

Informačný list predmetu (Course description)

Vysoká škola (University): Comenius University in Bratislava	
Fakulta (Faculty): Faculty of Natural Sciences	
Kód predmetu (Code): ID: PriF.KMPLG/N-mMPL-012/22	Názov predmetu (Course): Environmental risk of mining and processing
Druh, rozsah a metóda vzdelávacích činností (Study design): Seminar, weekly, 39 hours per semester. Method of study: full time, combined.	
Počet kreditov (Number of credits earned): 3	
Odporúčaný semester/trimester štúdia (Recommended semester): 2. Summer semester	
Stupeň štúdia (Degree): 2. Degree	
Podmieňujúce predmety (Prerequisite courses): none	
Podmienky na absolvovanie predmetu (Grading policy): To obtain an A grade, it is necessary to demonstrate 92-100% of the required knowledge; to obtain a B grade 84-91%, for a C grade 76-83%, for a D grade 68-75% and for an E grade 61-67% of the required knowledge. Final exam: oral / written	
Výsledky vzdelávania (Course objectives): Ability to principally assess the impact of mining activities and mineral processing on the environment and characterize the causes and possibilities of risk prevention (e.g. acidification of the environment and mobilization of metals, cyanide technology), knowledge of basic procedures for reclamation of mining areas and waste recovery as secondary raw materials. Knowledge of basic enviro-legislation and valid enviro-policies of the state and the EU.	
Stručná osnova predmetu (Syllabus): The relationship between the consumption of mineral resources (MR) and the existence of human society, sustainable development and extraction of raw materials. Classification of deposits in terms of environmental risk. Negative impacts of MR mining on the environment and their regulation - examples from Slovakia (local impacts, legislation). Negative impact prevention and basic reclamation procedures. Utilization of mining waste as a secondary raw material. Global aspects: Environmental impacts of coal and hydrocarbon (fossil fuels) mining and exploitation. Some problems associated with the extraction of industrial minerals. Processes in metal sulfide deposits: oxidation of pyrite, acid mine drainage formation, acid mine water neutralization and secondary minerals formation. Mineral research methods Mining water treatment and disposal: active and passive systems. Metal mobility in a mining environment. Risks and potential of abandoned antimony deposits in Slovakia. Cyanides in mining waste. Current projects - monitoring and risk assessment of mining, legislative activities, comprehensive solutions.	
Odporúčaná literatúra (Recommended literature): O. Lintnerová 2002: Vplyv ťažby nerastných surovín na životné prostredie. UK, Bratislava 1-160. Lintnerová et al., 2010: Environmentálne riziká tvorby kyslých bankských vôd na opustenom ložisku Smolní. UK Bratislava,1-157. Jambor L.J., Blowes D.W., Eds., 1994 Short course handbook on environmental geochemistry of sulfide mine-wastes. Min. Assoc. Canada, 22. Internal textbook. Šottník et al., 2015: Environmentálne záťaž, SAŽP Banská Bystrica,	
Jazyk, ktorého znalosť je potrebná na absolvovanie predmetu (The course is held in): English language.	
Poznámky (Other course information):	

Hodnotenie predmetov (Grading history)

A	B	C	D	E	FX
a	b	c	d	e	f

The percentage of students evaluated who received an A, B, ... Fx. The total sum of a, b, c, d, e, f is 100. If a student has obtained FX in one year and after the next entry of the course, the D rating shall be taken into account.

Vyučujúci (Professor): prof. RNDr. Oília Lintnerová, PhD., Assoc. Prof. Peter Šottník, PhD., Assoc. Prof. Peter Bačík, PhD., Assoc. Prof. Peter Ružička, PhD.

Dátum poslednej zmeny (Last update):

Schválil (Approved by): prof. RNDr. Monika Huraiová, PhD.