



Co-funded by the
Erasmus+ Programme
of the European Union

Work Package 2

DEVELOPMENT: DEGREE PROFILE & CURRICULUM DEVELOPMENT

Establishing Modern Master-level Studies in Information Systems

561592-EPP-1-2015-1- FR-EPPKA2-CBHE-JP

Version 1.0



Montenegro

Study programme profile

One of the main concepts of studies at the Faculty of Information Systems and Technologies is interdisciplinarity. The information technology knowledge should be acquired for the purposes of direct application and facilitation of solving the real-life business problems. Those studies are for graduates who want to have an entrepreneurial approach towards their own knowledge and skills. Thus, at UDG, we are creating enabling conditions and raising the quality of teaching so that students can acquire knowledge, skills and character that enable him/her to work in any country of the world, not only Montenegro. The knowledge of informatics and IT technologies is sought in the market especially in the fields of economy and business. The job market requires specialists with knowledge in the area of information technologies or IT specialists who are able to apply their knowledge directly to economy and business. The Faculty of Information Systems and Technologies will educate young people in a way to enable them to meet such demands of the job market. Those studies will at the same time ensure good positioning of students at the international job market.

DEGREE PROFILE OF MASTER OF SCIENCE IN INFORMATION SYSTEMS SECURITY
Information systems
The full name of the qualification
Master of Science in Information Systems Security
The Master's degree programme in Information Systems is arranged in a modular structure and is characterised by both its academic rigor and practical relevance. The programme comprises four semesters of full-time study corresponding to 120 ECTS credits

INSTITUTION	Faculty for Information Systems and technologies
COUNTRY	Montenegro
YEAR OF REFERENCE	licensing procedure – 2018 accreditation procedure – 2019
LEVEL	Master Degree (NQF) Level 7 (EQF) The second cycle (EHEA)

A	PURPOSE
	<p>Graduates of the Master’s degree programme in Information Systems Security will be able to:</p> <ul style="list-style-type: none"> a) design, implement, and manage information systems, b) apply modern technologies in the practical environment, c) manage research and practical projects in the field of information technology, d) understanding and implementation of international regulations and standards at the local level.

B	CHARACTERISTICS	
1	DISCIPLINE (S)	Information technologies/Business/Law – 50/30/20
2	FOCUS	The Master’s degree programme in Information Systems Security provides well-grounded methodological competencies at the intersection between information technology , business and law (national and international legislative) that are required in area of it security.
3	ORIENTATION	practical/professional orientated

4	DISTINCTIVE FEATURES	The Master's degree programme in Information Systems Security provides skills, thereby focusing on the nexus between information technology, business and law. The programme provides graduates with skills which are needed in IT area in connection with the strategic determinations of the Montenegro.
---	----------------------	--

C	EMPLOYABILITY & FURTHER EDUCATION	
1	EMPLOYABILITY	Graduates will be able to work as IS/IT consultants, business and system analysts, IS designers or IS/IT project managers, IS security experts (risk managers, forensics specialist..) both nationally and internationally. It is evident that the labour market values graduates that have a combination of business knowledge and IS design knowledge
2	FURTHER EDUCATION	The degree grants eligibility for a doctoral degree programme

D	EDUCATION STYLE	
1	LEARNING & TEACHING APPROACHES	Practical problem based learning, case study learning, research based learning, learning through laboratory practice, work placements, group work
2	ASSESSMENT METHODS	oral and written examinations, practice, case studies, technical reports, project work, presentations
E	PROGRAMME COMPETENCES	

1	GENERIC	<ul style="list-style-type: none"> · analysis and synthesis; · knowledge of international and national standards · ability to apply knowledge in practical situations; · subject area knowledge and understanding, · acquiring knowledge for obtaining international certificates · understanding of the profession; · ability to identify, pose and solve problems
2	SUBJECT SPECIFIC COMPETENCES	<p>extracurricular activities:</p> <ul style="list-style-type: none"> -Lecturers of famous guests - round tables from professional and other fields - study visits
Competences Area		Competences
Information systems for business decision making		1. Understanding regression, clustering and classification
Information theory and coding		2. Understanding such as channel model, entropy, lossless codes and codes for correction and detection of errors
Analysis and Design of Information Systems		3. System architecture design and specification
		4. Implementation techniques and testing and validation methods.
International IT security standards		5. Develop business model for information security
		6. Understand IS principles and legislation
		7. ISO/IEC series of standard – understanding and implementation
		8. Understanding Cobit 5
Risk Management		9. Understanding risk identifications, analysis, assessment and treatment
		10. ISO 31000:2009 and ISO/IEC 27005:2011 and ISO 22301:2012 - understanding and implementation
IT consulting		11. Understanding the cost-effectiveness of hiring a consultant
Project management		12. Understanding and learn the processes, tools, techniques and areas of knowledge needed to successfully manage information technology projects. methodology. Introduction

	to the concepts of PMBOK
Contemporary IT infrastrucure	13. Monitoring emerging technologies to understand their potential.
IT management	14. Understanding Competitive advantage, first mover advantage, competitive intelligence
Digital forensics	15. Understading the technical aspect of an investigation taht is divided into several sub-branches.
Cyber law	16. Critically evaluate ongoing developments in law relating to information technologies.
Computer network	17. Understanding current topics such as security, network, management, sensornetworks
ICT and e-business SECURITY	18. Understanding what are the common threats faced today, what are the foundational theory behind information security, what are the basic principles and techniques when designing a secure system, how to think adversarially, how today's attacks and defenses work in practice, how to assess threats for their significance, and how to gauge the protections and limitations provided by today's technology.

Programme Learning Outcomes

No	Professional Learning Outcomes	P
1	2	3
1.	to understand data mining techniques for decision making in business process	P1
2.	Understanding basic principles of information and coding theory	P2
3.	Understanding and utilization of methods for requirements elicitation, specification and management	P3
4.	to be able to apply various methods of information systems analysis	P4
5.	to understand problems of users of information systems, to be able to identify, analyse and specify user requirements	P5
6.	to be able to manage information systems development projects and identify, analyse, evaluate, and solve the arising management problems	P6
7.	to be able to identify, analyse, and understand unorthodox problems of information systems development	P7
8.	to be able to apply various methods of information systems design	P8
9.	to be able to apply methods of knowledge, metadata analysis and information safety engineering	P9

Establishing Modern Master-level Studies in Information Systems
561592-EPP-1-2015-1- FR-EPPKA2-CBHE-JP

10.	to be able to identify, find and evaluate information relevant to information systems by using data bases and other sources of information	P10
11.	to be able to apply ISO standards	P11
12.	to be able to apply project trought PMI methodology	P12
13.	To design and adminisitrate computer network based on CISCO network devices	P13
Personal and Social Learning Outcomes		
	Acception of standards, processing thinking	PS1
14.	strategic thinking, team work, organizational skills	PS2
15.	Team work, presentation techniques	PS3
16.	to be able to work efficiently in a group, manage the team, and act collectively	PS4
17.	to be able to understand the impact of information systems solutions on the society and environment and their economic aspects	PS5