Subject code	Credits
INF3026	4

Title

ERDVINIð VAIZDð SINTEZĂ

Title in English

SPATIAL IMAGE SYNTHESIS

Subject goal and annotation

Course provides an introduction to methods, techniques and technologies for creating three-dimensional visual content or 3D graphics. Students are going to learn basics of process and techniques. They are going to be able to select an effective methods, optimization methods and tools. Also, students are going to familiarize with special hardware and equipment ï 3D scanning and motion recognition, workstations.

Prerequisites

Undergraduate courses: Basics of programming, Interactive multimedia, Multimedia and animation

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 modelling technologies and techniques, visual content connection with multimedia and internet technologies.	Student demonstrates the ability to analyse models ant technologies.
8. Perform interdisciplinary research and development in Internet systems area, apply results in practical applications	Choose and apply an effective modelling tools and techniques.	Student demonstrates the ability to choose effective methods and apply them to the project.
18. Critical analysis of Internet and multimedia projects context and their influence to business, culture and society.	Rate visual content	Student presents presentation with critical assessment of visual content.
6. Knowledge of Internet and multimedia products development, their commercial and social impact.	Prepare and analyse project	Student demonstrates the ability to analyse and prepare project.

Subject content

	Lecture topics and contents	Hours
1.	Definition and history of three-dimensional graphics	3
2.	Specifics of visual content	3
3.	Modelling technologies, hardware and equipment	6
4.	Modelling techniques	3
5.	Physics process modelling, surface and materials	4
6.	Synthesis technologies	3
7.	Real time multimedia technologies	4
8.	Multiplatform technologies	4
	Total	**30**

Practical work contents

Several practical problems. All problems should be presented and described.

1. Analysis of the project.
2. Technologies, techniques and equipment incorporation with the project.
3. Visual content adaptation to different objectives
4. Project and visual content compliance with standards and requirements.

Evaluation of study results

Final written exam (50%), mid-term written exam (25%), and assessments of laboratory (practical) work (25%).

Distribution of subject study hours

Lectures	30
Laboratory work	30
Individual studies (including studies in groups, preparation for the mid-term and final exams)	44
Total	**104**

Recommended literature

No	Author and title	Number of copies available		
		in the Library of VMU	*in specialized publication collections at VMU*	*in other libraries*
Main literature				
1.	Ze-Nian Li and Mark Drew, Fundamentals of Multimedia		1	
2.	Tomas Akenine and Eric Haines, Real-Time Rendering		1	
3.	Autodesk 3ds Max Essentials 2012		1	
4.	Essential CG lightening Techniques		1	
Additional literature				
1.	An Introduction to 3D Computer, 2007, Graphics, Autodesk	1		

Subject prepared and coordinated by

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