

Załącznik nr 5 do ZW

MATRIX OF CORRELATION BETWEEN AREA EDUCATIONAL EFFECTS AND MAIN-FIELD-OF-STUDY EDUCATIONAL EFFECTS

2nd level studies in main field-of-study *mining and geology*, specialization *underground and surface mining*, general academic profile

Symbol of educational effect for area of education in technical sciences	Description of educational effects for area of education in technical sciences	Correlation with educational effects for 2nd level studies in main field of study <i>mining and geology</i> specialization <i>underground and surface mining</i>
KNOWLEDGE		
OT2A_W01	- has expanded and broadened knowledge of mathematics, physics and chemistry and other areas related to the studied discipline necessary to formulate and solve complex tasks in the field of the studied discipline	K_W01
OT2A_W01	- has expanded and broadened knowledge of mathematics, physics and chemistry and other areas related to the studied discipline necessary to formulate and solve complex tasks in the field of the studied discipline	K_W02
OT2A_W01, W03	- has expanded and broadened knowledge of mathematics, physics and chemistry and other areas related to the studied discipline necessary to formulate and solve complex tasks in the field of the studied discipline - has organized, general knowledge and theoretical grounding including key issues related to the studied discipline	K_W03
OT2A_W02	- has detailed knowledge in the field of study related to the studied discipline	K_W04
OT2A_W03, W04	- has organized, general knowledge and theoretical grounding including key issues related to the studied discipline - has detailed knowledge and theoretical grounding connected with the chosen issues in the field of the studied discipline	K_W05
OT2A_W09	- has fundamental knowledge of management, including quality management and running a business	K_W06
OT2A_W03, W07	- has organized, general knowledge and theoretical grounding including key issues related to the studied discipline - knows fundamental methods, techniques, tools and materials used for solving simple engineering tasks in the field of the studied discipline	K_W07
OT2A_W04, W07	- has detailed knowledge and theoretical grounding connected with the chosen issues in the field of the studied discipline	K_W08

	- knows fundamental methods, techniques, tools and materials used for solving simple engineering tasks in the field of the studied discipline	
OT2A_W03	- has organized, general knowledge and theoretical grounding including key issues related to the studied discipline	K_W09
OT2A_W04, W07	- has detailed knowledge and theoretical grounding connected with the chosen issues in the field of the studied discipline - knows fundamental methods, techniques, tools and materials used for solving simple engineering tasks in the field of the studied discipline	K_W10
OT2A_W03	- has organized, general knowledge and theoretical grounding including key issues related to the studied discipline	K_W11
OT2A_W02	- has detailed knowledge in the field of study related to the studied discipline	K_W12
OT2A_W03, W04	- has organized, general knowledge and theoretical grounding including key issues related to the studied discipline - has detailed knowledge and theoretical grounding connected with the chosen issues in the field of the studied discipline	K_W13
OT2A_W08	- has fundamental knowledge necessary to understand social, economical ,legal and other non-technical factors of engineering activities as well as taking them into consideration in engineering practice	K_W14
OT2A_W09	- has fundamental knowledge of management, including quality management and running a business	K_W15
OT2A_W03, W07	- has organized, general knowledge and theoretical grounding including key issues related to the studied discipline - knows fundamental methods, techniques, tools and materials used for solving simple engineering tasks in the field of the studied discipline	K_W16
OT2A_W01, W08, W09	- has expanded and broadened knowledge of mathematics, physics and chemistry and other areas related to the studied discipline necessary to formulate and solve complex tasks in the field of the studied discipline - has fundamental knowledge necessary to understand social, economical ,legal and other non-technical factors of engineering activities as well as taking them into consideration in engineering practice - has fundamental knowledge of management, including quality management and running a business	K_W17
OT2A_W08	- has fundamental knowledge necessary to understand social, economical ,legal and other non-technical factors of engineering activities as well as taking them into consideration in engineering practice	K_W18
OT2A_W08	- has fundamental knowledge necessary to understand social, economical ,legal and other non-technical factors of engineering activities as well as taking them into consideration in engineering practice	K_W19

SKILLS

OT2A_U01, U03	<p>- is able to obtain information from literature, databases and other properly selected sources, either in English or another foreign language regarded as a language for international communication in the studied discipline ; is able to integrate obtained information, interpret it and draw conclusions, formulate and justify opinions in full</p> <p>- is able to prepare a scientific study in Polish language and also a short scientific report, with the results of own research, in a foreign language regarded as a basic one in the scientific disciplines and fields of study related to the studied discipline</p>	K_U01
OT2A_U01, U03	<p>- is able to obtain information from literature, databases and other properly selected sources, either in English or another foreign language regarded as a language for international communication in the studied discipline ; is able to integrate obtained information, interpret it and draw conclusions, formulate and justify opinions in full</p> <p>- is able to prepare a scientific study in Polish language and also a short scientific report, with the results of own research, in a foreign language regarded as a basic one in the scientific disciplines and fields of study related to the studied discipline</p>	K_U02
OT2A_U01, U03	<p>- is able to obtain information from literature, databases and other properly selected sources, either in English or another foreign language regarded as a language for international communication in the studied discipline ; is able to integrate obtained information, interpret it and draw conclusions, formulate and justify opinions in full</p> <p>- is able to prepare a scientific study in Polish language and also a short scientific report, with the results of own research, in a foreign language regarded as a basic one in the scientific disciplines and fields of study related to the studied discipline</p>	K_U03
OT2A_U08, U09	<p>- is able to plan and run experiments including measurements and computer simulations, interpret results and draw conclusions</p> <p>- is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks as well as simple research problems</p>	K_U04
OT2A_U09, U19	<p>- is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks as well as simple research problems</p> <p>- is able – according to a given specification which considers non –technical aspects- to design a complex device, object, system or process specific for the studied discipline and complete this project – at least partially- using appropriate methods, techniques and tools, adapting already existing tools or by creating new tools</p>	K_U05
OT2A_U08	<p>- is able to plan and run experiments including measurements and computer simulations, interpret results and draw conclusions</p>	K_U06
OT2A_U07	<p>- is able to use information and communication technologies necessary to perform tasks typical of engineering activities</p>	K_U07
OT2A_U07, U14	<p>- is able to use information and communication technologies necessary to perform</p>	K_U08

	tasks typical of engineering activities - is able to carry out primary economic analysis of undertaken engineering activities	
OT2A_U07, U09, U11	- is able to use information and communication technologies necessary to perform tasks typical of engineering activities - is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks as well as simple research problems - is able to formulate and test hypotheses connected with engineering problems and simple research problems	K_U09
OT2A_U07	- is able to use information and communication technologies necessary to perform tasks typical of engineering activities	K_U10
OT2A_U15	- is able to carry out critical analysis of functioning and also assess – particularly in reference to the studied discipline- existing technical solutions, in particular devices, objects, systems, processes, and services	K_U11
OT2A_U11, U14	- is able to formulate and test hypotheses connected with engineering problems and simple research problems - is able to carry out primary economic analysis of undertaken engineering activities	K_U12
OT2A_U11, U19	- is able to formulate and test hypotheses connected with engineering problems and simple research problems - is able – according to a given specification which considers non –technical aspects- to design a complex device, object, system or process specific for the studied discipline and complete this project – at least partially- using appropriate methods, techniques and tools, adapting already existing tools or by creating new tools	K_U13
OT2A_U11, U19	- is able to formulate and test hypotheses connected with engineering problems and simple research problems - is able – according to a given specification which considers non –technical aspects- to design a complex device, object, system or process specific for the studied discipline and complete this project – at least partially- using appropriate methods, techniques and tools, adapting already existing tools or by creating new tools	K_U14
OT2A_U15	- is able to carry out critical analysis of functioning and also assess – particularly in reference to the studied discipline- existing technical solutions, in particular devices, objects, systems, processes, and services	K_U15
OT2A_U19	- is able – according to a given specification which considers non –technical aspects- to design a complex device, object, system or process specific for the studied discipline and complete this project – at least partially- using appropriate methods, techniques and tools, adapting already existing tools or by creating new tools	K_U16
OT2A_U13	- is prepared to work in an industry environment and knows safety rules in the workplace	K_U17
OT2A_U07	- is able to use information and communication technologies necessary to perform	K_U18

	tasks typical of engineering activities	
OT2A_U10, U19	- is able - while formulating and solving engineering tasks- to integrate knowledge of scientific disciplines and fields of studies appropriate for the specialization and apply the system approach which also takes into account non- technical aspects - is able – according to a given specification which considers non –technical aspects- to design a complex device, object, system or process specific for the studied discipline and complete this project – at least partially- using appropriate methods, techniques and tools, adapting already existing tools or by creating new tools	K_U19
OT2A_U01, U14	- is able to obtain information from literature, databases and other properly selected sources, either in English or another foreign language regarded as a language for international communication in the studied discipline ; is able to integrate obtained information, interpret it and draw conclusions, formulate and justify opinions in full - is able to carry out primary economic analysis of undertaken engineering activities	K_U20
OT2A_U07, U13	- is able to use information and communication technologies necessary to perform tasks typical of engineering activities - is prepared to work in an industry environment and knows safety rules in the workplace	K_U21
SOCIAL COMPETENCES		
OT2A_K04, K05	- is able to set clear priorities leading to the realization tasks set by himself or others - identifies correctly and solves dilemmas connected with the profession	K_K01
OT2A_K06, K07	- is able to think and act in an entrepreneurial way - realizes the social role of technical university graduates and especially understands the need to formulate information and share it with society, e.g. through mass media, in relation to achievements in environmental engineering and other aspects of engineering activity; makes attempts at sharing such information and opinions in an understandable way	K_K02

*niepotrzebne skreślić