Subject code	Credits
INF2034	6

Title

SKAITMENINĖS GRAFIKOS PROGRAMAVIMAS

Title in English

DIGITAL GRAPHICS PROGRAMMING

Subject goal and annotation

The aim of the course is to introduce digital graphics programming technology and applying the technology to various platforms. The course gives the knowledge to create own 2D and 3D applications.

Prerequisites

Undergraduate courses: Basics of the creative technologies

Relationship between the learning outcomes of the Programme and learning outcomes of the subject

Learning outcomes of the Programme	Learning outcomes of the subject	Criteria for measuring the achievement of learning outcomes
3. Knowledge of basic and advanced computer science and its application.	Knowledge and understanding of computer graphics modelling techniques	Student demonstrates the ability to model and analyse graphic object
6. Knowledge of Internet and multimedia products development, their commercial and social impact.	Choose and apply programming tools.	Student demonstrates skills in analyzing and choosing most suitable programming tool according to his practical task.
11. Analysis, design and development of advanced Multimedia systems. 13. Ability to analyse the newest trends in Internet and multimedia systems (and general computer science and digital arts) and apply them in development of novel systems.	Ability to model graphic objects and create interactive environment.	Student demonstrates ability to create his own application
14. Ability to analyze and evaluate art projects. 18. Critical analysis of Internet and multimedia projects context and their influence to business, culture and society.	Working in team. Presenting results. Analyzing the multimedia products.	Students creates multimedia applications with 2D or 3D elements

Subject content

	Lecture topics and contents	Hours
1.	Introduction to the digital graphics and digital graphics programming technologies	3
2.	Software for CG programming	10
3.	Modeling of the graphic objects	7
4.	Software and hardware CG acceleration	8
5.	Game engines. Game development	10
6.	Multiplatforms	4
7.	Virtual environments	3
	Total	**45**

Practical work contents

The student describes his project, creates scenario. Student must choose most suitable and effective programming tools and create his own application.

Evaluation of study results

Final written exam (50%), mid-term written exam (17%), and assessments of laboratory (practical) work (33%).

Distribution of subject study hours

Lectures	45
Laboratory work	30
Individual studies (including studies in groups, preparation for the mid-term and final exams)	81
Total	**156**

Recommended literature

No	Authors of publication and title	Number of copies available		
		in the Library of VMU	*in specialized publication collections at VMU*	*in other libraries*
Basic materials				
1.	Stefan Zerbst, Oliver Duvel; 3D game engine programming. 2004	1	1	
2.	Rob Miles; XNA Game Studio 3.0. 2009	1	10	
3.	Tomas Akenine-Moler, Eric Haines; Real Time Rendering. 2002		1	
4.	Beginning 3D Game Development with Unity: All-in-one, multi-platform game development		1	
Supplementary materials				
1.	Beginning 3D Game Development with Unity: All-in-one, multi-platform game development	1		

Subject prepared and coordinated by

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