

Learning outcomes

Outcome symbol	After completing second-cycle studies in computer science and econometrics, the graduate:	Reference to PRK level 7
KNOWLEDGE		
K_W01	has extensive knowledge of the significance of computer science, econometrics and mathematics for developments in the fields of formal and natural sciences, for the knowledge of the world and for the development of society and economy	P7S_WG-O1.1 P7S_WG-O1.2A P7S_KK-O7.2
K_W02	is familiar with basic mathematical models used in economics, understands their mathematical and economic meaning, as well as possibilities and limitations of applying them	P7S_WG-O1.1
K_W03	knows basic measures of variability of economic magnitudes, understands the importance of using them and methods of calculating	P7S_WG-O1.1
K_W04	is familiar with international symbols used in actuarial science and with various types of insurance policies	P7S_WG-O1.1
K_W05	knows elements of classical risk theory, can estimate the probability of an insurer's ruin	P7S_WG-O1.1
K_W06	knows basic methods for multi-dimensional statistical data analysis used in market research	P7S_WG-O1.1
K_W07	knows basic sampling schemes for finite populations and methods to analyze data acquired from those schemes	P7S_WG-O1.1
K_W08	has basic knowledge of how to carry out simulation research and how to apply it to economics	P7S_WG-O1.1
K_W09	knows how to create, use and improve information systems	P7S_WG-O1.1
K_W10	is familiar with principles for designing software, knows principles for managing an IT project	P7S_WG-O1.1
K_W11	knows classification and functionality of management information systems	P7S_WG-O1.1
K_W12	knows at least two languages of object-oriented programming	P7S_WG-O1.1
K_W13	knows selected applications of information technology in science and economy	P7S_WG-O1.1 P7S_WG-O1.2A
K_W14	knows basic notions and techniques of information technology; knows selected advanced information technologies and methods	P7S_WG-O1.1
K_W15	demonstrates organized knowledge concerning theory, technical concept and principles that govern the operation of computer networks and the Internet; has elementary knowledge of how network devices work and know fundamentals of network devices configuration	P7S_WG-O1.1
K_W16	has broadened knowledge of at least one of the following academic disciplines: computer science and its branches, discrete mathematics, operations research (especially its application to economics), mathematical statistics and its application to economics	P7S_WG-O1.1
K_W17	has achieved English language proficiency equivalent to level B2 of the Common European Framework of Reference for Languages and knows specialist terminology used in articles on computer science, econometrics and mathematics	P7S_UK-O4.3
K_W18	knows principles of occupational health and safety	P7S_WK-O2.2
K_W19	has elementary knowledge of laws and code of ethics concerning academic	P7S_WK-O2.1

	research and educational activities	P7S_WK-O2.2
K_W20	knows and understands basic concepts and regulations concerning protection of industrial property and copyright laws; knows how to use patent information resources	P7S_WK-O2.2
SKILLS		
K_U01	can construct a line of advanced reasoning in accordance with principles of logic and can apply it to solve problems relating to previously studied academic disciplines	P7S_UW-O3.1
K_U02	can construct and analyze basic formal models found in economic issues, differentiate variables and parameters	P7S_UW-O3.1
K_U03	can determine relations between economic variables using the language of mathematics	P7S_UW-O3.1 P7S_UW-O3.3A
K_U04	can calculate measures of variability of economic magnitudes (marginal magnitudes, elasticity, increase rate, substitution rate)	P7S_UW-O3.1
K_U05	can calculate net premiums using tables of life expectancy and the principle of equivalence	P7S_UW-O3.1
K_U06	can determine his interests and develop them; can get in touch and interact with other specialists in the same discipline	P7S_UO-O5.1 P7S_UU-O6 P7S_UK-O4.1
K_U07	is able to choose a sampling scheme depending on available information concerning general population	P7S_UW-O3.1
K_U08	can use previously studied methods of statistical inference and can properly interpret acquired results, taking into account multidimensionality of data	P7S_UW-O3.1
K_U09	can support a decision making process using results of simulation research	P7S_UW-O3.1
K_U10	has skills needed to design, implement and improve information systems and database, in particular in economic and administrative organizations	P7S_UW-O3.1
K_U11	has skills essential for providing consultancy services which require analytical abilities and use mathematical, statistical, econometric and information technology tools	P7S_UW-O3.1 P7S_UO-O5.2
K_U12	has skills needed to do research and activities requiring creativity skills	P7S_UW-O3.3.A
K_U13	can classify and recognize business models for e-economy	P7S_UW-O3.1
K_U14	can organize work of a team of computer programmers who create advanced information systems using modern tools and technologies	P7S_UO-O5.1 P7S_UO-O5.2 P7S_UK-O4.1 P7S_UK-O4.2
K_U15	can use selected modern information technologies	P7S_UW-O3.1
K_U16	can use computer programs for advanced analysis and data processing	P7S_UW-O3.1
K_U17	is able to use a program which analyzes packages and can analyze protocols and network applications	P7S_UW-O3.1
K_U18	can write a paper presenting a selected problem in computer science, econometrics, and discrete mathematics: can deliver a solution to the problem in a clear manner	P7S_UK-O4.1 P7S_UK-O4.2
K_U19	demonstrates skills to write papers and deliver oral presentations on topics in computer science and econometrics using expertly chosen bibliographic resources	P7S_UK-O4.1 P7S_UK-O4.2
K_U20	has language proficiency (English) relevant to the language of computer science, econometrics and mathematics, meeting the requirements for level B2 of European Framework of Reference for Languages	P7S_UK-O4.3
SOCIAL COMPETENCES		
K_K01	understands and is able to make other people see the importance of using	P7S_KK-O7.1

	precise language to describe economic problems	P7S_KK-O7.2 P7S_KR-O9
K_K02	understands the need for lifelong education, is able to learn on his own and organize learning process of other people	P7S_UU-O6 P7S_KK-O7.2
K_K03	is able to work in a team; understands the importance of systematic work on long term projects	P7S_UO-O5.2 P7S_KO-O8.3
K_K04	is able to formulate precise questions to deepen his understanding of a given topic or to find missing elements of reasoning; is able to formulate opinions on essential topics in computer science, econometrics and mathematics	P7S_UU-O6 P7S_KK-O7.2
K_K05	understands the significance of intellectual honesty, both in his own and in other people's activities, and is aware of the need to respect copyrights	P7S_KO-O8.1 P7S_KR-O9 P7S_WK-O2.2
K_K06	understands responsibility and social aspects of practical application of acquired knowledge and skills	P7S_KO-O8.2 P7S_KR-O9