

Elective Course Description Summer Term 2021

Title	Pixel Love: Fantasy Consoles and the Essence of Games				
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 event / first organizational meeting with students****/ Room	22.04.2021 online	NN	NN	NN	
kind of room if not indicated above	Hörsaal		Seminarraum	Labor	x
Belegung über OBS Mo 19.03.2018 bis Di 27.03.2018, 12.00 Uhr					

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				
	09.04. – 23.06.20					
	weekday of course				THU	
	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	Block 5 16:00	Block 6 17:45	x	
	course language	English		x	German	
	suitable for students of course/focus	DM		x	AG	x
		IMD		x	MP	
		SMP		x	IW (BA)	
		OJ/WJ/OK			KMI	x
Content(s): (check one or more)	Design	x	Informatics / Technology	x	Economy / Business	Culture
Time frame in case of blocked event						

Course Portrait

Lecturer(s) Name(s)	Prof. Dr.-Ing. Martin Leissler
Lecturer(s) email	martin.leissler@h-da.de
Contact Prof. @ fbmd	
Teaching Method	lecture <input type="checkbox"/> lecture + seminar <input type="checkbox"/> seminar <input type="checkbox"/> project <input checked="" type="checkbox"/>
Course Contents	The creation of pixel art games was more or less essential throughout the '80s due to hardware-limits of the time, but since then has rapidly declined with the introduction of 3D-capable home consoles and powerful PCs. But throughout the last decade, pixel art started coming back in the shape of retro revivals like Contra 4 and Mega Man 9, games that felt like they'd been made 15 or 20 years earlier. With the rise of download services on home consoles and the ease of indie publishing on newer consoles and mobile platforms this trend seems here to stay, as games with lower budgets naturally suit simpler graphics.

But while the term "pixel art" is often used synonymously with "retro," the style doesn't have to stand for nostalgia. Pixel art is now one of video gaming's most characteristic visual styles, forged throughout the history of the medium and is inextricably linked to it. However, it still seems hard for people to take pixel art 'seriously' the same way they take 3D seriously sometimes. On the other hand, brilliant counterexamples show up like "Papers, Please", which almost no one would describe as 'retro' or '8-bit' despite the pixelated presentation.

So, if you ever wish you could go back in time to the days of 8bit computing, when coding was arcane and pixels were large, but with all the achievements of modern development environments, **Fantasy Consoles** are making this process easier than ever.

So what exactly is a fantasy console? Lexaloffle Games defines it like this:

"A fantasy console is like a regular console, but without the inconvenience of actual hardware. PICO-8 has everything else that makes a console a console: machine specifications and display format, development tools, design culture, distribution platform, community and playership. It is similar to a retro game emulator, but for a machine that never existed. PICO-8's specifications and ecosystem are instead designed from scratch to produce something that has it's own identity and feels real. Instead of physical cartridges, programs made for PICO-8 are distributed on .png images that look like cartridges, complete with labels and a fixed 32k data capacity."

This gives developers a very focused, simple, and constrained programming environment to work with. You'd be surprised how stripping away all the modern accessories enables you to focus on a single concept... fun, **the essence of games**.

PICO-8 and **Voxatron** are the applications that seemingly launched the entire fantasy console movement.

The elective course therefore has the goal to leave behind the chains of bloated, modern game engines and focus on students creating simple and fun experiences for the **PICO-8** or **Voxatron** consoles, in Lua for an awkward 1:1 of 128x128 pixels or 128x128x64 voxels.

The target platform is PICO-8 or Voxatron running on a PC. Students further have the opportunity to create games for a 3:1 aspect ratio with 384x128 pixels (3 PICO-8 screens wide). Such games can be exhibited and played on a **2,80m wide large LED screen**. For Voxatron games it is possible to display games on a Looking Glass **holographic display**, significantly enhancing the 3D experience.

Students in this course will:

- Learn the basics of the Lua scripting language, which is still one of the most widely used scripting languages in the game industry.
- Learn to develop games on the PICO-8 or Voxatron Fantasy Consoles, including tricks to work with the imposed constraints.
- Develop one or more simple (or not so simple) games on PICO-8 or Voxatron in mixed teams of 2 (or alone), including pixel art and chiptunes style music.
- (Presumably) try out the games on a giant LED screen in our GameLab or a holographic display.

Type of Exam	homework		work+presentation	x	paper		
Milestones if known							

		Examination
		Examination / Presentation
End of Elective		
Suitability	Intermediate student course	
Preconditions	Some understanding of either basic programming, creation of pixel art, or creation of waveform-based music (chiptunes)	
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 6.10.2014 there has to be a first organisational meeting to finalize the application process