment of the organisation			
3.	Methane drainage and utilisation on the surface	The threat of mine gases on the surface in mines that are being closed down or have been closed down. Gas risk	Dr Henryk Koptoń Aleksandra Kuzior, PhD, Prof. PŚ	14 June 2025	8 (6 hours GIG-PIB, 2 hours PŚL)
		Methods of methane removal and utilisation			
		Sustainable Development			
4.	Groundwater and mine water management in active and closed mines	Hydrogeological consequences of mine closure. Water risks	Dr Katarzyna Niedbalska	15 June 2025	8
		Forecasting hydrogeological hazards related to the closure and flooding of mining workings in closed mines			
		Waterlogging of mining excavations, drainage systems and hydrogeological monitoring of active and closed mines			
		Assessment of hazards and monitoring of surface waterlogging under conditions of groundwater accumulation during mine closure			
		Impact of flooding of decommissioned hard coal mines in the GZW on public safety in post-mining areas			
14.1.	Case studies – field visits	Environmental risk management	Alicja Krzemień, PhD, Eng., Prof. GIG-PIB External expert - Pedro Riesgo (Oviedo University, Spain)	4 October 2025	8 hours (lectures) 4 hours GIG-PIB 4 hours with an external expert: on site or remotely (to be agreed)
		Restoration of degraded and transformed ecosystems in post-mining areas			
		Study visits: KD Barbara + Libiąż			
2.1.	Intelligent mine closure (scenarios, new business models)	Introduction to the Smart Closure concept	Dr Stanisław Tokarski, PhD Alicja Krzemień, PhD, Eng., Prof. GIG-PIB	8 November 2025	8
2.2.	Smart mine closure (green energy, hydrogen)	New business models based on renewable energy, using the GreenJOBS project as an example			
5.	Geomechanics, seismic hazards and surface impact	Seismic hazards in mines undergoing closure and closed mines, and monitoring of these phenomena. Seismic risk	Prof. Barbara Bialecka, PhD, Eng.	13 December 2025	8
		Monitoring of residual surface deformations in post-mining areas using InSAR satellite radar interferometry technology			
		Numerical terrain models (NMT) of post-mining areas using modern measurement technologies (Lidar, laser scanning, photogrammetry)			
		Geomatics in the monitoring of geodynamic and hydrogeological hazards in post-mining areas			
6.		Legal and organisational basis for the revitalisation of degraded post-industrial areas			
		Analysis of the causes and effects of environmental degradation related to mining activities	Prof. Barbara Bialecka, PhD, Eng.	14 December 2025	8
		Assessment of the degree of environmental degradation and methods of its remediation and revitalisation			
		Good practices in the management of post-mining land reclamation – case study, including:			
		Adaptation of post-mining areas – examples from EU countries			
		Reclamation of post-industrial areas – Polish experience			
		Innovative solutions of the GIG supporting reclamation activities			
7.	Monitoring of post-mining areas	The use of geophysical methods in assessing the safe use of post-mining areas	Prof. Marian Turek, PhD, Eng. Piotr Kordel, PhD, Eng., Prof. PŚ Silesian University of Technology	17 January 2026	8
	Hydrogeological monitoring in mining and post-mining areas and its role in spatial management				
	Monitoring of mine gases at the surface				
8.	Strategic management in the transformation processes of the mining sector	Strategic management			
		Change management			
		The origins and development of strategic management – the evolution of business management approaches			
		The role of strategic management in enterprises			
		Sectoral contexts of strategic management			
		Paradigms in strategic management – schools of strategic thinking			
		Business strategies – the concept of strategy; the business strategy model; classification and typology of business strategies; the hierarchy of strategies in a business			
		Conditions for strategic choices			
		Methods of assessing the strategic position of an enterprise			
		Company goal system; vision, mission and values; corporate social responsibility			
		Directions of company development			
9.	Restructuring of post-mining regions	Characteristics of the restructuring process in the context of revitalising post-industrial regions	Dr Marek Krannich, Silesian University of Technology	21 February 2026	8
		Assumptions of revitalisation processes, taking into account the specific nature of the transformation of the Upper Silesia region (from a historical and prospective perspective)			
		The essence, premises, objectives and principles of restructuring in relation to enterprises and regions			
		Types of restructuring			
		Characteristics of the enterprise restructuring system			
		Rationalisation of the scope of a company's activities in the financial, market, product, technological and social areas			
		Innovation as a key factor in the approach to change in an enterprise			
		Methodological and implementation problems of enterprise restructuring			
		Company restructuring programme in the context of energy, environmental and social transformation			
		Opportunities and barriers to enterprise restructuring. Effects of enterprise restructuring			
11.	Assessment of the economic and social effectiveness of projects	Cost and capital management	Aneta Michalak, PhD, Eng., Prof. at the Silesian University of Technology	22 February 2026	8
		The essence and overview of business operating costs			
		Cash flow forecasting for projects			
		Methods of assessing the effectiveness of projects			
		Project financing models and cost of capital			
		Operational, financial and social risk management			
		Risk and uncertainty in business decisions			
		Fundamentals of risk categorisation in business			
		Stages of risk management			
		Overview of risk management methods			
		Identification of sources and types of risk			
		Risk prevention and diversification			

12.	Cognitive technologies in organisation management	Management support methods and tools (AI and CT) Techniques for planning management activities in an organisation (AI and scheduling) Supervision and risk minimisation systems in enterprises. Optimisation of management processes (AI and CT) Monitoring	Dr Paweł Wawrzata Silesian University of Technology	21 March 2026	8
13.	Radiation hazard	Radioactive contaminated areas – causes, risk assessment, remediation, monitoring Discharge of radon-bearing (radioactive) water after mine closure – sustainable water management, monitoring, mitigation of radioactive contamination Radon in post-mining areas, integrated risk management	Dr Michał Bonczyk, PhD Małgorzata Wysocka, PhD, Eng.	22 March 2026	8
14.2.	Case studies – field visits	Post-mining – principles of redeveloping post-mining areas The impact of extreme weather events on mining activities Study visits: Rybnik + Ostrava/Karviná	Dr Adam Hamerla Dr Małgorzata Markowska	18 April 2026	4 hours 4 hours
15.1.	Financing adaptation measures	Funding opportunities for adaptation and revitalisation measures	Marshal's Office of the Silesian Province	9 May 2026	2 hours
15.2.	Financing adaptation measures	Case studies	SRK representative	9 May 2026	6 hours
16.	Project management	Workshops	Prof. Andrzej Karbownik, Silesian University of Technology	10 May 2026	8