Computer Science

1. Basic information

1.1. Name of the field of study in Slovak language	Informatika
1.2. Name of the field of study in a foreign language	Computer Science *(English)*
1.3 The field of study is replaced by another field of study	☑ yes ☐ no If yes, the name of the corresponding field or fields of study: 9.2.1. computer science 9.2.2. theoretical computer science 9.2.3. theory of computer science teaching 9.2.4. computer engineering 9.2.5. software engineering 9.2.6. information systems 9.2.8. artificial intelligence 9.2.9. applied computer science 9.2.10. economic informatics 9.2.11. cognitive science 5.2.15. telecommunications
1.4 Supporting themes of the core knowledge of the field of study	The field of study includes knowledge related to data, information and knowledge processing, storage and retrieval. It deals with the acquisition, retrieval, transmission, collection, organization, storage, interpretation, presentation, dissemination and use of information and knowledge in various forms (mainly text, image, sound). Supporting topics of the core knowledge of the field of study also include mathematical foundations of computer science, theoretical foundations of computer science, programming, software and computer systems, the creation of models and systems of computer science and information and communication technologies for various application domains, and the economic, social, moral, and legal contexts of the profession. In the case of programs of study focusing on specific application domains, the fundamentals of these application domains are also part of the core. Advanced methods of recognized areas of computer science developed on the basis of specialization are also included in the core knowledge.
1.5 Degrees of university study in which it is possible to obtain a university degree in a field of study	☑ first ☑ second ☑ third

1.6 The possibility of combining a first-degree program and a second-degree program into a single unit	☐ it is possible to combine first-degree and second-degree study programs into a single unit ☐ it is not possible to study separately in first degree study programs and in second degree study programs ☑ it is not possible to combine first-degree and second-degree study programs into a single unit
1.7 International Standard Classification of Education degree code (ISCED	First degree in higher education: (a) academically oriented bachelor´s degree programs of higher education institutions – code 645, (b) vocationally oriented bachelor´s degree programs of higher education institutions – code 655. Second cycle of higher education: master´s, engineering and doctoral programs of higher education continuing beyond the bachelor´s degree – code 767. Rigorous examination – code 768. Third cycle of higher education – code 864.
1.8 Level of the National Qualifications Framework of the Slovak Republic – SKKR	First cycle of university education – SKKR 6 Second degree of university education – SKKR 7 Third level of university education – SKKR 8
1.9. Possibility to carry out interdisciplinary studies	☑ yes ☐ no

2. The possibility to take the rigorosum examination and defend the rigorosum thesis

☑ yes (only for degree programs whose graduates obtain a master´s degree)
☐ no

If yes, academic degree awarded
☑ "Doctor of Natural Sciences" (abbreviated "RNDr.")
☐ "Doctor of Pharmacy" (abbreviated as "PharmDr. ")
☐ "Doctor of Philosophy" (abbreviated as "PhDr. ")
☐ "Doctor of Laws" (abbreviated "JUDr. ")
☐ "Doctor of Education" (abbreviated "PaedDr.")
☐ "Doctor of Theology" (abbreviated "ThDr.")

3. An opinion is required on the assumption that graduates of the study programme will be employed in practice

☐ yes
☑ no

If yes, name of the legal entity issuing the opinion:

4. Content of the field of study

4.1. Areas and scope of knowledge, skills and competences that profile the graduate of the first level study program in accordance with the relevant level of the national qualification framework

Knowledge **Skills** **Competencies**	The graduate possesses general knowledge of the field of study at the level of synthesis with emphasis on the supporting topics of the core of the field of study with possible focus on specific application domains. The student is able to classify knowledge, draw conclusions and connections between them and apply them practically. Is able to independently apply theory, practices and tools in the design, implementation, installation, operation, maintenance and evaluation of information and communication technology-based solutions (according to the focus of the program of study). The graduate has the ability to present technical problems and their solutions to different audiences. He/she is able to work effectively as a member of a team. He/she perceives the need for lifelong learning in the changing world of computer science, information and communication technologies. Understands the moral, social, legal and economic contexts of the discipline. Is able to adhere to the ethical principles of his/her profession.

4.2. Areas and scope of knowledge, skills and competences that profile the graduate of the second level study program in accordance with the relevant level of the national qualification framework

Knowledge **Skills** **Competencies**	The graduate has knowledge in the field of study at the level of assessment and extensive professional and methodological knowledge in the field of selected specializations. Understands the essential contexts, principles and theories of the field. The graduate can analyze and solve complex problems of an informatics nature. He/she is able to specify, design, optimize, implement and maintain complex solutions based on information and communication technologies (according to the focus of the study program). Can identify critical components of complex systems and design appropriate solutions for them. Is able to critically analyze and apply the concepts, principles and practices of the discipline in the context of defined problems. The graduate demonstrates a high degree of independence in solving problems and projects in the field of study in a changing environment. The graduate demonstrates the ability to work effectively as an individual, team member, or team leader. Possesses innovative thinking and is prepared to present the results of his/her own analysis and study in a professional manner to a professional audience, including in a foreign language. Understands the moral, social, legal and economic contexts of the discipline. Is able to adhere to the ethical principles of his/her profession.

4.3. Areas and scope of knowledge, skills and competences that profile the graduate of the third level study program in accordance with the relevant level of the national qualification framework

Knowledge **Skills** **Competencies**	The graduate knows and can choose specific scientific methods of basic and applied research in the field of study. He/she has extensive professional knowledge in several specific areas of the field of study, which serves as a basis for conducting research and development and creating new knowledge in the field of informatics, in collaboration with experts in didactics, including issues related to the teaching of informatics. The graduate is able to formulate new hypotheses and strategies for further research and development of the field of study. The student applies his/her own findings of theoretical analysis and his/her comprehensive scientific research in solving problems in the field of computer science. The student has a working knowledge of selected methods of scientific research and uses them in the search for new knowledge, technologies and important system connections. He/she is able to formulate research results and achieve international recognition. Can design, validate, and implement new research and work practices based on his/her outputs and findings. The graduate is characterized by independent, critical and analytical thinking, which he/she applies in changing circumstances. He/she independently finds solutions to complex problems and independently presents research and development results to the scientific and professional community in the Slovak Republic and abroad. Can coordinate a team in the relevant field. Considers social, scientific and ethical aspects when formulating research plans and interpreting research results.