APPROVED
Mykolas Romeris University
Senate 2019 m. sausio d.
No. 1SN-

DESCRIPTION OF DEGREE PROGRAMME (admission year: 2021-2022)

1.

Title of the degree programme	National Code
Informatics and Digital Contents Bachelor`s Degree Programme (joint study program with Dongseo University, South Korea; two diplomas)	6181BX002

2.

Official name of the awarding institution(s)	Language of instruction
Mykolas Romeris University / Dongseo University	English

3.

Kind of study	Cycle of studies	Level of qualification
University studies	I cycle	VI level

4.

Mode of study and length of programme in years	Length of the degree programme in ECTS credits	Student's workload	Contact work hours	Independent work hours
Full-time study 4 years	240	6480	2485	3995

5.

Group of Study Fields	Field of the programme
Computing	Informatics

6.

Degree and/or qualification awarded
Bachelor of Informatics (MRU)/ Bachelor of Science (DSU)

7.

Programme Director	Contact information
Prof. Dr. Tadas Limba	Faculty of Economics and Business, Ateities st. 20, Vilnius, tlimba@mruni.eu, +370 5 2714571

8.

Accreditation organization	Period of reference
Centre for Quality Assessment in Higher Education	2023.05.31

9.

Purpose of the programme
To prepare qualified specialists in the field of informatics who would be able to adapt their knowledge in game, digital animation and audiovisual effect industries as well as comprehensively understand and apply knowledge related to digital contents production by fostering entrepreneurship and self-employment in this field, thus ensuring the usage of informatics-based methods which are applied in game, digital animation and visual effects creation platforms, and enabling the application of interdisciplinary knowledge through technical and creative interactions in material and digital media systems.

10.

Profile of the programme		
Study content: discipline(s)/subject area(s)	**Orientation of the programme**	**Distinctive features**
General course units (18 ECTS credits): Psychology, Philosophy, Entrepreneurship and Self-Employment. Study field course units (162 ECTS credits): Contemporary mathematics, Basic sculpturing, Databases, Fundamentals of programming, Game design, Game mathematics, Data structures and algorithms, Computer graphics, Professional English, Introduction to Digital Contents, Computer network architectures, Research methods, Cinematography and Editing, 3D modeling, 3D Maya fundamentals, 3Ds Max fundamentals, 2D and 3D game programming, Game Network Programming, Game Project design and implementation, Object oriented design and programming, Internship, Digital Modeling and sculpting, Digital Actor Animation, Character Design, 3D Maya advanced, 3Ds Max advanced, Gamification methods and technologies, Digital composition, Visual Effects, Game Modeling and Texturing Bachelor thesis.	Specializations (18 ECTS credits): Artificial intelligence in Games, Matte painting, Game scenario and game level design, Game engine architectures, Mobile game programming, Digital lighting and texturing, User Interface.Optional courses: There is a possibility tochoose3 general elective course units(12ECTS credits).	Language of instruction English, after successful completion of the study program (including two year mobility to Dongseo University, South Korea) a dual diploma (of Mykolas Romeris University and Dongseo University) can be received.
Qualification requirements and regulations		
According to the Description of the Lithuanian Qualifications Framework level VI qualifications are acquired by way of undergraduate (I cycle) studies at universities. The qualification is related to complex activities which are characterized by a variety of tasks and contents. In solving problems in different areas of professional activities, a variety of means and methods is applied. The performance implies application of broad theoretical knowledge built on the results of recent fundamental and applied research or knowledge needed for implementation of innovations. The activities are performed independently, with a free choice of methods of performance and with managing task groups for the implementation of the task. That is the reason why qualification of this level includes the ability to plan activities with consideration of the tasks set, to analyse and record the results of one's own activity outcomes, as well as to submit reports to the coordinating persons; to correct one's activities with regard to the analysis of the activity results and recommendations of experts and to implement varied project activities. The environment of the activities requires adapting to continuous and unpredictable change, which is caused by the progress of knowledge and technology in a specific area of professional field. The qualification allows to improve and develop knowledge in the professional area and, following the self-assessment, to learn individually (to develop cognitive competences), as caused by the constant change of professional activities.		

11.

Admission requirements	Specific arrangements for recognition of prior learning	Specific requirements for graduation
Enrolment into undergraduate studies is carried out on the basis of competition, with high education attainment, academic achievements and results of entrance exams (in those cases that those exams are organised) and other criterions formulated by MRU taken into consideration. Higher education organisations (together with the Ministry of Education and Science) identify principles of composition of a score for competition according to directions of studies and also identify the main subject. Information on regulations and the composition of a competitive score is available: http://www.mruni.eu/en/ects/information_package_course_catalogue/information_on_the_institution/general_admission_requirements/	Procedure for Recognition of Academic Credits at Mykolas Romeris University "https://intranet.mruni.eu/mru_lt_dokumentai/centrai/akademiniu_reikalu_centras/teises_aktai/Studiju%20kreditu%20prip.tv._ENG%20porfolio.pdf" establishes the principles and procedure for the recognition of learning outcomes achieved by a person in other Lithuanian and foreign higher education institutions and in the non-formal and informal learning competencies, related to higher education, and the recognition of study credits at Mykolas Romeris University.	To obtain a diploma (available only two diplomas of MRU and Dongseo Univesity as well without exception), after 2 years studies at Mykolas Romeris University students need to continue their next 2 years studies in South Korea at Dongseo University.

12.

Access to further studies
Access to the second cycle Master degree studies

13.

Occupational profiles of graduates with examples
Such areas as computer games, movie industry, advertisement, art and design are the target domains for employability of Informatics and Digital Contents study programme graduates. One of the essential distinguishing features of digital contents industry is its global nature and extremely broad entrepreneurship and self-employment opportunities. After graduating this study programme bachelors will be able to compete internationally, since the digital content field – is highly dynamic, and based on the principles of network cooperation. Because of that, the creative worker in digital contents industry will be flexible and able to work with various interested course units while using global information exchange channels. Moreover, it is necessary to highlight, that students graduated from Informatics and Digital Contents study programme will be able to work in various digital contents production companies –international computer game studios, design agencies, movie studios, and all business organizations which are orientated towards the creation of digital production by using ICT.

14.

Teaching and learning methods	Assessment methods
Lectures, training exercises, active methods, distance learning, practical work, critique, presentation. Lectures are combined with the use of remote environmental opportunities for practical work in computer classes, workshops, case studies and case presentation of the options, remote group discussions and exchange of knowledge and literature of analytical evaluations, self-study, work in small group, pair work, class discussion, simulation, reading and analysis of texts, completion of tasks, home reading, interactive tasks using	Study program results are evaluated according to the students' work during the semester and the final exam results. During semester activity, individual and group presentations, projects, case studies, demonstration of reactively designed components, general discussion of their realization methods, defending the project, colloquium and other types of tasks are evaluated. Problem-based learning and reflection are applied. Assessing students' knowledge, used a cumulative score: student knowledge and skills assessed in computer

Moodle, Sanako language lab, Internet resources oral discussions on topics covered in the course, individual/Consultations, 60 minute croquis class using different student as model.	practical work payments, the use of a remote environment. Some courses are structured around a mandatory hand-in, coursework, and a step-based grading process. Oral assessment methods: survey method, individual oral interview, discussion, presentation method (individual, group).

15.

Generic competences		Programme learning outcomes	
1.	Knowledge and their application. The application of basic informatics, mathematics, social sciences, humanities and latest digital technology knowledge in order to ensure digital contents technological design and development capacity.	**1.1**	Is able to design and implement game and visual contents projects by using data structure application environments, database systems and artificial intelligence methods.
		1.2	Is able to analyze data transaction processes in computer networks and information systems by understanding the architectures of information technologies, configure and apply them for digital contents development.
		1.3	Is able to design and apply human-machine interaction systems , tools, mathematical models in game development
		1.4	Is able to use graphical design and modeling tools for digital contents development.
2.	Ability to conduct researches. Ability to analyze digital contents research domain, to prepare research plan, apply quantitative and qualitative research methods, discuss the relevance of selected methods and validity of findings.	**2.1**	Is able to independently develop research plan, study and analyze the scientific literature, systematize and summarize information, draw conclusions.
		2.2	Is able to select suitable quantitative and qualitative research methods for the analysis of problematic area, apply these methods and to present collected data in the appropriate form for the research object.
Subject specific competences		**Programme learning outcomes**	
3.	Ability to apply digital contents creation measures and tools in interaction between technological and creative competences for the fulfillment of entrepreneurial potential.	**3.1**	Is able to create game scenarios, to design and program architectural elements of the game.
		3.2	Is able to apply tools for texturing, visual effects, matte painting in digital contents post-production.
4.	Ability to sustain individual and team-based learning continuity allowing to develop new cognitive skills which will be applied in practical informatics and digital contents environment as well as conveying information to team members and business partners	**4.1**	Is able to apply creative solutions, knows the principles of self-education and is able to apply them in team-based activities.
		4.2	Is able to gather a team for creative projects, as well as plan and implement managerial activities for distribution of digital contents production.
5.	Ability to develop Entrepreneurship and analytical skills, to think in systematic critical independent manner, with the aspiration to improve knowledge and competences in the field of informatics applied to digital contents industry.	**5.1**	Is able to independently acquire knowledge in the field of informatics and digital contents, follow technological and creative trends in national and global scale.

16. COURSE STRUCTURE DIAGRAM WITH CREDITS

Code	Course units	ECTS credits	Student's workload	Contact work hours	Independent work hours	Programme competences										
						Generic competences						Subject specific competences				
						1				2		3		4		5
						Key learning outcomes										
						1.1	1.2	1.3	1.4	2.1	2.2	3.1	3.2	4.1	4.2	5.1
1st YEAR		**60**	**1620**	**708**	**912**											
1 SEMESTER		**30**	**810**	**298**	**512**											
Compulsory course units		**30**	**810**	**298**	**512**											
	Contemporary Mathematics	6	162	66	96	x		x								
	Psychology	6	162	50	112									x	x	
	Introduction to Digital Contents	6	162	66	96			x						x		
	Databases	6	162	50	112	x										
	Fundamentals of Programming	6	162	66	96	x	x									
2 SEMESTER		**30**	**810**	**410**	**400**											
Compulsory course units		**30**	**810**	**410**	**400**											
	Game Design	6	162	66	96				x			x				
	Game Mathematics	6	162	66	96			x				x				
	Data Structures and Algorithms	6	162	66	96	x										
	Computer Graphic	6	162	82	80				x				x			
	Foreign Language for Specific Purposes (English / French / German)	6	162	130	32	x										
2nd YEAR		**60**	**1620**	**620**	**1000**											
3 SEMESTER		**30**	**810**	**314**	**496**											
Compulsory course units		**24**	**648**	**264**	**384**											

	Basic Sculpturing	6	162	66	96									x		
	Computer Network Architectures	6	162	66	96		x									
	Object-Oriented Design and Programming	6	162	66	96	x	x									
	Fundamental figure drawing (Precision drawing)	6	162	66	96											
Alternatively elective course units		**6**	**162**	**50**	**112**											
	Artificial Intelligence in Games	6	162	50	112			x				x				
	Matte Painting	6	162	50	112			x				x	x			
4 SEMESTER		**30**	**810**	**306**	**504**											
Compulsory course units		**24**	**648**	**248**	**400**											
	Philosophy	6	162	50	112									x		x
	Cinematography and Editing	6	162	66	96			x	x							
	3D Modeling	6	162	66	96				x							
	3D Maya Fundamentals	6	162	66	96											
Alternatively elective course units		**6**	**162**	**58**	**104**											
	Game Engine Architectures	6	162	50	112											
	Game Scenario and Game Level Design	6	162	66	96											
3rd YEAR		**46**	**1242**	**496**	**746**											
5 SEMESTER		**24**	**648**	**264**	**384**											
Compulsory course units		**6**	**162**	**66**	**96**											
	Elective Study Subject 1	6	162	66	96											
Alternatively elective course units 1		**6**	**162**	**66**	**96**											
	Creature Modeling & Texture Creation 1	6	162	66	96											
	Programming Method	6	162	66	96											

Alternatively elective course units 2		**6**	**162**	**66**	**96**											
	Character Animation Studio 1	6	162	66	96											
	Computer Graphics Programming	6	162	66	96											
Alternatively elective course units 3		**6**	**162**	**66**	**96**											
	Artificial Intelligence Programming	6	162	66	96											
	Environment Modeling & Texture Creation 1	6	162	66	96											
Alternatively elective course units 4					**0**											
	Computer Networks	6	162	66	96											
	Creature & Environment Setup 1	6	162	66	96											
6 SEMESTER		**22**	**594**	**232**	**362**											
Compulsory course units		**4**	**108**	**34**	**74**											
	Elective Study Subject 2	4	108	34	74											
Alternatively elective course units 1		**6**	**162**	**66**	**96**											
	Creature Modeling & Texture Creation 2	6	162	66	96											
	3D Game Programming	6	162	66	96											
Alternatively elective course units 2		**6**	**162**	**66**	**96**											
	Character Animation Studio 2	6	162	66	96											
	Game Server Programming	6	162	66	96											
Alternatively elective course units 3		**6**	**162**	**66**	**96**											
	Environment Modeling & Texture Creation 2	6	162	66	96											
	Game Tool Programming	6	162	66	96											
Alternatively elective course units 4					**0**											
	Computer Architecture	6	162	66	96											

	Digital Film Making	6	162	66	96											
Alternatively elective course units 5					**0**											
	Compositing 1	6	162	66	96											
	Operating Systems	6	162	66	96											
4th YEAR		**56**	**1512**	**463**	**1049**											
7 SEMESTER		**26**	**702**	**264**	**438**											
Compulsory course units		**14**	**378**	**132**	**246**											
	Bachelor Thesis. Part I	8	216	66	150											
	Research Methods	6	162	66	96											
Alternatively elective course units 1		**6**	**162**	**66**	**96**											
	Compositing 2	6	162	66	96											
	Using Engine Game	6	162	66	96							x				
Alternatively elective course units 2		**6**	**162**	**66**	**96**											
	Game Project	6	162	66	96											
	Lighting & Rendering Creation	6	162	66	96											
8 SEMESTER		**30**	**810**	**199**	**611**											
Compulsory course units		**30**	**810**	**199**	**611**											
	Portfolio	16	432	132	300											
	Bachelor Thesis	8	216	1	215					x	x	x				
	Sound Workshop	6	162	66	96											