

# KODOLANYI JANOS UNIVERSITY

## PROGRAM DESCRIPTION BPROF IN COMPUTER SCIENCE OPERATIONAL ENGINEERING

Approved by KJU Senate decision:

The program description is using the definitions of the European Higher Education Area European Credit Transfer System. The content is based on ECTS Users' Guide, Hungarian HE legislation and FIBAA Accreditation Agency guidelines for Computer Sciences.

### Program Director:

Dr. László Pitlik

### Basic Data:

**Disciplinary Area:** Bachelor of Profession, Computer Sciences

**Title of qualification:** Computer Science Operational Engineering

**Entry requirements:** Secondary school leaving certificate

**Duration of education:** 1 semester Preparatory course + 6 semesters in the BPROF program

**ECTS value:** Preparatory course 30 credits+ BPROF program 180 credits

**Program focus:** mixed academic and profession oriented & practice-oriented subjects in a proportion of 30-70 % of the total credits

### Contact lessons defined by the Act on National Higher Education:

- Full time program: 1110 contact lessons + 320 Internship working hours

### Specializations:

- Agricultural Informatics;
- IT security;

### Structure of the training:

- Basic Sciences: 15 credits
- Economic sciences and human resources: 25 credits
- Professional subjects: 80 credits
- Specializations: 20 credits
- Internship + Thesis: 40 credits

# 1. Objectives- Context, Aims and Characteristics

## 1.1. Objectives:

### 1.1.1. Quality Aims of the European Higher Education

The program reflects the four purposes of the Council of Europe: preparing students for their future careers, employability, active citizenship, supporting their personal development, and creating a broad advanced knowledge base, stimulating research and innovation – especially in frame of the following IT-oriented keywords: automation, optimization, artificial intelligence, big-data.

### 1.1.2. Dublin Descriptors of First Cycle-QF-EHEA

The program's qualification objectives are equivalent to the European Qualification Framework System 6th level, and Hungarian National Qualification Framework system 6<sup>th</sup> level.

Level	Knowledge	Skills	Competence
Level 6 The learning outcomes are relevant to Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups

They comply with the Hungarian subject benchmarks accredited by Hungarian Higher Education Accreditation Committee, member of ENQA.

Education of IT professionals who are capable of understanding/supporting (IT) business enterprise and business administration processes in general, and capable of internationalization for global business environment.

- They are capable of understanding/supporting (IT) principles and multilevel regional governance system of business enterprises, its trends and nature, challenges and risks.
- They are capable of understanding/supporting (IT) organization and management of different type of organizations, who gained experience in leadership of business process, project management by using their economic knowledge, applying business knowledge and tools. Theirs specialized knowledge makes them capable of understanding/supporting (IT), planning, and analyzing operative and functional business processes of the organizations and institutions.
- They are capable of organization and management of new creative, innovative, quality-oriented program or project-based interventions for business/IT services.
- They are capable of intercultural communication and interactions with business partners, customers for understanding and influencing choices and behaviors of their customers based on the KNUTH's principle, where knowledge is what can be transformed/transferred/translated into source codes.
- They capable of continuing their studies at master level.

### 1.1.3. European Credit Transfer and Accumulation System

KJU ECTS guidelines comply with the ECTS' User Guidelines of EHEA

#### 1.1.4. Quality Guidelines and Standards of EHEA 2015

Design and approval of the program, student centred learning, teaching staff, learning resources, student administration and information management, public information rules.

### 1.2. Internationalization of KJU Program

#### 1.2.1. Legal and normative international environment and rules

International orientation of the study program design is compulsory for international education programs. They comply with the new internationalized standards:

- UN Compact -GLRI50+20 normative prescription for managers as principle for international accreditation in case of EFMD European, and WBSCSB American accreditation agency<sup>1</sup>
- European Parliament criteria for internationalization of HE curricula for international higher education<sup>2</sup>, abroad and at home, credit, staff, student, degree, mobility, cross border delivery, curriculum (IoC), global citizenship, international research communication, international strategic partnerships, accreditation criteria, MOOC and virtual learning rules.
- Erasmus+ Program Guide
- EQUAL-Guidelines\_2014.pdf<sup>3</sup>

#### 1.2.2. The features of internationalization of KJU programs

The internationalization dimension of the study program in case of BPROF consists of the following elements:

- International dimension of content and curricula: to prepare and equip students for challenges of globalization, to prepare graduates for careers in global businesses environment, working in different cultural backgrounds, management/IT skills in intercultural communication and meet the standards of different regional regulations and rules. This is formulated in the Interdisciplinary Global Management/IT cluster of subjects.
- Including language courses to curriculum for preparatory and fresh students.
- International Week program and faculty internationalization are part of the curriculum
- International conferences and research projects are part of the curriculum
- Pedagogies: inclusive student-centred learning and learning skills development, innovation- and information added-value-oriented approaches (see KNUTH's principle).
- Outcomes: detailed described.
- The program fully covers the foreign learning program for international degree students, incoming mobility, inner mobility and partly, the double degree programs.

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<sup>1</sup> <http://grli.org/wp-content/uploads/2017/12/5020-Agenda-English.pdf>

<sup>2</sup> [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/540370/IPOL\\_STU\(2015\)540370\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/540370/IPOL_STU(2015)540370_EN.pdf)

<sup>3</sup> [http://www.fibaa.org/fileadmin/files/folder/FIBAA-FBK-PROG/EQUAL-Guidelines\\_2014.pdf](http://www.fibaa.org/fileadmin/files/folder/FIBAA-FBK-PROG/EQUAL-Guidelines_2014.pdf)

## 1.3. Distinctive premium features of the KJU BSc Business Administration and Management Program

### 1.3.1. Distinctive features of the study program in global THE Programs

- The KJU program complies with all global, European, and Asian normative professional, global occupational and accreditation rules:
- The KJU program combines the best elements of business school education, with university academic environment using applied research and third role of universities for IT and innovation.
- The KJU program is distinctive from other universities because it contains a premium element, the so called PIQ & Lead approach: its main philosophy is professionalism in KNUTH-like knowledge and skills with service dominant approach with innovation and quality dimensions, and preparing for responsible leadership of units, teams, programs, and projects.

### 1.3.2. Distinctive features for possible careers:

Positions: International (ISCO), European (ESCO) and Hungarian (FEOR) employment Codes:

- ISCO: 12 Administrative and Commercial Managers (managers of organization units, departments, small companies that provide services to other departments, corporate managers, general managers)
- ESCO code 24, Business and Administration Professionals
- FEOR Code 25

Roles:

2511 Finance analyst and investment adviser  
2514 Controller  
2521 Management and organization analyst, organizer  
2524 Training and staff development professional  
2534 Information and communications technology sales professional

### 1.3.3. The KJU BSc in BPROF Program's position

- The program is part of the KJU Budapest International Campus program and together with the Hungarian program is sustainably implemented.
- The program is connected to KJU's strategic aims for cooperative education including work-based learning (WBL)
- The program is connected to KJU's strategic aims for entrepreneurship education to develop students for private, non-profit or social entrepreneurship.

## 2. Admission

### 2.1. Admission requirements:

- Admission by formal learning documents
- Validation of non-formal learning on the principles of the European and National Qualification Framework
- EU Skills Profile Tool for Third Country nationals  
<https://ec.europa.eu/migrantskills/#/profile/personal-info/general>

- Recognition of qualifications held by refugees – guide for credential evaluators EAR Manual <http://ear.enic-naric.net/emanual/>

## 2.2. Admission exams are annually monitored.

Admission is the responsibility of the Centre for International Education and Development

## 2.3. Counselling for prospective students:

- Online helpdesk
- Counselling during the preparatory course

## 2.4. Selection procedure

- The selection procedure is transparent, students through language tests approve their learning skills and knowledge base for capability of implementing the study program's objectives.
- Selection process has an inclusive element, it reflects on those who have learning difficulties (dyslexia, etc.)
- The admission procedure is described, documented and the decision is communicated in writing, reflecting transparent criteria.  
The admission criteria contain detailed information on the results of the admission procedure for stakeholders.
- Students with at least 60% in Mathematics and in addition English language skills efficient IELTS or TOEFL language examination can be admitted directly without the need to attend a preparatory course.
  - Required level of English language exam is CEFR B2 level, that equals to IELTS 5.5-6.0 and TOEFL 59-78.
- Failing the above, applicants must have a minimum of 40% in mathematics, in which case they will be admitted to the bachelor's program after completing a semester of Preparatory Course.

### 3. Intended Learning Outcomes in BPROF in Computer Science Operational Engineering (ILO)

The BPROF in Computer Science Operational Engineering has a Hungarian description of ILO. This program ILO is internationalized with globalization and internationalization competencies.

Outcomes of the Program	
<b>1. Knowledge</b>	
<b>1.1.</b>	Graduates are familiar with and understand/support (IT) global, international, regional- including- European political, legal, economic and civilizational knowledge areas, and external environment.
<b>1.2.</b>	<i>Supporting (IT) of multilateral political practices:</i> international systems, regional systems, main actors: states, IGOs, INGOs, knowledge organizations, multilateral diplomacy practices
<b>1.3.</b>	The degree program is expected to provide a broad, analytical, and highly integrated study of computer sciences, its comprehensive terms, concerning national and international requirements, relevant actors, functions, and processes.
<b>1.4.</b>	They are familiar with appropriate theories and practices, and engaged with basic information gathering, mathematical and statistical, AI analysis methods.
<b>1.5.</b>	Graduates should be able to demonstrate relevant knowledge and understanding/supporting (IT) of organizations, the business environment in which they operate and their management. Programs emphasize understanding/supporting (IT), responding and shaping the dynamic and changing nature of business and the consideration of the future of organizations within the global business environment including the management of risk.
<b>1.6.</b>	The business environment: this encompasses the fast pace of change within a wide range of factors, including economic, environmental, cultural, ethical, legal and regulatory, political, sociological, digital and technological, together with their effects at local, national and global levels upon the strategy, behavior, management and sustainability of organizations.
<b>1.7.</b>	Organizations: this encompasses the internal aspects, functions and processes/supports (IT) of organizations including their diverse nature, purposes, structures, size/scale, governance, operations and management, together with the individual and corporate behaviors and cultures which exist within and between different organizations and their influence upon the external environment.
<b>1.8.</b>	Management: this encompasses the various processes, procedures, and practices for effective management/support (IT) of organizations. It includes theories, models, frameworks, tasks, and roles of IT, including the management of people and corporate social responsibility, together with rational analysis/support and other processes of decision making/support within different organizations.
<b>1.9.</b>	Professional knowledge and understanding/supporting (IT) of business operations and services: <i>Supporting (IT) of Markets, marketing and sales:</i> the development, access and operation of markets for resources, goods and services, different

	<p>approaches for segmentation, targeting, positioning generating sales and the need for innovation in product and service design.</p> <p><i>Supporting (IT) of Customers:</i> management of customer expectations, relationships and development of service excellence.</p> <p><i>Supporting (IT) of Finance:</i> the sources, uses and management of finance and the use of accounting and other information systems for planning, control, decision making and managing financial risk.</p> <p><i>Supporting (IT) of People:</i> leadership, management and development of people and organizations including the implications of the legal context.</p> <p><i>Supporting (IT) of Organizational behavior:</i> design, development of organizations, including cross-cultural issues, change, diversity and values.</p> <p><i>Supporting (IT) of Operations:</i> the management/support (IT) of resources, the supply chain, procurement, logistics, outsourcing and quality systems.</p> <p><i>Information systems and business intelligence:</i> the development, management, application and implementation of information systems and their impact upon organizations.</p> <p><i>Communications:</i> the comprehension and use of relevant communications for application in business and management, including the use of digital tools.</p> <p><i>Digital business:</i> the development of strategic priorities to deliver business at speed in an environment where digital technology has reshaped traditional revenue and business models.</p> <p><i>Supporting (IT) of Business policy and strategy:</i> the development of appropriate policies and strategies within a changing environment to meet stakeholder interests, and the use of risk management techniques and business continuity planning to help maximize achievement of strategic objectives.</p> <p><i>Supporting (IT) of Business innovation and enterprise development:</i> taking innovative business ideas to create new products, services or organizations including the identification of Intellectual Property and appreciation of its value.</p> <p><i>Supporting (IT) of Social responsibility:</i> the need for individuals and organizations to manage responsibly and behave ethically in relation to social, cultural, economic and environmental issues.</p>
<b>2. Skills</b>	
<b>2.1.</b>	The degree holder is capable of IT activity for enterprise, project planning, organizing, leading, and monitoring.
<b>2.2.</b>	It is capable of making/supporting (IT) decision preparatory reports and drawing decisions by using different theories, tools in routine and non-routine environment.
<b>2.3.</b>	It is capable of understanding/supporting (IT), analyzing adapting to relevant international business processes, functional policies, monitoring changing law environment.
<b>2.4.</b>	It is capable of understanding/supporting (IT) impacts of economic processes and organizational changes.
<b>2.5.</b>	It is capable of cooperation, working in teams, leading them, for cooperation I interdisciplinary projects.
<b>2.6.</b>	It is capable of leading IT-SMEs, or units in large corporations.

2.7.	It is capable of IT professional suggestions orally, in writing, in foreign languages by the professional business communication rules.
<b>3. Business and IT competencies, behavior and attitudes</b>	
3.1.	Capable of proactive behavior, resolving problems, for constructive behavior.
3.2.	Problem solving and critical analysis also in an automated way: analyzing facts and circumstances to determine the cause of a problem and identifying, and selecting appropriate solutions.
3.3.	Research: the ability to analyze and evaluate a range of business data, sources of information and appropriate methodologies, which includes the need for strong digital literacy, and to use that research for evidence-based decision-making.
3.4.	Commercial acumen: based on an awareness of the key drivers for business success, causes of failure and the importance of providing customer satisfaction and building customer loyalty.
3.5.	Innovation, quality management & creativity and enterprise: the ability to act entrepreneurially to generate, develop and communicate ideas, manage, and exploit intellectual property, gain support, and deliver successful outcomes.
3.6.	Numeracy: the use of quantitative skills to manipulate data, evaluate, estimate, and model business problems, functions, and phenomena.
3.7.	Networking: an awareness of the interpersonal skills of effective listening, negotiating, persuasion and presentation and their use in generating business contacts.
<b>4. Generic competencies</b>	
4.1.	Ability to work collaboratively both internally and with external customers and an awareness of mutual interdependence.
4.2.	Ability to work with people from a range of cultures.
4.3.	Building and maintaining relationships.
4.4.	Emotional intelligence and empathy.
4.5.	Conceptual and critical thinking, analysis, synthesis, and evaluation.
4.6.	Self-management: a readiness to accept responsibility and flexibility, to be resilient, self-starting and appropriately assertive, to plan, organize and manage time.
4.7.	Self-reflection: self-analysis and an awareness/sensitivity to diversity in terms of people and cultures. This includes a continuing appetite for development.

## 4.2. Rules of the credit allocation and conversion of grades

**EQF Levels of the subject:** secondary school education (level 4), vocational level of education/short cycle (level 5), bachelor's (level 6), master's (level 7), Doctorate, Ph.D. (level 8)



**Functions of the subject:** I: Introductory, C: Core compulsory, S: specialization, P: preparatory for the Master level

**Types of the subject:** Theoretical- Colloquia: T, Seminar (portfolio task): S, Mixed (colloquia and portfolio task): M; Practice (project/internship: PRI, work-based learning: WBL): PRI, WBL, L-skills-tests, and other measurement): L

**Types of grades of different types of subject:** T: 1-5; S 1-5; M: 1-5; PRI/WBL: passed, satisfactory, very good, excellent. S: passed, satisfactory, very good, excellent.

**Transcript of grades:**

Performance in %	Performance by value	Grading Hungarian	ECTS grading	USA grading	China grading	India grading	UK grading
90-100	Excellent	5/A	A	A	A	A	A
81-90	Very Good	4/B	B+	B+	B	B	A/B+
71-80	Satisfactory	3/C	B+	B+	C	C	B
51-70	Passed	2/D	C+	C+	D	D	B-
0-50	Failed	1/F	C	C	E	E	C
0-50	No credit	No credit			F	F	F

### Module allocation by clusters of modules

Module title	Code of the subject	Title of the subject	Level of the subject	Type of the subject <sup>4</sup>	Contact lessons+ working hours	ECTS	Semester of education
Preparatory modules		Basic computer and online skills	5th	L-T	15+120	5	0
		Application Skills	5th	L-T	60+120	10	0
		Webediting	5th	L-T	15+120	5	0
		English in Use (Grammar and Writing)	5th	L-T	30+120	5	0
		Communication Skills (Oral)	5th	L-T	30+120	5	0
		International Week	6th	PT	30+120	5	1-6
		Free Elective	6th			5	
Interdisciplinary Globalization studies and generic		Understanding Europe	6-I	M	30+120	5	1-2
		International Business Law and Regulations	6-C	M	30+120	5	3

<sup>4</sup>Theory (oral/written exam): T  
Seminar (Portfolio tasks): S  
Mixed (oral/written exam and Portfolio tasks):M  
Practice (Projects/Internship): PRI  
Work-based learning: WBL  
Learning-skill-tests and other measurement: L

<b>competencies modules</b>		Introduction to mathematics	6-I	T	30+120	5	1-2
		Business Process Management	6-C	S	30+120	5	3-4
		Globalization and Social Problems	6-7-C	M	30+120	5	3
		Intercultural Communication	6-I	ST	30+120	5	1-2
		International week	6-S	PT	30+120	5	1-2
		Free Elective	6-7		30+120	5	1-2
<b>BPROF module</b>	<b>IT</b>						
<b>For all specializations</b>		Operation systems	6	M	30+120	5	1-6
		Networks and computer architectures	6	S	30+120	5	1-6
		Introduction to algorithms	6	S	30+120	5	1-6
		Introduction to programming	6	M	30+120	5	1-6
		Electronic circuits	6	S	30+120	5	1-6
		Introduction to electronics	6	T	30+120	5	1-6
		System modelling	6	S	30+120	5	1-6
		Data-visualization	6	S	30+120	5	1-6
		System planning	6	S	30+120	5	1-6
		Programming I	6	S	30+120	5	1-6
		Programming II	6	S	30+120	5	1-6
		Programming III	6	S	30+120	5	1-6
		Databases I	6	S	30+120	5	1-6
		Databases II	6	S	30+120	4	1-6
		System operation	6	S	30+120	5	1-6
		IT-security	6	S	30+120	5	1-6
		Software testing	6	S	30+120	4	1-6
		Software architectures	6	S	30+120	4	1-6
	<b>Specialized Disciplinary Modules</b>						
<b>IT-security</b>		ICT in the IT-security	6	S	30+120	5	1-6
		Project management and quality management in the IT-security projects	6	s	30+120	5	1-6

		Artificial intelligence in the IT-security	6	S	30+120	5	1-6
		Knowledge management in the IT-security	6	S	30+120	5	1-6
<b>Agricultural informatics</b>		ICT in the agriculture	6	S	30+120	5	1-6
		Project management and quality management in the agriculture	6	S	30+120	5	1-6
		Artificial intelligence in the agriculture	6	S	30+120	5	1-6
		Knowledge management in the agriculture	6	S	30+120	5	1-6
<b>Compulsory projects</b>		Group Project	6-PR	PRI	20+40		3-4
		Individual Project	6-PR	PRI	20+40		5-6
<b>Voluntary service</b>		Individual					3-4
<b>Sport &amp; cultural well-being for fitness</b>		Every semester		PRI	20		1-6
<b>Informal Curricula for Freshmen year (pre+first semester)</b>		IT & Library competencies, professional resume writing, workplace learning-as student internship, or student job service, tuning for the profession		PRI			0-1
<b>Informal Curricula for the Sophomore Year (2-3d semesters)</b>		Group projects Career planning and exploring possible career path, workplace learning, voluntary jobs, personal brand development,		PR			2-3

		study tour Bronze package – visiting firms in KJU places					
<b>Junior year 4-5<sup>th</sup> semesters</b>		interdisciplinary group project, Erasmus mobility, Study tours for extra charges: Silver package - Hungary		PR			4-5
<b>Senior year 6<sup>th</sup> semester</b>		Erasmus internship mobility, Study tours for extra charges: Golden package - Europe		PR			6-7
<b>Alumni program</b>		Alumni CLUB		PR			

Contact lessons/semester	1st		2nd		3rd		4th		5th		6th	
30	Understanding Europe (M)	5	Electronic circuits (S)	5	International business law and regulations (M)	5	IT-security (S)	5	Specialization	5	Specialization	5
			Introduction to electronics (T.)	5			Databases II. (S)	5			Specialization	5
30	Introduction to mathematics (T)	5	System modelling (S)	5	Globalization and social problems (M)	5	Software testing (S)	5			Specialization	5
30	Introduction to algorithms (T)	5	Intercultural Communication (ST)	5	Databases I. (S)	5	Software architectures (S)	5				
30	Operation systems (T)	5	Programming I (S)	5	System operation (S)	5	Programming III. (S)	5				
30	Introduction to programming (S)	5			Programming II (S)	5	Business Process Management (S)	5				
30	Networks and computer architectures (S)	5	Data-visualization (S)	5	System planning (S)	5						
	Well-being services		Well-being services		Well-being services		Well-being services		Well-being services		Well-being services	
<b>Interim Internship</b>	Interim internship		Interim internship		Interim internship		Interim internship		Interim internship		Interim internship	
<b>Internship, Thesis/ Portfolio</b>									Internship	25	Thesis / Portfolio	15
<b>ECTS</b>	<b>30</b>		<b>30</b>		<b>30</b>		<b>30</b>		<b>30</b>		<b>30</b>	

## 4. Internship rules

In the 5th semester, students will participate in an internship outside the university in a business unit.

The duration of the internship is min. 8 weeks.

The internship placements shall take place in enterprises, public service and non-profit organisations. It is a prerequisite that the placement should be suitable for deepening the student's practical knowledge, for testing the applicability of theoretical knowledge in practice and for preparing the thesis.

The choice of the placement site is made after careful prior professional consultation. Once a specific placement has been agreed, the faculty member mentoring the student will contact the enterprise. Once the specific student placement program has been agreed, the University will conclude a contract with the host company or institution.

The student is obliged to complete the internship at the designated place. The work schedule and the conditions of the placement will be established by the entity in agreement with the student's mentor.

### **I. Training objectives and competences to be acquired during the placement:**

- The purpose of the traineeship in the context of cooperative training is twofold: on the one hand, it must help the student to develop his/her competences and, on the other, it must enable the trainee to carry out work that is suited to the real professional needs of the training site. Semester 5 of the model curriculum is the planned duration of the 320 hours of continuous internship. During the internship semester, the student is required to complete only two units of study outside the internship. One of these is a course in the chosen specialisation, and the other is a course on best practice solutions in the chosen specialisation, i.e., a course on innovation and benchmarking. The specialisation's professional subjects are inextricably linked to the internship.
- The internship can only be carried out at a training centre with which the KJE has a cooperation agreement and with which the student has a student work contract.
- The internship must be registered in Moodle by the last week of the semester preceding the internship. The approval of the departmental internship supervisor must be obtained before the application. All documents documenting the internship, including the approval, the student work contract and the documentation required for the evaluation, must be uploaded to Moodle.

### **II. Methods for evaluating student performance in the internship: - The internship will be evaluated on a 100-point scale as follows:**

- To what extent does the documentation (supporting documents, logs of work performed) show the development of the trainee's competences? 0-50 points
- How well did the trainee meet expectations as a prospective employee? 0-50points
- Based on the documents uploaded and the evaluation of the trainee supervisor, the departmental trainee supervisor will award the trainee a mark.

### **III. Organisation of the placement, provision and supervision of 'external' supervisors:**

The supervisors are appointed by the head of the partner company. The Centre for Higher Education Methodology of the KJE organises a one-day training session to familiarise the supervisors with the most important practical knowledge and relevant elements of the pedagogical model of the KJE, and a short methodological training session is also organised for the supervisors.

## 5. Final thesis / portfolio:

Students can choose to write a final thesis or a portfolio as the final document of their studies.

### Final thesis:

#### I. The aim of the thesis

- The aim of the thesis is for students to demonstrate, by independently developing a topic of their choice and by solving a task related to the professional subjects of their training, that they have the knowledge, theories, the most important methods of analysis, development, control and quality assurance appropriate to the degree course, that they are familiar with the national and international literature and that they are able to apply their knowledge in a creative, logical and scientifically rigorous manner to a topic of their choice.

- The defended thesis also demonstrates that the graduates are able to use their acquired knowledge and specialised skills to carry out planning, analysis, organisation, development, quality assurance, control and management work in business organisations and institutions with an IT focus.

#### II. Choice of subjects

- A thesis topic is one in which the student demonstrates the ability to apply the knowledge acquired at university and the experience gained in the workplace in a coherent and creative way. Students may choose a thesis topic from the topics announced by the department.

- A student research project may be accepted as a thesis if it meets the formal and substantive requirements and is recommended by the Scientific Students' Council

#### III. General requirements for the thesis

- The University expects students to provide a professionally convincing presentation of the chosen topic by means of a descriptive-analytical and developmental presentation of its theoretical and practical aspects, appropriate empirical studies and/or analysis of statistical data and other sources, or to be able to digitise and convert existing knowledge in textual/graphical form into source code. Take a multi-faceted approach and critically reflect on what they have seen in literature and in practice on the chosen topic and formulate conclusions, suggestions and alternative solutions to the problem under study.

- A thesis that is merely a descriptive account of a situation or a repetition or copying of sources and literature will not be accepted.

### Portfolio:

#### I. The aim of the portfolio:

The portfolio is a collection of documents that sheds light on the student's knowledge, skills, attitude, i.e. the competence acquired during the studies, as well as on his/her progress and achievements in a particular field.

The portfolio is therefore a systematic and targeted collection of students' work, which is compiled by the students themselves, based on prior criteria and on the basis of the documents prepared during the course of the training. The aim of the portfolio is to demonstrate the existence, depth, and application of the required and prescribed competences. It allows a more precise, comprehensive, and qualitative assessment of the student's performance.

## II. General requirements for the portfolio:

1. The general aim of the final portfolio is to provide an analytical and critical approach to what the candidate has read in the literature or experienced in practice on the chosen topic, and to formulate his/her suggestions and ideas on the topic in question, through descriptive-explanatory and/or empirical research, statistical and other sources.
2. The documents chosen for the portfolio should be of high quality, professionally prepared, independently produced and reflect the relevant competences.
3. A portfolio that is merely a descriptive inventory or a repetition or copying of sources and literature will not be accepted.

## 6. Conditions for the degree awarding final exam:

- Accumulation of 180 + 30 ECTS
- Accepted Final thesis with passing grade

## 7. Final exam:

The final examination consists of two parts, the defense of the thesis and the oral examination, based on predefined tasks and topics set by the department. The main task of the board is to verify the existence of the learning outcomes (competences) of the students as set out in the Learning and Learning Outcomes Requirements (where possible, making use of the availability of log-based objective evidence). Thus, the theoretical and practical skills acquired during their studies are reported by analyzing small problems that can be solved during the examination. They may be asked questions by the exam board in relation to these.

## 8. Qualification of the Diploma:

The qualification of the diploma is the rounded average of the following grades:

- the grade of the Complex Oral Examination (and Written Exam, if any)
- grade point average of the per-semester-average (as shown in the Transcript).

## 9. Foreign language requirement for graduates

Paragraph 51 (2) In (1) of the Act of National Higher Education - with the exception of the final exam – does not need to be applied if the language of instruction is not Hungarian.

The degree certifies a CEFR C1 level language proficiency equivalent to a complex Advanced Language Exam. At this level, students can function independently and with a great deal of precision on a wide variety of subjects and in almost any setting without any prior preparation.

## 10. EUROPASS Framework

- Official EUROPASS CV
- European mobility framework
  - Erasmus+ mobility study exchange in the European Union countries after 2 completed semesters accumulating 60 credits), -possible for 1-or 2 semester-period



- Internship for a semester
- Diploma Supplement (full description of completed subjects, practice, internship)
- Other Certificates: KJU offers life-long learning special programs

## 11. Information concerning the learning process:

- The whole process of learning administration uses NEPTUN higher education software and student/teacher interface
- Program description: provided by Student Communication Office
- Subject learning process: Moodle interface
- Individual problems: International Student Office
- Information for prospective students: English language home page

## 12. Student well-being services:

- Immigration matters - International Student Office
- Health related Issues: International Student Office
- Religious services: only for personal activities, official religious services are available in Budapest for most religions
- Cultural programs: integrated into general campus services
- Sport services: only for occasional personal fitness
- Carrier services: Office of Carrier Services with student job opportunities

## 13. Evaluation of course performance and quality management procedures

- Student satisfaction surveys concerning subjects yearly/10 subjects
- Student well-being survey 2 times for program
- Student satisfaction with program once for the program cycle
- Teacher satisfaction survey once for the education cycle
- Program performance evaluation: every year
- Institutional performance once for the accreditation cycle
- Program renewal possible after a completed cycle, changes in subjects is possible for 15 % all of credits
- Subject inner renewal possible after a completed cycle
- Involvement of students in quality matters with appointing a student self-government representative