BUSINESS INFORMATICS MASTER'S PROGRAM

<u>**Valid:**</u> For students starting their studies in the 2020/2021/1 semester

<u>**General Informations:**</u>
Person responsible for the major: dr. Zoltán Szabó, associate professor
Place of the training: Budapest
Training schedule: full-time, evening
Language of the training: Hungarian, English
Is it offered as dual training: no
<u>**Specializations:**</u>
No specialisation.

<u>**Training and outcome requirements**</u>
1. **Master's degree title:** Business Informatics
2. **The level of qualification attainable in the Master's programme, and the title of the certification**
   – qualification level: master- (magister, abbreviation: MSc)
   – qualification in Hungarian: okleveles gazdaságinformatikus
   – qualification in English: Business Informatics Engineer
3. **Training area:** informatics
4. **Degrees accepted for admittance into the Master's programme**
   4.1. **Accepted with the complete credit value:** business informatics undergraduate degree.
   4.2. [1] **May be primarily considered with the completion of the credits defined in section 9.4:** Computer Science Engineer, Computer Scientist, and Computer Science Operational Engineering undergraduate degrees.
   4.3. [2] **May also be considered with the completion of the credits defined in section 9.4** are completed: undergraduate and Master's courses as well as courses defined in Act LXXX of 1993 on higher education that are accepted by the higher education institution's credit transfer committee based on a comparison of the studies that serve as the basis of the credits.
5. **Training duration, in semesters:** 4 semesters
6. **The number of credits to be completed for the Master's degree:** 120 credits
   – degree orientation: balanced (40-60 percent)
   – thesis credit value: 30 credits
   – minimum credit value of optional courses: 6 credits
7. **International Standard Classification of Education field of education code:** 481
8. **Master's degree training objectives and professional competences**
   The objective of the programme is the training of Business Informatics Engineers capable of understanding complex business processes, uncovering issues, and developing alternative solutions. They are capable of recognising expectations towards IT systems that support value-creating processes, of developing applications and

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1 Established by: Section 2 (2), Appendix 1 of Ministry of Human Capacities decree 31/2017. (XII. 5.) Effective from: 6/XII/2017
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managing finished applications, and of performing and coordinating research and development tasks. They are prepared to continue their training at the PhD level.

8.1. Attained professional competences

8.1.1. The Business Informatics Engineer has

a) knowledge

− Possesses a mastery of English that is sufficient for the training, reading technical literature in English, understanding and processing technical texts, and performing the professional tasks that may be performed with the field of education, and constant professional self-improvement.

− Knows and understands the company's system of activities, the concepts of value chain and supply chain, the principles of process-oriented management, the process of corporate strategy development.

− Knows and understand relationships between corporate functions, including the primary concepts and processes regarding marketing, finance and accounting, human resource management, innovation management, and value-creating process management.

− Possesses detailed knowledge regarding information systems, understands the principles and methods of architecture-development.

− Knows the principles and development methods of business, information, and data architecture, the main interrelationships of implementation, and change management tasks.

− Understands the connections between information and business architecture and is capable of mapping business needs to IT requirements.

− Knows the basic characteristics of the various layers of information architecture (transaction processing, operative support, decision support, group work, work processes) and their interrelationships.

− Possesses detailed knowledge regarding all fields of information management, including the conceptual system and interrelationships of informatics strategy, process management, system organisation, knowledge management, IT service management, project management, risk management, performance management, IT asset management, IT safety and IT audit.

− Possesses a comprehensive knowledge regarding regulation issues and problems of information society, including the interpretation of various fields (media, telecommunication, economy), and IT law respects.

− Is aware of global trends, the limits of the scientific field in his/her IT specialisation, its role in IT and social innovation, and the resulting new requirements.

− Knows the methods of solving issues related to the fields of applications and the methods, processes, and limits of the tasks that aim to solve them.

− Knows and understands the concepts, interrelationships, applications, and limits of statistics and computer science.

b) skills

− Plans and manages the development of IT applications and methods that solve real business and organisational issues.

− Is capable of understanding and analysing business processes, exploring the software applications that help execute them, and adapting them to business-organisational requirements.

- Is capable of utilising system development principles and methods, and managing the execution of developmental tools (business modelling and the tools of computer-supported development).
- Is capable of performing tasks related to planning, creating, and managing databases.
- Is capable of adapting economy applications, initiating the organisational changes necessary for the implementation of IT applications, eveningmating introduction risks and planning measures to eliminate them, and of cooperation in execution.
- Is capable of managing the IT unit of an organisation, if needed, outsources IT tasks.
- Is capable of applying the learned methods to handle operational risks.
- Is capable of planning and managing development projects and uncovering various organisational solutions in IT-related tasks.
- Cooperating with and IT auditor, is capable of ensuring the conditions and controls of processes.
- Is capable of uncovering and communication business opportunities in IT applications.

c) **attitudes**
- Monitors professional and technological development regarding the IT and corporate (public administration, public service) fields.
- Utilises a critical viewpoint, a new view, new solutions and methodologies in his/her specialist field and scientific field.
- Uses scientific arguments for the necessary innovation while planning and leading research and development.
- Considers mediating professional results between the representatives of the IT field and other representatives of the application field.
- Accepts and develops work and organisational culture, consequently endorses professional ethical principles related to IT security.
- Is dedicated to observing and enforcing quality requirements.
- Respects differing opinions, strives for convincing others with professional arguments.
- Considers conveying and realising environmentally conscious behaviour important.
- Takes on an active, managerial role in projects and in task-oriented work groups, constantly develops his/her own project management skills and abilities, and focuses on shared success in initiatives and decisions.

d) **autonomy and responsibilities**
- Performs his/her tasks, thinks through and develops professional issues in an independent IT job, in an appropriate, but self-decided way.
- Feels responsibility to adhere to and enforce deadlines.
- Takes responsibility for his/her own work and the work of any colleagues working with him/her (in the same projects).
- Manages critical IT systems with a developmental and operational responsibility.

9. **About the Master's programme**
   9.1. Professional properties
   9.1.1. **The scientific fields and areas that the training is based on are:**
   – natural science and economy studies (Computing Science, Operation Research, Multivariate Statistics, Management Control, Strategy, Managerial Accounting) 18-30 credits;
   – business informatics professional studies (Software Engineering, Network Technologies, Security, System Development, Data Mining, Data Warehousing, Corporate Architecture, Informatics Strategy, Process Management) 20-25 credits.
   9.1.2. Considering optional specialisations, specialist knowledge learned in specialist fields appropriate for the requirements of the informatics profession. The credit value of specialisation recommended by the training institution is 25-50 credits.
   9.2. Foreign language requirements
   To obtain a master's degree, the student must have an intermediate "B2" complex type state-recognized language examination in any living foreign language in which scientific literature for the profession exists, or an equivalent graduation certificate or diploma.
   9.3. Internship requirements
   The internship is a professional training that contains at least 240 certified work hours that lasts for at least 6 weeks defined by the curriculum of the higher education institution.
   9.4. [3] For persons with degrees defined in sections 4.2 and 4.3, the minimal requirements of admittance to the Master's programme training cycle
   9.4.1. For those with degrees defined in sections 4.2 and 4.3 – except for holders of Computer Science Operational Engineering undergraduate degrees as per section 4.2 – the minimum number to enter the Master's training cycle of credits is 70 from the following fields:
   – 10 credits from the fields of natural science studies (Analysis, Probability Theory, Statistics, Operation Research, Mathematics, Computer Science);
   – 20 credits from the fields of economic and human studies [Economics, Corporate Economics, Finance, Legal Studies, European Union Studies, Management, Management Theory (Decision Theory, Methodology) Studies];
   – 40 credits from the fields of informatics studies (Computer Architectures, Operating Systems, Computer Networks, Programming Theory, Programming Languages, Program Design, Database Management, IR Architectures, Development, and Management, Quality Assurance, Integrated Developmental Tools, Development Support, Informatics Audit, Integrated Corporation Management Systems, Special Applications).
   – The prerequisite of admittance into the Master's programme is for the student to have at least 40 credits in the listed area based on his/her undergraduate studies. Missing credits must be attained in the Master's programme as defined in the higher education institution's Study and Exam Regulations.

9.4.2. For entering the Master's programme with a Computer Science Operational Engineering undergraduate degree, a minimum of 60 credits is necessary from the following subject areas:
- introduction to natural sciences (Analysis, Statistics, Operational Research) 10 credits, economic and human studies (Economics, Financial Studies, Accounting, Controlling) 20 credits;
- informatics studies (Computer Architectures, Databases, Business Intelligence, Corporate Management Systems, Quality Assurance, IT Audit, System Development) 30 credits.
- The prerequisite of admittance into the Master's programme is for the student to complete 60 credits in the listed fields of study in parallel with the Master's programme, in the first two semesters after admittance, as defined in the higher education institution's Study and Exam Regulations.

10. Comprehensive examination
There are no comprehensive examinations.

11. Conditions of the issuance of the final certificate
- the full performance of the credit requirements in a structure described in the operative curriculum the number of credits necessary to receive a diploma within the maximum training period and in line with the training and outcome requirements. At least 2/3 of the required number of credits must be obtained at the parent university;
- the performance of practical professional training prescribed.

12. Thesis requirements
- The minimal extent of the thesis is 50 pages;
- The substantive and formal requirements of the thesis on the master's level are covered in Annex1/A.1.1. of the Study and Exam Regulation.

13. Final examination authorization requirements
- obtaining the absolutory,
- submitting the thesis and the acceptance thereof by the reviewer(s),
- fulfilment of all payment obligations owed to the University.

14. Parts of the final examination
In the framework of the final examination, in the complex exam the student shall give account of his/her professional knowledge, defend his/her thesis and answer questions in the topics determined as final examination requirements and related to the thesis.

15. Determination of the final examination grade
The grade received on the final examination is the average of the review grade or grades and the grade received on the oral defence of the thesis, calculated to two decimal places.

16. Elements of the diploma classification, the calculation method
It is based on the weighted average of the following items, calculated to two decimal places:
- average of the grades of the compulsory subjects
- the grade of the complex exam
- the grades received on final examinations with doubled value.

17. Employment opportunities
The graduates of our program already have previous experience, therefore they are able to find employment in both the business and the public service sectors as IT department managers, IT project managers, experts (in areas such as business intelligence, IT audit, application integration, etc.), senior consultants, IT service managers. The qualification of the graduate students makes them suitable for filling

the most various of application support job functions as well. At the same time, the graduates of the program may find employment as the experts or leaders of areas of expertise related to and relying heavily on information technology (e.g. controlling, finance, accounting).

18. **Talent development activity**

Our objective is to ensure that the students get both theoretical and practical knowledge, in the framework of which we provide opportunities to get involved in the projects ongoing at the university. In order to gain and develop practical experience it is a good solution to involve the future users and appliers in the program. Due to the mutual interest the system suppliers, software manufacturers and system integrators also hold interest in establishing the practical orientation of the courses. An important area of talent development and transferring knowledge to the students in line with their interests and ambition is the diploma course, in the framework of which the students may get insight into the specific area they are interested in, with appropriate professional direction. This approach appliers to the entire training program, i.e. we build on the individual work, interests and ambitions of the students in a differentiated manner. We are able to provide students of outstanding abilities with scholarship opportunities and awards during academic competitions. In line with the professional interests, we organize smaller professional conferences and lectures for the students regularly, the contents of which go beyond the limits of the fixed curriculum material, and we can get the students acquainted with new areas with the help of guest lecturers.

19. **Preparation for research and development, doctoral program**

During the master's program the students get comprehensive, but also specialized knowledge in both theory and practice.

At the Corvinus University of Budapest, in the framework of the Business Informatics doctoral school there already is an Information Management specialization which provides opportunity for master's program graduates to continue their studies as researchers, in the doctoral school and at their own areas of expertise.

We pay special attention to those of our students who are interested in the scientific activity. In order to allow the students to get an insight into research work we put great emphasis on ensuring that the students can test their abilities at the annually held undergraduate research society competitions and get acquainted with the fundamentals of scientific research work. However, it constitutes more thorough engrossment that the students can participate in the research, research and development projects organized and implemented by the departments, and therefore the students can gain active practical experience about the nature of the researches and they can submit their doctoral application in awareness of these. We help the students with such ambitions in publishing their scientific achievements and presenting those in professional forums.

Subject Code	Subject Name	Type	Number of hours per semester hours		Credits	Evaluation	Fall or Spring Semester	2020/21 Academic year		2021/22 Academic year		Credit	Subject responsible	Institute	Requirement		Equivalent subject		Remarks
			Lecture	Seminar				1 Fall semester	2 Spring semester	3 Fall semester	4 Spring semester				Code	Name	Code	Name	
Core courses								**30**	**30**	**6**	**6**	**72**							
Foundation core courses								**24**	**24**	**6**	**0**	**54**							
293NBISK600M	Computer Science	C	2	2	6	ex	fall	6					Tasnádi Attila	Institute of Mathematics and Statistical Modelling					
293NACCK640M	Financial Statements & Analysis	C	2	2	6	pg	fall	6					Kaliczka Nándor	Institute of Finance, Accounting and Business Law					
293NBISK601M	Software Engineering	C	2	2	6	pg	fall	6					Csáki Csaba	Institute of Information Technology					
293NMANK620M	Management & Organization	C	2	2	6	ex	fall	6					Szilas Roland Ferenc	Institute of Management					
293NMATK600M	Quantitative Methods	C	2	2	6	ex	spring		6				Ábele-Nagy Kristóf	Institute of Mathematics and Statistical Modelling					
293NBISK603M	Network Technologies	C	2	2	6	ex	spring		6				Fodor Szabina	Institute of Information Technology					
293NFINK564M	Advanced Corporate Finance	C	2	2	6	ex	spring		6				Csóka Péter	Institute of Finance, Accounting and Business Law					
293NBISK604M	IT Security	C	2	2	6	ex	spring		6				Varga Krisztián	Institute of Information Technology					
293NBISK606M	Enterprise architecture	C	2	2	6	ex	fall			6			Szabó Zoltán	Institute of Information Technology					
Professional Core courses								**6**	**6**	**0**	**6**	**18**							
293NBISK602M	Process Management and ERP	C	2	2	6	gy	fall	6					Ternai Katalin	Institute of Information Technology					
293NBISK605M	Business Intelligence	C	2	2	6	gy	spring		6				Kő Andrea	Institute of Information Technology					
293NBISK611M	IT governance	C	2	2	6	v	spring				6		Fehér Péter	Institute of Information Technology					
Core elective courses								**0**	**0**	**6**	**6**	**12**							
293NBISK607M	IT project management	CE	2	2	6	v	spring				6		Klimkó Gábor György	Institute of Information Technology					

Business Informatics master programme in Budapest, in English, full time training Curriculum for 2020/2021. (1.) fall semester for beginning students

Subject Code	Subject Name	Type	Number of hours per semester hours - Lecture	Number of hours per semester hours - Seminar	Credits	Evaluation	Fall or Spring Semester	2020/21 Academic year - 1 Fall semester	2020/21 Academic year - 2 Spring semester	2021/22 Academic year - 3 Fall semester	2021/22 Academic year - 4 Spring semester	Credit	Subject responsible	Institute	Requirement - Code	Requirement - Name	Equivalent subject - Code	Equivalent subject - Name	Remarks
Business Informatics master programme in Budapest, in English, full time training Curriculum for 2020/2021. (1.) fall semester for beginning students																			
293NBISK608M	Data Mining	CE	0	4	6	pg	fall			6			Kő Andrea	Institute of Information Technology					
293NBISK609M	Advanced IT solutions	CE	2	2	6	pg	fall			6	6		Fehér Péter	Institute of Information Technology					
293NBISK610M	Business Analytics	CE	2	2	6	pg	spring				6		Kő Andrea	Institute of Information Technology					
Elective courses								0	0	6	0	6							
293NOPRV517M	Decision Making Skills	E	2	2	6	pg	fall			6			Zoltayné Paprika Zita	Institute of Business Economics					
293NMARV649M	Online & Digital Marketing	E	2	2	6	ex	spring		6		6		Varga Ákos	Institute of Marketing					
Thesis Work								0	0	15	15	30							
293NTHESCONS5	Thesis Work	C	0	7	15	pg	fall			15			Szabó Zoltán	Institute of Information Technology					
293NTHESCONS6	Thesis Work	C	0	7	15	pg	spring				15		Szabó Zoltán	Institute of Information Technology					
Criterion subjects								0	0	0	0	0							
INIR003NAMB	Internship	C				s							Szabó Zoltán	Institute of Information Technology					
IOK0001NABB	Hungarian Language SHI I.*	CR	0	4	3	pg	fall	3	3				Dobos Ágota	Centre of Foreign Language Education and Research					
IOK0004NABB	Hungarian Language SHI II.*	CR	0	4	3	ex	spring	3	3				Dobos Ágota	Centre of Foreign Language Education and Research					
Total credits								30	30	33	27	120							

Remarks
Type: C-compulsory courses, CE-core elective courses, E-elective (optional) courses
Methods of assessment: ex-exam (exam at the end of the semester, but other forms of assessment are possible during the semester), pg- grade based on the practical assignments given during the course of the semester, s=signature, ce- Comprehensive examination

Criterion subjects:
* Hungarian Language is a compulsory subject for the students participating in the Stipendium Hungaricum scholarship program in the first two semesters.

Courses are recommended to be taken according to the prescribed time schedule of the study programme ("sample"). You can plan your own individual programme in respect of the following conditions:
1. the prerequisite system of their study-programme must be taken into consideration when registering for courses.
2. the availability of courses in the semester (most courses are offered either in the fall or in the spring semesters only)
3. completing an average of 30 credits per semester, as a general rule.

Conditions for the final exam:
Students can take a Final Exam on the condition that
- they have fully completed the study programme
- they have submitted their Thesis Work and the assessors have accepted it

Final Exam
The final exam is an integrated assessment necessary for obtaining the higher education qualification. It consists of defending the thesis work and answering thesis-related queveningons in front of a Thesis Defence Committee.