

1.	Field of study	Computer Science
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2019/2020 (summer term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Development of 3D graphical engines

Module code: 08-IN-GWK-S2-PSG3D

1. Number of the ECTS credits: 2

2. Learning outcomes of the module			
code	description	learning outcomes of the programme	level of competence (scale 1-5)
PSG3D -U_4	Can effect level items using technique CSG	K_U03 K_U14	1 1
PSG3D -U_5	Can model landform.	K_U14	1
PSG3D -U_6	Can use ready objects as level elements.	K_U14	1
PSG3D -U_7	Can prepare and give a presentation about realization of the project task.	K_U01 K_U02 K_U03 K_U04 K_U05 K_U06	1 1 1 1 1 1
PSG3D -W_1	Knows and understands principles of 3D object designing.	K_W15	1
PSG3D -W_2	Knows and can explain principles of modeling techniques Constructive Solid Geometry (CSG)	K_W03 K_W15	1 1
PSG3D -W_3	Knows and understand physics laws describing models lighting and shading.	K_W03	1

3. Module description

Description	
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Aim of the class is familiarizing the students with principles of creating static levels for the needs of video games basing on the acquired knowledge. The environment Unreal Development Kit will be used for this. During the classes the students will prepare individual projects and will present the results of their work in the form of presentation in front of the group.

Prerequisites

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
PSG3D_w_1	Credit test	Checking learned theory from the lecture and laboratory class.	PSG3D -W_1, PSG3D -W_2, PSG3D -W_3
PSG3D_w_2	Evaluation of laboratory works effects	Use of 3D graphic engines taking advantage of CSG technology and ready models.	PSG3D -U_4, PSG3D -U_5, PSG3D -U_6, PSG3D -U_7, PSG3D -W_1, PSG3D -W_2, PSG3D -W_3
PSG3D_w_3	Project	Preparing the project with use of three dimensional static and dynamic models.	PSG3D -U_4, PSG3D -U_5, PSG3D -U_6, PSG3D -W_1, PSG3D -W_2, PSG3D -W_3
PSG3D_w_4	Presentation	Preparing a presentation and presenting in front of the group.	PSG3D -U_7

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
PSG3D_fs_1	lecture	Presenting educational content with use of audio-visual aids.	15	Individual studying of lectures subject matter and advised literature.	5	PSG3D_w_1
PSG3D_fs_2	laboratory classes	Detailed preparation of students to design 3D models and graphic engines use.	15	Individual preparation for laboratory classes . Executing an individual project. Preparing a presentation describing the project subject matter.	25	PSG3D_w_2, PSG3D_w_3, PSG3D_w_4