

Elective Course Description Winter Term 2017

Title	Introduction to Shader development				
Cluster Title PO 07 To be filed by focus managers S.U.	MEP8 Advanced Media Technology				
Cluster Title PO 2012 To be filed by focus managers S.U.	ME2_11 Advanced System Technology				
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	16.10.17 F17/105 tbc.	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
kind of room if not indicated above	Hörsaal	<input type="checkbox"/>	Seminarraum	<input type="checkbox"/>	Labor
Belegung über OBS Belegung über OBS 28.9.17 – 4.10.17					

Course Data	credit points	5 credit points			
	workload/semester	125-150 h			
	presence/week on average**	4 SWS			
	Group size according to cnw	<input type="checkbox"/>			
	Min. size	8 students			
	10.10.16 -22.1.17				
		weekday of course			
		MONDAY			
	frequency of course-events	weekly <input checked="" type="checkbox"/>	bi-weekly <input type="checkbox"/>	blocked <input type="checkbox"/>	
	prospective timeframe**** (Block = 90 min)	Block 1 8:30 <input type="checkbox"/>	Block 2 10:15 <input type="checkbox"/>	Block 3 12:00 <input type="checkbox"/>	
		Block 4 14:15 <input checked="" type="checkbox"/>	Block 5 16:00 <input checked="" type="checkbox"/>	Block 6 17:45 <input type="checkbox"/>	
	course language	English <input checked="" type="checkbox"/>	German <input type="checkbox"/>		
	suitable for students of course/focus	DM <input checked="" type="checkbox"/>	AG <input type="checkbox"/>	MP <input type="checkbox"/>	<input checked="" type="checkbox"/>
		IMD <input checked="" type="checkbox"/>	MP <input type="checkbox"/>		
		SMP <input type="checkbox"/>	IW (BA) <input type="checkbox"/>		
		OJ/WJ/OK <input type="checkbox"/>	KMI <input checked="" type="checkbox"/>		
Content(s): (check one or more)	Design <input type="checkbox"/>	Informatics / Technology <input checked="" type="checkbox"/>	Economy / Business <input type="checkbox"/>	Culture <input type="checkbox"/>	
Time frame in case of blocked event					

Course Portrait					
Lecturer(s) Name(s)	Martin Leissler / Paul Nasdalack				
Lecturer(s) email	Martin.leissler@h-da.de / pnasdalack@gmx.de				
Contact Prof. @ fbmd	Tilman.kohlhaase@h-da.de				
Teaching Method	lecture <input type="checkbox"/>	lecture + seminar <input type="checkbox"/>	seminar <input type="checkbox"/>	project <input type="checkbox"/>	
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 programming. 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 pixelate shader, and many more. Disclaimer: In this course we will write actual HLSL/GLSL shader code (depending on the platform of your choosing), we will not be using any node based shader creation tool, like the material editor from UE4. I'm quite confident, though, that after passing the course you will have enough understanding of the GPU, that node based systems will be a piece of cake for you to learn. Both Programmers and Artists are welcome. A background in coding will be useful, but shader code tends to be much less complex, than actual gameplay code. Personally I would love to see more Tech Artists out there. As we will adjust the schedule and topics covered based on your requests, I'm sure we will find a way of making this enjoyable to everyone interested in the topic.						
Type of Exam	homework	<input type="checkbox"/>	work+presentation	<input type="checkbox"/>	paper	<input type="checkbox"/>	<input type="checkbox"/>
Milestones <u>if known</u>							
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 filled 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 11 weeks instead of 15 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 6.10.2014 there has to be a first organisational meeting to finalize the application process

Elective Start: 9.10..17

Free Days 31.10.17 – Christmas 23.12.17 – 14.1.18

Electives End 21.1.18