

ASSUMED LEARNING OUTCOMES

FACULTY: **FACULTY OF FUNDAMENTAL PROBLEMS OF TECHNOLOGY**
MAIN FIELD OF STUDY: **MEDICAL INFORMATICS**
EDUCATION LEVEL: **first-level studies**
PROFILE: **general academic**

Location of the main-field-of study:

Branch of science: **engineering and technical sciences**
Discipline: **Biomedical engineering**

Explanation of the markings:

P6U – universal first degree characteristics corresponding to education at the first-level studies - 6 PRK level

P6S – second degree characteristics corresponding to education at the first-level studies - 6 PRK level

W - category "knowledge"

U - category "skills"

K - category "social competences"

K (faculty symbol) _W1, K (faculty symbol) _W2, K (faculty symbol) _W3, ... - main-field-of study learning outcomes related to the category "knowledge"

K (faculty symbol) _U1, K (faculty symbol) _U2, K (faculty symbol) _U3, ... - main-field-of study learning outcomes related to the category "skills"

K (faculty symbol) _K1, K (faculty symbol) _K2, K (faculty symbol) _K3, ... - main-field-of study learning outcomes related to the category "social competences"

... _inž. – learning outcomes related to the engineer competences

Main field of study learning outcomes	Description of learning outcomes for the main-field-of study:	Reference to PRK characteristics		
	MEDICAL INFORMATICS	Universal first degree characteristics	Second degree characteristics typical for qualifications obtained in higher education (S)	
	<i>After completion of studies, the graduate:</i>		Characteristics for qualifications on 6 level of PRK	Characteristics for qualifications on 6 level of PRK, enabling acquiring engineering competences
KNOWLEDGE (W)				
K1IBM_W01	<i>Has corresponding knowledge of theories, facts, and methods of mathematics, physics, chemistry, electrical engineering, and electronics useful for formulating and solving simple tasks in biomedical engineering.</i>	P6U_W	P6S_WG	
K1IBM_W02	<i>Knows and understands to an advanced degree facts and phenomena of Medical Sciences related to Biomedical Engineering, in the fields of Anatomy, Physiology, and Propaedeutics of Medical Sciences and Biology.</i>	P6U_W	P6S_WG	
K1IBM_W03	<i>Has well-ordered and theoretically founded general knowledge covering key issues in biomedical engineering, in particular Biochemistry, Biophysics, Sensors and Measurement of Non-Electrical Quantities, Electronic Medical Equipment, Metrology, Fundamentals of Biophotonics, Signal Processing, and Medical Imaging Techniques.</i>	P6U_W	P6S_WG	P6S_WG_INŽ
K1IBM_W04	<i>Has basic knowledge of the life cycle of technical equipment and systems used in biomedical engineering.</i>	P6U_W	P6S_WG	P6S_WG_INŽ
K1IBM_W05	<i>Has basic knowledge necessary to understand the social, economic, and legal aspects of engineering activities in Biomedical Engineering.</i>	P6U_W	P6S_WK	P6S_WG_INŽ
K1IBM_W06	<i>Has basic knowledge of management, including quality management in biomedical engineering.</i>	P6U_W	P6S_WK	P6S_WG_INŽ
K1IBM_W07	<i>Has knowledge of basic concepts and principles of industrial property and copyrights; can use patent information resources in the field of biomedical engineering.</i>	P6U_W	P6S_WK	P6S_WG_INŽ
K1IBM_W08	<i>Knows and understands the general principles of creating and developing forms of individual entrepreneurship using knowledge from the fields of science and scientific disciplines specific to biomedical engineering.</i>	P6U_W	P6S_WK	P6S_WG_INŽ

K1IBM_W09	<i>Has basic knowledge of engineering technologies, methods, techniques, tools, and materials used in solving simple engineering tasks in the field of biomedical engineering.</i>	P6U_W	P6S_WG	P6S_WG_INŽ
SKILLS (U)				
K1IBM_U01	<i>Can innovatively solve complex and unusual biomedical engineering problems under changing and not fully predictable conditions.</i>	P6U_U	P6S_UW	
K1IBM_U02	<i>Has the ability to self-educate.</i>	P6U_U	P6S_UW	
K1IBM_U03	<i>Can use the acquired knowledge to formulate and solve complex and nontypical problems in the field of biomedical engineering and to perform tasks through proper selection of sources and information from them to evaluate, critically analyze and synthesize.</i>	P6U_U	P6S_UW	
K1IBM_U04	<i>Can implement clean and well-documented code.</i>	P6U_U	P6S_UW	
K1IBM_U05	<i>Can communicate using specialized terminology in the field of biomedical engineering; can communicate with the public, justify his/her position.</i>	P6U_U	P6S_UK	
K1IBM_U06	<i>Is able to participate in a debate - present, evaluate, and discuss different opinions and positions within the discipline of biomedical engineering.</i>	P6U_U	P6S_UK	
K1IBM_U07	<i>Has foreign language skills in the fields of technical sciences and the discipline of biomedical engineering according to the requirements of the B2+ level of the Common European Framework of Reference for Languages.</i>	P6U_U	P6S_UK	
K1IBM_U08	<i>Can plan and organize individual and team software development.</i>	P6U_U	P6S_UO	
K1IBM_U09	<i>Can plan and carry out experiments including measurements and computer simulations in the field of biomedical engineering; is able to discuss results.</i>	P6U_U	P6S_UW	P6S_UW_INŽ
K1IBM_U10	<i>Is able to use analytical, simulation, and experimental methods to formulate and solve engineering tasks within the discipline of biomedical engineering.</i>	P6U_U	P6S_UW	P6S_UW_INŽ
K1IBM_U11	<i>Can see systemic and nontechnical aspects of engineering tasks in the field of biomedical engineering.</i>	P6U_U	P6S_UW	P6S_UW_INŽ
K1IBM_U12	<i>Is able to perform a preliminary economic analysis of biomedical engineering activities.</i>	P6U_U	P6S_UW	P6S_UW_INŽ
K1IBM_U13	<i>Is able to design and implement simple IT systems using mobile/web technologies and databases for biomedical engineering applications.</i>	P6U_U	P6S_UW	P6S_UW_INŽ

SOCIAL COMPETENCES (K)				
K1IBM_K01	<i>Is prepared to critically evaluate his/her knowledge and to seek expert advice if he/she has difficulty solving a problem independently.</i>	P6U_K	P6S_KK	
K2IBM_K02	<i>Is prepared to make decisions independently, to critically evaluate his own actions, actions of the teams he leads, and organizations in which he participates; accepts responsibility for the consequences of those actions.</i>	P6U_K	P6S_KK	
K1IBM_K03	<i>Is aware of the social role of a technical university graduate, is ready to act for the benefit of the economic and social environment.</i>	P6U_K	P6S_KO	
K1IBM_K04	<i>Can think and act in an entrepreneurial way; is ready to assess the importance of knowledge in solving cognitive and practical problems.</i>	P6U_K	P6S_KO	
K1IBM_K05	<i>Is aware of the social role of a graduate of a technical university, especially the need to formulate and convey to the society, through the mass media, information, and opinions on the achievements of technology and other aspects of engineering activities; makes efforts to convey such information and opinions in a commonly understood way.</i>	P6U_K	P6S_KO	
K1IBM_K06	<i>Takes care to adhere to professional ethics and requires it from others; cares about the achievements and traditions of the profession.</i>	P6U_K	P6S_KR	
K1IBM_K07	<i>Cares for the preservation of physical culture.</i>	P6U_K	P6S_KR, P6S_KO	