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.	Game Development
Date of first course event / first organizational meeting with students***/ Room**	25.9.21 10:00 NN NN
kind of room if not indicated above	online Seminarraum Labor

Belegung über OBS
04.10. - 11.10.2020 14:00

Course Data					
	credit points				5 credit points
	workload/semester				125-150 h
	presence/week on average**				4 SWS
	Group size according to cnw				
	Min. size				8 students
	6.4.20– 3.7.20				
		weekday of course		Monday	
	frequency of course-events	weekly	**X**	bi-weekly	blocked
	prospective timeframe**** (Block = 90 min)	Block 1 **8:30**		Block 2 10:15	x	Block 3 12:00	x
		Block 4 **14:15**		Block 5 16:00		Block 6 **17:45**	
	course language			English	x	German	
	suitable for students of course/focus			**DM**		**AG**	X
				IMD		**MP**	
				SMP		**ER**	X
				OJ/WJ/OK		**KMI**	X
Content(s): (check one or more)	Design		Informatics / Technology	x	Economy / Business		Culture	
Time frame in case of blocked event	Starts at 10 am until 1 pm !!!!						

Course Portrait	
Lecturer(s) Name(s)	Stephan Jacob
Lecturer(s) email	stephan.jacob@h-da.de
Contact Prof. @ fbmd	Tilmann.kohlhaase@h-da.de
Teaching Method	lecture lecture + seminar seminar project
Course Contents	The elective is targeting Tech Artists and Programmers. 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 the Render Pipeline and GPUs and what makes them different to

	regular CPUs, we'll dive into the world of shader programming. In addition to some groundwork and the anatomy of shaders, this will include own shaders in Unity for things like basic lighting effects, toon shading, post processing, water, and many more. Disclaimer: In this course we will write actual HLSL/cG shaders, we will not be using any node based shader creation tool. Both Programmers and Artists are welcome, but a background in coding will be very useful, also shader code needs more of a mathematical understanding than gameplay code. If you call math and coding your friend, you will have no problems. The elective is therefore targeted towards Tech Artists and programmers. We will be using the Unity Shader Framework, so you don't have to worry about in depth OpenGL or DirectX C++ code.					
Type of Exam	homework		work+presentation		paper	
Milestones if known						
		Examination				
		Examination / Presentation				
End of Elective						
Suitability	beginner course intermediate course advanced course					
Preconditions						
Info about lecturer (especially if guest)						
Other information						

* 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

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

Please upload in Moodle Course!