

1.	Field of study	Quality Control Materials and Products
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2025/2026 (summer term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Code of the learning outcome of the programme	Learning outcomes The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
KNOWLEDGE		
KJ2A_W01	has in-depth and systematic knowledge covering key issues and selected aspects of advanced detailed knowledge from various disciplines constituting the theoretical foundation of materials engineering, including the theoretical foundations of an integrated quality management system.	2018_P7S_WG
KJ2A_W02	possesses in-depth, systematic, and theoretically grounded knowledge in the field of various groups of engineering materials and is familiar with current and prospective areas of their applications.	2018_P7S_WG
KJ2A_W03	possesses in-depth, systematic, and theoretically grounded knowledge, covering the complex relationships between the structure and properties of engineering materials, which form the theoretical foundation necessary for shaping, manufacturing, designing, and modeling engineering materials with specific properties.	2018_P7S_WG
KJ2A_W04	has in-depth, structured and theoretically based knowledge of methods and techniques used to produce and shape the structure and properties of engineering materials and to modify their surfaces, also in the context of quality control of materials and products.	2018_P7S_WG
KJ2A_W05	possesses in-depth, structured and theoretically based knowledge of materials testing methods and the construction of scientific and research equipment necessary to assess the structure, properties and quality of engineering materials and products.	2018_P7S_WG
KJ2A_W06	knows and understands the complex processes occurring in the life cycle of devices, objects and technical systems, with particular emphasis on the processes of destruction of engineering materials, preventive measures and risk assessment.	2018_P7S_WG
KJ2A_W07	possesses in-depth, systematic, and theoretically grounded knowledge in the methodology of selecting engineering materials, taking into account the complex relationships between their structure, properties, and operational requirements.	2018_P7S_WG
KJ2A_W08	has in-depth and structured knowledge of development trends and the latest achievements in the field of advanced engineering materials, as well as innovative technologies for their production and techniques for shaping their properties, with critical consideration of the principles of sustainable development and the complex challenges of modern civilization.	2018_P7S_WG, 2018_P7S_WK
KJ2A_W09	possesses systematic and theoretically grounded knowledge in the field of computer-aided work and demonstrates a deep understanding of the potential applications of selected information and communication technologies, as well as software tools, in materials engineering.	2018_P7S_WG
KJ2A_W10	has in-depth and structured knowledge of industrial property, intellectual property and copyright protection as well as research laboratory management, including standards and accreditation requirements.	2018_P7S_WK
KJ2A_W11	has in-depth and systematic knowledge of the principles of creating and developing various forms of entrepreneurship related to the broadly understood field of materials engineering.	2018_P7S_WK
KJ2A_W12	possesses in-depth and systematic knowledge of the methodology for conducting scientific research in the field of materials engineering, including in the context of implementing research and development projects.	2018_P7S_WG, 2018_P7S_WK
SKILLS		

KJ2A_U01	is able to acquire information from various sources, including scientific literature, databases and technical standards, accuracy analysis, make appropriate selection, evaluation and critical analysis of these sources, synthesize and creatively interpret the information, and then present the obtained results in a clear and understandable manner.	2018_P7S_UW
KJ2A_U02	is able to formulate and test hypotheses related to simple research problems, particularly involving the shaping, manufacturing, design, modeling, and selection of engineering materials with specific properties, quality control monitoring as well.	2018_P7S_UW
KJ2A_U03	is able to apply existing or develop new methods and tools to identify, formulate and solve research problems, critically assessing their usefulness and effectiveness in conditions of incomplete predictability, also in the context of quality control monitoring.	2018_P7S_UW
KJ2A_U04	is able to select and use information and communication techniques and computer methods and tools to formulate and implement tasks, including task of non-technical nature.	2018_P7S_UW
KJ2A_U05	is able to design a simple device, object, system, or process typical for materials engineering, according to a given specification, using appropriate methods, techniques, and design tools.	2018_P7S_UW
KJ2A_U06	is able, when formulating and solving tasks, to conduct a preliminary economic analysis and critically assess nontechnical aspects, including in the context of global civilizational challenges.	2018_P7S_UW
KJ2A_U07	is able to communicate with various audiences using appropriately tailored specialist terminology, including conducting discussions and debates, presenting and analyzing various aspects of materials engineering, using appropriate specialist Polish and English terminology.	2018_P7S_UK
KJ2A_U08	is able to prepare documentation regarding the implementation of tasks and reports in the context of quality control of materials and products, as well as present the results of work using appropriate methods and tools, using appropriate specialist Polish and English terminology.	2018_P7S_UK
KJ2A_U09	is able to work individually as well as collaborate in teams, including taking on the role of a leader directing the team's work.	2018_P7S_UO
KJ2A_U10	is able to independently plan and implement the process of lifelong learning, as well as guide and support others in this area.	2018_P7S_UU
KJ2A_U11	clearly and comprehensibly communicates with others in a foreign language at the B2+ level of the Common European Framework of Reference for Languages, making use of his/her knowledge and specialist terminology	2018_P7S_UK
SOCIAL COMPETENCES		
KJ2A_K01	demonstrates the ability to critically assess acquired knowledge and received content, recognizes the role of knowledge in solving complex cognitive and practical problems, and is willing to seek expert opinions when encountering difficulties in solving a problem independently.	2018_P7S_KK
KJ2A_K02	is ready to actively engage in raising public awareness about the role and importance of materials engineering, promoting its achievements, and initiating actions for the public interest in this field.	2018_P7S_KO
KJ2A_K03	is ready to perform professional roles professionally, demonstrating responsibility for the duties entrusted to him, also in the context of monitoring the quality of materials and products, acting in accordance with ethical principles, professional standards and safety rules, using effective communication techniques.	2018_P7S_KR
KJ2A_K04	is ready for entrepreneurial and innovative thinking and action in the field of materials engineering, actively seeking new solutions, including in the context of the challenges and dilemmas of modern civilization and green energy.	2018_P7S_KO

Code of the learning outcome of the programme	Learning outcomes related to the modules conducted at the university level The graduate:	Codes of the second-order PRK characteristics to which the learning outcome of the programme is related
KNOWLEDGE		
OOD.2024_W01	The student has in-depth knowledge of selected scientific methods and knows problems characteristic of a particular field of science unrelated to the discipline materials engineering.	2018_P7S_WG, 2018_P7S_WK
SKILLS		
OOD.2024_U01	The student has advanced skills to set scientific questions and analyse problems or to solve problems practically on the basis of the course content, experience and skills gained in a particular field of science unrelated to the discipline materials engineering.	2018_P7S_UW



SOCIAL COMPETENCES		
OOD.2024_KS01	The student has in-depth knowledge of selected scientific methods and knows problems characteristic of a particular field of science unrelated to the leading discipline of the study programme.	2018_P7S_KK