DESCRIPTION OF DEGREE PROGRAMME (admission year: 2022-2023)

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Title of the degree programme	National Code
Game Development and Digital Animation 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	English

3.

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

4.

•	Length of the degree programme in ECTS credits		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 Computing

7.

Programme Director	Contact information
Prof. Dr. Tadas Limba	tlimba@mruni.eu

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.

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 tochoose 3 general elective	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.

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/informat ion_package_course_catalogue/infor mation_on_the_institution/general_ad mission_requirements/	Procedure for Recognition of Academic Credits at Mykolas Romeris University "https://intranet.mruni.eu/mru_lt_dok umentai/centrai/akademiniu_reikalu_centras/teises_aktai/Studiju%20kredit u%20prip.tvENG%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 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.	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 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	1.1	Is able to design and implement game and visualcontents projects by using data structureapplication environments, database systems andartificial intelligence methods.					
	design and development capacity.	1.2	Is able to analyze data transaction processes incomputer networks and information systems byunderstanding the architectures of informationtechnologies, configure and apply them for digitalcontents development.					
		1.3	Is able to design and apply human-machine interaction systems, tools, mathematical models ingame development					
		1.4	Is able to use graphical design and modeling toolsfor 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	2.1	Is able to independently develop research plan, study and analyze the scientific literature, systematize and summarize information, drawconclusions.					
	and validity of findings.	2.2	Is able to select suitable quantitative and qualitativeresearch methods for the analysis of problematicarea, apply these methods and to present collecteddata 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	3.1	Is able to create game scenarios, to design and program architectural elements of the game.					
	creative competences for the fulfillment of entrepreneurial potential.	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.					

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.
 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

	DIAGRAM WI			_	rk					Progran	nme com	petences					
Code	Course units	credits	orkle	k ho	it work		G	eneric co	mpetenc	es		S	Subject sp	ecific co	npetence	5 5 5.1	
	Course amus	Scr	Student's workload	Contact work hours	Independent hours		ė	1		2	2	í	3	4	4	5	
		ECTS	dent	ıtact	lepe	Key learning outcomes											
			Stu	Cor	Inc	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												
Con	npulsory course units	30	810	298	512												
	Contemporary Mathematics	6	162	66	96	X		х									
	Psychology	6	162	50	112									X	X		
	Introduction to Digital Contents	6	162	66	96			Х						X			
	Databases	6	162	50	112	Х											
	Fundamentals of Programming	6	162	66	96	X	х										
	2 SEMESTER	30	810	410	400												
Con	pulsory course units	30	810	410	400												
	Game Design	6	162	66	96				X			Х					
	Game Mathematics	6	162	66	96			Х				Х					
	Data Structures and Algorithms	6	162	66	96	X											
	Computer Graphic	6	162	82	80				Х				х				
	Foreign Language for Specific Purposes (English / French / German)	6	162	130	32	Х											
	2nd YEAR	60	1620	620	1000												
	3 SEMESTER	30	810	314	496												
Con	pulsory course units	24	648	264	384												

Basic Sculpturing	6	162	66	96								X	
Computer Network Architectures	6	162	66	96		х							
Object-Oriented Design and Programming	6	162	66	96	х	х							
Fundamental figure drawing (Precision drawing)	6	162	66	96							х		
Alternatively elective course units	6	162	50	112									
Artificial Intelligence in Games	6	162	50	112			X			X			
Matte Painting	6	162	50	112			х			Х	х		
4 SEMESTER	30	810	306	504									
Compulsory course units		648	248	400									
Philosophy	6	162	50	112								X	x
Cinematography and Editing	6	162	66	96			Х	Х					
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		702	264	438							
Compulsory course units		378	132	246							
Bachelor Thesis. Part I	8	216	66	150							
Research Methods	6	162	66	96							
Alternatively elective course units 1		162	66	96							
Compositing 2	6	162	66	96							
Using Engine Game	6	162	66	96					х		
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			Х	х	х		
Sound Workshop	6	162	66	96							