University of Gdańsk

Subject card

Subject name and code	Visual and Spatial Design, PG_00215446						
Field of study	Historical Games and Digital Heritage						
Date of commencement of studies	October 2027		Academic year of realisation of subject		2027/2028		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		English		
Semester of study	1		ECTS credits		6.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor						
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	40.0	0.0	0.0	0.0	40
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	40		40.0		70.0	150
Subject objectives	The course aims to develop competencies in designing interactive game environments and immersive experiences in which architecture, navigation, environmental storytelling, and player agency support historical interpretation. Students explore spatial design, prototyping, and playtesting, as well as the informed use of VR, AR, and 3D technologies, with attention to historical credibility, accessibility, and user experience.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GHDCMU2_K02] Proposes and co-organizes initiatives aimed at the responsible interpretation of history, as well as the protection and popularization of heritage, while taking into account a diversity of perspectives and accessibility for audiences.	They play a sophisticated role in co-organizing initiatives focused on the responsible interpretation of history, as well as the preservation and promotion of heritage, while incorporating diverse perspectives into visual presentations. They also recognize the need to adapt a game's visuals to better suit the needs of neurodivergent individuals and people with disabilities.	[SK1] oral statement/conversation/ discussion
[GHDCMU2_W03] Explains advanced principles of iterative game design and prototyping—specifically regarding historical games as interactive models of the past, and cultural games as forms of engagement with heritage.	Explains the principles of spatial game design and iterative prototyping, including environmental storytelling, level structure, spatial orientation, and user experience.	[SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[GHDCMU2_W02] Presents, in detail, concepts from historical and cultural game studies concerning the relationship between game content, mechanics, and technology, and the player's agency and cultural context in the production of knowledge about the past.	Analyses how spatial organisation, interaction mechanics, navigation, and player agency shape historical meanings in games and immersive experiences.	[SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[GHDCMU2_U03] Effectively participates in the process of designing games focused on history and heritage, taking on various roles at different stages—from concept, prototyping, playtesting, and iteration, all the way to dissemination to audiences.	Designs, prototypes, and playtests an interactive historical game environment, integrating environmental storytelling, gameplay mechanics, navigation, and player choices, and iteratively refining the design based on test results.	[SU2] presentation/project/paper/ report [SU5] implementation of a problem task
[GHDCMU2_U04] Selects and employs digital tools for the analysis, documentation, and interpretation of heritage in a manner appropriate to the project's objectives, the quality of available data, and technological constraints, while also considering the accessibility of the results.	Selects and applies digital tools to create spatial representations of cultural heritage, justifying design decisions through historical evidence, technological constraints, and accessibility requirements.	[SU2] presentation/project/paper/ report [SU5] implementation of a problem task
[GHDCMU2_W04] Compares theories and methods of digital heritage interpretation and the museum experience design in terms of their premises, applications, and limitations.	Compares methods of designing virtual and augmented historical environments, evaluating their interpretative potential, technological limitations, and applications in games and heritage experiences.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

Subject contents

1. Space as a game system – architecture, level topology, navigation, and player agency.
2. Level design – composition, scale, sightlines, orientation, and exploration.
3. Environmental storytelling – history conveyed through architecture, objects, and traces of the past.
4. Historical reconstruction – source criticism, authenticity, interpretation, and uncertainty.
5. VR, AR, and XR – immersion, presence, spatial interaction, and user experience.
6. Design workflow – blockout, environment modelling, asset integration, and prototyping.
7. Accessibility and ethics – user comfort, inclusive navigation, and responsible historical representation.
8. Playtesting and iteration – observing player behaviour, evaluating spaces, and revising design.

Prerequisites and co-requisites		
Assessment methods and criteria		

Subject passing criteria	Passing threshold	Percentage of the final grade
Spatial Game Prototype	51.0%	70.0%
Spatial Design Analysis & Documentation	51.0%	30.0%

Recommended reading	Basic literature	Totten, C. W. (2019). *An Architectural Approach to Level Design*. 2nd ed. CRC Press. Gillies, M. and Pan, S. X. (2026). *An Introduction to Virtual and Augmented Reality: Designing Impactful Experiences*. Chapman & Hall. Liarokapis, F., Shehade, M., Aristidou, A. and Chrysanthou, Y. (eds) (2025). *Interactive Media for Cultural Heritage*. Springer. Smith Nicholls, F. and Cook, M. (2025). 'Archaeological Gameworld Affordances: A Grounded Theory of How Players Interpret Environmental Storytelling'. *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, Article 465. https://doi.org/10.1145/3706598.3714036 Champion, E. M. (ed.) (2021). *Virtual Heritage: A Guide*. Ubiquity Press. https://doi.org/10.5334/bck Bandi, F. and Malaspina, R. P. (eds) (2025). *Real Space–Virtual Space: Aesthetics, Architecture, and Immersive Environments*. Milano University Press. https://doi.org/10.54103/milanoup.223
	Supplementary literature	Seif El-Nasr, M., Carstensdottir, E. and John, M. (2026). *Designing Serious Games*. MIT Press. Chapman, A. (2016). *Digital Games as History: How Videogames Represent the Past and Offer Access to Historical Practice*. Routledge. Klobucar, A. (2026). 'The Art of the Environment in Interactive Walking Simulation Narratives: How GenAI Might Change the "Game"'. *Humanities*, 15(1), 13. https://doi.org/10.3390/h15010013 Partarakis, N., Katsantonis, M. N. and Zidianakis, E. (2026). 'A Systematic Review of Extended Reality (XR) Applications in Cultural Heritage'. *Heritage*, 9(6), 215. https://doi.org/10.3390/heritage9060215 Jenkins, H. (2004). 'Game Design as Narrative Architecture'. In N. Wardrip-Fruin and P. Harrigan (eds), *First Person: New Media as Story, Performance, and Game*. MIT Press.
	eResources addresses	
Example issues/ example questions/ tasks being completed	**Environmental storytelling and historical reconstruction.** Design a space where architecture, objects and traces of past activity allow players to piece together part of its history without explanatory dialogue. Justify your design choices using historical sources and identify which elements are documented and which are interpretive. **Space as a game system.** How do routes, landmarks and sightlines affect what players notice, where they go and what they can do? Create a level blockout and design two routes to the same objective. **Design fundamentals:** Using a game or museum space as an example, analyse how composition, shape and colour guide the player's or visitor's attention. Explain how the form of one element helps communicate its function.	
Work placement	Not applicable	

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