

Subject card

Subject name and code P-G_0003017 Field of study Mathematics Date of commencement of studies October 2024 Academic year of realisation of subject Subject group Second-cycle studies Subject group Subject of study Subject group Subject of study Subject group Semester of study Subject group Semester of study Semes									
Date of commencement of studies Date of commencement of studies Second-cycle studies Subject group Mode of study Full-time studies Mode of delivery Year of study Poll-time studies Mode of delivery Assessment form Assessment methods Assessm	Subject name and code	, PG_00030017							
Education level second-cycle studies Subject group Mode of study Full-time studies Mode of delivery at the university	Field of study	Mathematics							
Mode of study		October 2024					2024/2025		
Semester of study 1	Education level	second-cycle studies		Subject group					
Semester of study Learning profile Learning profile Lesson types and methods of instruction Lesson types and methods of instruction type and the instruction of instructi	Mode of study	Full-time studies		Mode of delivery			at the university		
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Institute of Physics and Applied Computer Science -> Faculty of Applied Physics and Mathematics	Semester of study	2		ECTS credits			4.0		
Name and surmame of lecturer (lecturers) Lesson types and methods of instruction Elearning hours included: 0.0 Learning activity and number of study hours Subject objectives Understanding the basics of of graphics creation pipline on computers, Learning outcomes Learning outcomes Course outcome Subject contents Display Process: how it works on simple graphics card - The process of creating 2D graphics - Sibject contents Display process: how it works on simple graphics card - The process of creating 3D graphics - Collision in 2D systems - The importance of basic concepts in 3D graphics (eg camera) and elements associated with them - Shaders (basic) - Collisions in 3D - Physics engine libraries for games - Sound (playback, create / filtering) - Input-output devices (HID devices) - Use of platforms. OpenGL / DirectX, GDI + - Unity Platforms. Prerequisites and co-requisites Assessment methods I subject passing criteria in passing threshold in precent percentage of the final grade implementation of tasks on the instruction in didactic plate in turtorial Laboratory Project Seminar SUM O.0 45.0 0.0 0.0 0.0 0.0 0.0 0.0 Seminar SUM Do.0 5.0 0.0 0.0 0.0 0.0 0.0 0.0 Self-study SuM Self-stud	Learning profile	general academic profile		Assessment form			assessment		
Teachers	Conducting unit	Institute of Physics ar	nd Applied Com	nputer Science	-> Faculty of A	pplied F	Physics	and Mathem	atics
Lesson types and methods of instruction Comparison Lesson type Lecture Tutorial Laboratory Project Seminar SUM		Subject supervisor	dr inż. Bartosz Reichel						
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Recommended reading	Basic literature	 Pro C# 5.0 and the .NET 4.5 Framework,6th Edition,Andrew Troelsen, Apress Graphics Gems (I-V), Academic Press 				
	Supplementary literature	Dave Calabrese, Unity 2D Game Development, March 2014, ISBN 139781849692564				
		or a similar from scope of Unity				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed	Implement a simple 2D game (eg. P	AC MAN)				
Work placement	Not applicable					

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