Elective Course Description Winter Term 2020/2021

Title	Introduction to Graphics / Shader Programming										
Cluster Title PO 07 To be filed by focus managers s.u.											
Cluster Title PO 2012 To be filed by focus managers s.u.											
Cluster Title PO 2014 To be filed by focus managers s.u.											
Date of first course	NN				1	NN N					
event / first											
organizational meeting with students*****/ Room											
kind of room if not indicated above	Hörsaal online		Seminarrau	ım			L	_abor			
Belegung über OBS 13.10 26.10.2020 14:00											
Course Data	credit points						Ę	5 credit point			
	workload/semester		125-150 h								
	presence/week on avera		4 SWS								
	Group size according to										
	Min. size							3 students			
	6.4.20- 3.7.20										
	weekday of course										
	frequency of course-events weekly				bi-weekly			blocked x			
	prospective timeframe** (Block = 90 min)	Block 1 8:30 Block 4 14:15		Block 2 _X 10:15			Block 3 12:00				
					Block 5 _X 16:00		Block 6 17:45				
	course language suitable for students of course/focus				Engli	sh	K	German	1		
					DM			AG	Х		
			IMD			MP					
	SMP							ER	Х		
							T	KMI	Х		
Content(s): (check one or more)	Design	n Informatics / Technology				y / ss		Culture			
Time frame in case of blocked event	Attention- Elective takes place during semester break! 4.18.1.2021										
Course Portrait											
Lecturer(s) Name(s)	Paul Nasdalack										
Lecturer(s) email	info@paul-nasdalack.co	<u>m</u>									
Contact Prof. @ fbmd	Tilmann.kohlhaase@h-da.de										
Teaching Method	lecture lecture + seminar seminar project										
Course Contents	Shaders are cool and shiny but sadly only few people actually know how they work, even though they are not too hard to understand. In this elective we'll cover shader development from the ground up. After a short introduction to GPUs and what makes them different to regular CPUs, we'll dive into the world of shader development. As shaders cover a huge variety of effects today, I'll leave it up to the course to decide, which effects we'll actually implement. These could include things like lighting effects, toon shading, post										
	processing, vertex painting effects, particles, good looking water, a retro										

	Node Graphs or Code: Node based shader editors have been on the rise for many years now and most 3D engines include some kind of node editor for their materials. While we will implement shaders in code to understand the underlying technology, we will use node graphs to prototype our effects and get a better understanding of our target look and effect before we dive down into coding the shader. Shader programming is pretty simple and you'll see that most concepts transfer nicely from nodes into code.									
Type of Exam	homework		work+presentation	paper						
Milestones if known			·							
		Exai	mination							
			xamination / Presentation							
End of Elective										
Suitability	beginner course intermediate cou advanced course	ırse								
Preconditions										
Info about lecturer (especially if guest)	About myself: I've been working with shaders for about 8 years now. During my time in the games industry I've gained a broad knowledge about Game Development and Technical art. I've worked for various studios like Ubisoft/Bluebyte and MarmosetCo before founding my own Indie Studio. In my free time, I'm developing homebrew NES and Gameboy games. If you have any questions, feel free to contact me via mail: info@paul-nasdalack.com If you are interested in some of my works, visit www.littlebughunter.com or check out my company's website www.indieburg.com									
Other information										

Elective Start: 2.11.2020

Chrismas 21.12.-9.1.21 (due to the short semester there might be some lecturing during this period) Electives End 12.2.2021

^{*} According to our examination law, the course titles have to be matched to a given catalogue with common course titles. This title will appear in the Transcript of Record and the Bachelor Certificate. Field has to be filed by Focus Managers, all clusters can be found below

^{**} The official presence-time is 3 SWS for the whole semester. As the elective period is condensed to 12 weeks instead of 16 weeks, the presence time for the electives is 4 SWS.

^{***} Courses and focal points: dm = Digital Media , oj = Online Journalismus; wj = Wissenschaftsjournalismus, blank field = please insert appropriate course. *(check as many as apply)*

^{****} Block 1 = 8.30 - 10.00 Uhr, Block 2 = 10.15 - 11:45 Uhr, Block 3 = 12.00 - 13.30 Uhr, Block 4 = 14.15 - 15.45 Uhr, Block 5 = 16.00 - 17.30 Uhr, Block 6 = 17.45 - 19.15 Uhr

^{******} In case that the course does not start in the first week 15.10.2018 there has to be a first organisational meeting to finalize the application process