SLOVENSKO
OGRODJE
KVALIFIKACIJ

Diplomirani inženir računalništva in spletnih tehnologij (VS)/diplomirana inženirka računalništva in spletnih tehnologij (VS)

Selected qualifications

Name of qualification	Diplomirani inženir računalništva in spletnih tehnologij (VS)/diplomirana inženirka računalništva in spletnih tehnologij (VS)
Translated title (no legal status)	Bachelor of Applied Science in Computer Science and Online Technologies
Type of qualification	Diploma prve stopnje (VS)
Category of qualification	Izobrazba
Type of education	Professional bachelor's education
Duration	3 years

Credits

180 credits

Admission requirements

Enrolment in the first year of the professional higher education study programme Computer Science and Online Technologies is open to candidates who have completed:
• matura,
• vocational matura or a final examination in any secondary school programme,
• any four-year secondary school programme prior to 1 June 1995.
Enrolment in a higher year of the study programme Computer Science and Online Technologies is open to graduates of related programmes, namely those who:
• upon the completion of their studies ensure acquisition of comparable competences, and
• are qualified under the recognition criteria to be granted validation of at least a half of the compulsory subjects as the compulsory subjects of the programme Computer Science and Online Technologies.
Relatedness of the programmes is decided by the competent authority at FIŠ.

ISCED field

Field
Informacijske in komunikacijske tehnologije (IKT)

ISCED subfield

subfield razvoj in analiza programske opreme in aplikacij

Qualification level

SQF 7
EQF 6
First level

Learning outcomes

The qualification holder will be able to:

(general competences)

- recognise and use the possibilities offered by the online technology,
- carry out group work in all phases of development of online and mobile solutions,
- pursue self-learning in order to master the newest relevant online and mobile technologies,
- implement all phases of development of online and mobile applications: planning, development, start-up, sale, maintenance,
- solve specific social and work problems through the application of scientific methods and procedures,
- use the most demanding online services in a safe and meaningful manner,
- understand the requirements of users/recognise opportunities for new online services and transform the related contents requirements into technical specifications,

- adapt online applications for any mobile platform,
- acquire, select, assess and put in context new information, and make an interpretation in an appropriate context,
- integrate the coherently mastered basic knowledge acquired in compulsory subjects and apply it in practice,
- make logical conclusions, assess the magnitude order of a result, demonstrate accuracy of expression, writing and thinking,
- flexibly apply their knowledge in practice,
- develop skills and expertise in the application of knowledge in the field of social sciences with the help of addressing theoretical or empirical problems,
- develop critical and self-critical assessment,
- understand and apply methods of critical analysis and the development of theories, and apply them in solving specific social and work problems,
- understand and apply analytical methods in addressing specific problems,
- recognise and assess actual technologies and technologies being developed, and assess their usability for meeting the needs of users,
- demonstrate knowledge of online business models,
- show awareness of the importance of quality and pursue the quality of professional work through autonomy, self initiative, (self-)criticism, (self-)reflection and (self-)evaluation in professional work,
- demonstrate knowledge of the basics of computer science and information technology,
- demonstrate knowledge of communication opportunities, offered by the web and mobile devices,
- demonstrate familiarity with and understanding of technological processes, analyse and synthesise them, and resolve their consequences,
- demonstrate familiarity with and understanding of technological or social processes, analyse and synthesise them, and resolve their consequences,
- demonstrate knowledge and understanding of the processes that can be supported by information technology using online technologies, analyse and synthesise them and envisage solutions for their consequences,
- demonstrate knowledge and understanding of interactions between ICT and an individual,
- demonstrate familiarity with and understanding of social processes, analyse and synthesise them, and resolve their consequences,
- master the procedures of ensuring safe and stable functioning of online and mobile applications, and eliminate faults on the go,
- master research methods, procedures and processes,
- master research methods, procedures and processes in the field of technical sciences,
- master research methods, procedures and processes in the field of social sciences.

(subject-specific competences)

- Demonstrate knowledge of the methodologies of data modelling,
- demonstrate knowledge of the basics of relational databases and the SQL language, and use them in online applications,
- show sensitivity towards people and the social environment and communication abilities and skills,
- demonstrate acquisition of practical knowledge and experience for working in a business process of an enterprise,
- demonstrate responsibility, professional approach, vocational identity, professionalism, multidisciplinarity, self-initiative and teamwork skills,
- plan organisational and information-related changes in an organisation, which are necessary for the introduction and high-quality application of ICT,
- independently and autonomously use, supervise and maintain ICT in an organisation,
- establish and maintain cooperative relations for work in a group and with other users and groups (local community, organisations of the public administration, business enterprise sector, NGOs),
- identify and use opportunities offered in the working and social environment (manifested in the form of entrepreneurial spirit and active citizenship),

- master efficient and effective spoken as well as written communication in a business environment, using an appropriate technology,
- demonstrate knowledge of business communication and its relevant application in practical situations,
- demonstrate knowledge of all main electronic business communication tools and their effective use,
- demonstrate knowledge and understanding the basics of legal regulation in the Republic of Slovenia and European Union, basic provisions in the field of information society, the basics of intellectual property law (copyright law, industrial property law), the special elements relating to the functioning or business in the online environment, and regulations in the field of protection of privacy),
- demonstrate organisational and leadership skills for the organisation of active and autonomous work,
- demonstrate knowledge and understanding of the functioning of entrepreneurship in the mentioned systems,
- demonstrate knowledge and understanding of theoretical and practical cases in legal development of open coding and closed coding system;
- demonstrate basic knowledge of finances, enabling planning and creating projections for mastering business changes, anticipate future situations on the basis of analysis, understand the meaning of financial and business growth, payment discipline, receivables and payables, and acquiring practical experience from economic-entrepreneurship environment;
- demonstrate familiarity with the meaning of credit rating and BASEL II and BASEL III standards, which enables communication with experts from various fields of economic and corporate life;
- understand insolvent procedures, personal bankruptcy, procedures of e-enforcements;
- understand relations between individuals, organisations and the social environment and the capacity conduct to take a complex systemic view and act accordingly,
- understand entrepreneurship and an enterprise as a part of legal, economic and social system;
- develop skills and expertise in the application of theoretical knowledge in the field of recovery, receivables, defaulted obligors and addressing empirical problems.
- Modern systems of entrepreneurship enable getting familiar with various concepts of corporate functioning, such as: innovative entrepreneurship, family entrepreneurship and understanding of corporate and development cycle of an IT company;
- be active in roles of advisers for use, information architects, interaction designers and researchers for user studies;
- plan user experience;
- demonstrate knowledge of online business models, recognise and use them effectively;
- demonstrate knowledge of a development life cycle of online and mobile applications, used in smart devices;
- understand the requirements of users/recognise opportunities for new online services and transform the related contents requirements into technical specifications,
- get to know and use current technological concepts and practices of key information and communication technologies,
- select the use of ICT, tools and systems for IS planning;
- use modern computer tools meant for business decision-making and data analysis;
- use the techniques for covering the requirements of IS;
- demonstrate familiarity among the representatives of management and IT;
- demonstrate knowledge of basic mathematical methods in the field of real analysis;
- transform mathematical methods into an algorithm and implement this algorithm in an appropriate computer environment;
- demonstrate knowledge of basic mathematical methods in the fields of linear algebra, probability, mathematical optimisation and charts theory;
- transform mathematical methods into an algorithm and implement this algorithm in an appropriate computer environment;
- communicate with experts in information-related activity using appropriate terminology;
- demonstrate knowledge of ethical dilemmas of using information-related solutions and fundamental

law in this field;
- demonstrate knowledge of the most frequent security threats and use practical procedures for ensuring the safety of the information system;
- demonstrate knowledge of the basic ways of modelling data and querying in data;
- demonstrate knowledge of the basic definitions and ideas in computer and information sciences;
- demonstrate knowledge of the types of software and master office software;
- understand the capacities of the components of a computer system and network devices;
- use information and communication technologies and systems;
- demonstrate basic knowledge, needed for development of applications in various operating systems;
- demonstrate knowledge of basic principles of modern operating systems;
- use in practice the most widespread operating systems;
- develop skills and expertise in the application of knowledge in the field of technological sciences with the help of addressing theoretical and empirical problems;
- develop skills to build models on the basis of data;
- demonstrate familiarity with text, web and multimedia contents mining;
- demonstrate familiarity with data mining and hardware learning;
- select and use appropriate hardware component to install local wired and wireless computer networks;
- acquire detailed information about the functioning of individual components and protocols of computer networks in the internet and in technical literature;
- understand the functioning of computer networks (the architecture, protocols, levels);
- manage computer networks (users, workload, safety);
- make extracts of dissertation parts that correspond to the field, audience and purpose;
- design useful documents, including charts elements;
- write and revise summaries in order to achieve clearly written texts;
- demonstrate knowledge of standards for arranging practices for self-evaluation and peer-reviews;
- orally communicate about the researches of the dissertation;
- plan online user interfaces;
- participate in projects for websites and online applications creation;
- show skills for user interfaces design;
- demonstrate knowledge of the basic methods of data analysis and querying in data;
- acquire and arrange data;
- understand the results of basic statistical analyses;
- demonstrate knowledge of the methods, procedures and processes for planning, development and maintenance of information systems;
- understand and master basic principles of functioning of online and mobile information systems;
- critically and self-critically assess user requirements and be initiative in order to optimise them;
- select an optimal technology to establish information system and master technical and technological limitations;
- demonstrate knowledge of the functioning of the internet and worldwide web;
- demonstrate knowledge of descriptive languages;
- demonstrate knowledge of technologies for online programming with clients and develop dynamic applications;
- demonstrate knowledge of and pragmatically apply technologies for online programming with clients and servers, and develop dynamic applications;
- demonstrate knowledge of basic principles and techniques of ensuring safety in online applications;
- understand the functioning of the internet and worldwide web;
- demonstrate knowledge of basic data structures and computer algorithms;
- independently resolve real problems using appropriate data structures and algorithms;
- be active in roles of advisers for use, information architects, interaction designers and researchers for user studies;
- plan user experience;

- participate in projects for websites and online applications creation;
- demonstrate knowledge of main algorithms and techniques from cryptography;
- demonstrate knowledge of the mathematical model of spacial data;
- demonstrate knowledge of mathematical foundations of cryptographic safety;
- carry out arithmetical operations any analyses over spacial data;
- demonstrate knowledge of the basics of the Java programme language;
- demonstrate knowledge of basic concepts of computer programming;
- write a problem in the form of an algorithm and convert the algorithm into a computer programme using modern programme tools;
- independently resolve real problems using computer programming;
- plan, implement and allocate mobile applications which use an appropriate environment to develop software through the problem-solving approach;
- demonstrate knowledge of the elements and structure of mobile development frameworks, find out how and when it is necessary to use various components for the development of a work system through the critical analysis and problem-solving approach;
- demonstrate knowledge of the limitations and challenges of working in a mobile and wireless environment, as well as commercial and research possibilities these technologies represent through the critical analysis approach;
- demonstrate knowledge of capacities and limitations of various mobile computer devices through the critical analysis approach;
- use software for development various models described above through the critical analysis and problem-solving approach;
- use various kinds of models/architecture usage, used for the development of mobile applications through the critical analysis approach.

Assessment and completion

Students' knowledge is assessed by means of practical exercises and seminar papers, and also via products, projects, performances, services, etc. and by examinations. Examination performance is graded as follows: 10 (excellent); 9 (very good: above-average knowledge but with some mistakes); 8 (very good: solid results); 7 (good); 6 (adequate: knowledge satisfies minimum criteria); 5–1 (inadequate). In order to pass an examination, a candidate must achieve a grade between adequate (6) and excellent (10).

Progression

In order to progress from the first in the second year students must accumulate at least 45 credits from the first year, in order to progress to the third year, students must pass all the requirements from the first year and have accumulated at least 45 credits in the second year. If a student enrol in the second year (Computer Science and Online technologies) after he or she has completed a professional post secondary education programme, adopted after 1 January 1994, he or she must prior to enrolment in the third year pass the prescribed differential exams.

Transitions

Second-cycle master's study programmes (SQF level 8)

Condition for obtaining certificate

In order to complete the programme, candidates must complete all course units prescribed by the study programme, for a total of 180 credits.

The studies are completed by preparing and orally defending a thesis.

Awarding body

Faculty of Information studies in Novo mesto

URL

https://www.fis.unm.si/si/studijski-programi/visokosolski-strokovni-rst/