

## Elective Course Description Summer Term 2021

<b>Title</b>	<b>Pipeline and Workflow Automation</b>					
<b>Cluster Title PO 07</b> To be filed by focus managers S.U.						
<b>Cluster Title PO 2012</b> To be filed by focus managers S.U.						
<b>Cluster Title PO 2014</b> To be filed by focus managers S.U.						
<b>Date of first course event / first organizational meeting with students****/ Room</b>	19.04.2021 Online	NN	NN			
<b>kind of room if not indicated above</b>	Online		Seminarraum		Labor	

Belegung über OBS

29.03.2021 - 07.04.2021

12:00

<b>Course Data</b>	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				
	12..4.21 – 16.7.21					
	<b>weekday of course</b>					MON
	frequency of course-events	weekly		bi-weekly		blocked
	prospective timeframe**** (Block = 90 min)	Block 1 8:30		Block 2 10:15		Block 3 12:00
		Block 4 14:15	X	Block 5 16:00	X	Block 6 17:45
	course language	English		X	German	
	suitable for students of course/focus	DM			AG	
		IMD			MP	
		SMP			ER	
		OJ/WJ/OK IW (BA)			KMI	
Content(s): (check one or more)	Design		Informatics / Technology	X	Economy / Business	Culture
Time frame in case of blocked event						

### Course Portrait

Lecturer(s) Name(s)	Paul Nasdalack					
Lecturer(s) email	"Paul Nasdalack" <paul.nasdalack@h-da.de>					
Contact Prof. @ fbmd						
Teaching Method	lecture		lecture + seminar		seminar	project
Course Contents	Many tasks in the digital asset creation workflow are redundant, annoying and prone to human error. Reconfiguring the exporter for the 10th time when exportign your assets, reminding your team of the naming convention everyone agreed on and somehow forgot, assigning all 5 Textures to every single Material in a 3D Asset by hand after importing it into the engine. The list goes on and on. While only an annoyance at first, repetetive tasks can introduce project breaking errors,					

especially in stressful situations. Forgot to click that "Normal Map" checkbox? Accidentally assigned the wrong texture set to your main Character? Or exported all Assets instead of only the relevant Groups into your fbx and suddenly an already stressfull situation turns into a night of crunch and headache.

In this elective we will go over how to write little tools and plugins to make the life of your entire team better. We go over how to write scripts for Unity and Blender, as well as standalone tools that will turn dreadful tasks into a one click solution. The tools will be written in simple Python and C#. Due to their encapsulated plugin nature, these tools tend to stay simple, short and managable, so worry not if coding isn't your strong suit.

In my career as an Graphics and Tool Programming Freelancer I have come across a multitude of Projects with specific needs and problems to solve. Some examples include:

- a grouping/ungrouping shortcut in Unity (I can't believe this is still not built into the engine)
- an array modifier for Unity to quickly generate floors and walls from a modular set
- a naming convention validator for an asset server
- various export plugins for Blender to fbx and gltf
- a blender to Unity exporter that makes sure, the coordinate system conversion is done BEFORE importing the asset to unity
- an auto texture and material assembler for Unity based on naming conventions (eg: rock\_a.png, rock\_ms.png, rock\_n.png, rock\_ao.png)
- an auto generated asset preview jpg that will be put into an asset database on export
- an asset server with a staging pipeline and one click synchronization with Unity, auto updating the meshes and textures, creating materials and setting up import options

We will cover some of the above and more depending on the group's interests and needs. If you have a specific topic you want me to cover, please let me know beforehand at paul.nasdalack@h-da.de

DISCLAIMER: My background is mainly in the games and interactive media industry. While I do have some knowledge about animation film pipelines, I'm by no means an expert in that field. Please keep that in mind when enrolling in the course.

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: 12.4.21

Free Days: 13.5., 24.5., 3.6.21

Electives End 16.7.21.2021