University of Gdańsk

Subject card

Subject name and code	Digital and Virtual Heritage, PG_00216094						
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 Subject group related to scientific research 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		4.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Robert Domżał				
	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		30.0		30.0	100
Subject objectives	The aim of the course is to develop in-depth knowledge of the theory and methods of digital documentation, interpretation, and sharing of cultural heritage, taking into account their cognitive capabilities and technological limitations. Students learn to critically assess the credibility of digital representations of the past, develop research concepts using digital methods, and plan responsible access to heritage resources, taking into account legal, ethical, and organizational conditions and the needs of different groups of recipients.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GHDCMU2_W05] Has knowledge and understanding of the legal, ethical, and social conditions governing the use of history and cultural heritage in research and creative activities, particularly issues related to copyright, the provenance and lawful use of resources, conflicts over historical memory, and the responsible use of artificial intelligence.	Discusses the legal, ethical and social considerations involved in digitally documenting, interpreting and providing access to heritage, taking into account copyright, the provenance of resources (also born-digital), contested memories and responsible use of artificial intelligence.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[GHDCMU2_K02] Is prepared to initiate and co-organise activities promoting the responsible interpretation of history and the protection and popularisation of cultural heritage, taking into account the public interest, diverse perspectives and the accessibility of these activities to different audiences.	Proposes and co-organizes activities for the responsible documentation, interpretation, and sharing of cultural heritage in the digital environment, taking into account the public interest, the diversity of historical perspectives, legal and ethical conditions, and the availability of results to different groups of recipients.	[SK2] presentation/project/paper/ report [SK3] text preparation/written work
	[GHDCMU2_U01] Independently develops research project concepts addressing complex problems in history, particularly its interpretation and representation in historical games and digital heritage, defining research problems and questions, formulating and testing hypotheses, selecting appropriate research methods, and justifying approaches to the interpretation and verification of results.	Independently develops the concept of a research project on digital or virtual heritage, formulates the problem and research questions, proposes hypotheses, selects appropriate sources and methods for documenting and interpreting heritage, and justifies the method for verifying hypotheses, assessing data reliability, and interpreting the results.	[SU2] presentation/project/paper/ report [SU5] implementation of a problem task
	[GHDCMU2_W04] Has an in-depth knowledge and understanding of theories and methods of digital cultural heritage interpretation and museum experience design, particularly the application of historical knowledge and research methods to the interpretation and presentation of the past, taking into account the underlying assumptions, potential applications and limitations of the approaches used.	Compares methods of digital heritage documentation and interpretation, explaining their uses and limitations in relation to a research aim or audience needs,	[SW2] presentation/project/paper/ report [SW5] implementation of a problem task
	[GHDCMU2_W06] Has knowledge and understanding of the economic and organisational conditions of research, development and creative activities in the game and cultural heritage sectors, including principles of cross-sector collaboration, project funding opportunities, factors influencing professional career development, and principles of establishing and developing various forms of entrepreneurship.	Explains the economic and organisational conditions of digital heritage initiatives, taking into account institutional roles, cross-sector collaboration, funding sources and the conditions needed to sustain project outputs.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

Subject contents	1. Digital and virtual heritage – key concepts, theories, authenticity, and the relationship between objects and representations. 2. 2D and 3D documentation – photography, photogrammetry, scanning, multispectral and X-ray imaging; uses and limitations. 3. Digital twins and “memory twins” – modelling, reconstruction uncertainty, and data provenance. 4. Immersive heritage – VR, AR, XR, interactive narratives, and educational games. 5. Preservation and access – repositories, metadata, sustainability, and accessibility. 6. Law and ethics – copyright, sensitive data, contested memory, and responsible AI use. 7. Project organisation – institutions, partnerships, funding, and sustainability. 8. Research design – questions, method selection, source criticism, and evaluation plans.
Prerequisites and co-requisites	No additional requirements

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
analysis method	51.0%	25.0%
concept of the proejct	51.0%	40.0%
Sharing concept	51.0%	25.0%
participation	51.0%	10.0%

Recommended reading

Basic literature	1. Ch'ng, E., Chapman, H., Gaffney, V. and Wilson, A. S. (eds) (2022). *Visual Heritage: Digital Approaches in Heritage Science*. Springer. 2. Champion, E. (ed.) (2021). *Virtual Heritage: A Guide*. Ubiquity Press. 3. Cameron, F. and Kenderdine, S. (eds) (2007). *Theorizing Digital Cultural Heritage: A Critical Discourse*. MIT Press. 4. Bentkowska-Kafel, A. and MacDonald, L. (eds) (2018). *Digital Techniques for Documenting and Preserving Cultural Heritage*. Arc Humanities Press.
Supplementary literature	1. UNESCO (2003). *Charter on the Preservation of Digital Heritage*. 2. The London Charter (2009). *The London Charter for the Computer-Based Visualisation of Cultural Heritage*, version 2.1. 3. Collections Trust (2022). *Spectrum 5.1: The UK Museum Collections Management Standard*.
eResources addresses	

Example issues/ example questions/ tasks being completed	1. Compare three methods of digitally documenting a selected heritage object. Which best serves the research objectives, and why? 2. Evaluate the credibility of a digital historical reconstruction. How can documented findings be distinguished from hypotheses and interpretative decisions? 3. Develop a proposal for providing digital access to a museum collection, considering accessibility, copyright, audience needs, and long-term sustainability. 4. Discuss selected examples of successful digital heritage projects that could serve as models for future work.
Work placement	Not applicable

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