Attatchment no. 4

SUBJECT/MODULE SYLLABUS*

1.	Subject/module name GIS in Archaeology
2.	Discipline archaeology
3.	Lecture language Polish
4.	The entity conducting subject Institute of Archaeology
5.	Subject/module code 22-AR-S1-01-GISarch
6.	Type of subject/module *(obligatory or optional)* obligatory
7.	Field of study (specialization)* archaeology
8.	Level of studies *(1st degree*, 2nd degree*, long-cycle master's studies*, name of the Doctoral College*)* 1st degree
9.	Year of studies *(if applicable*) 2nd year
10.	Semester *(winter or summer)* winter
11.	Form of classes and number of hours (including number of hours of online classes*) Lecture 10 hours, lab 30 hours
12.	Prerequisites in terms of knowledge, skills and social competences for the subject/module Completed course in the basics of computer science for archaeologists, basic geographical knowledge at high school level
13.	Learning objectives for the subject Learning about the possibilities of using spatial data and Geographic Information Systems in archaeology
14.	 Program content: Lecture: 1. Introduction - information systems, geotechnology, GIS 2. Spatial data 3. Sources and methods of obtaining spatial data 4. Spatial data models

	5. Geoprocessing of vector data 6. Geoprocessing of raster data 7. GIS applications in archaeology Laboratory: 1. Sources of geographical information. 2. Introduction to GIS software (spatial data models). 3. Georeferencing. 4. Creating vector layers, geoprocessing of vector data. 5. Spatial queries. 6. Digital height model, geoprocessing of raster data. 7. Raster calculator. 8. Multi-stage spatial analyses	
	Assumed learning outcomes Has structured methodological knowledge and knowledge of theories used in archaeology and in various directions of archaeological, archaeological-natural and natural research Has basic knowledge of the connections between archaeology and scientific fields and disciplines, which are the basis for specialties developed within them, such as environmental archaeology (bioarchaeology), underwater archaeology,	Appropriate directional symbols learning outcomes K_W03 K_W05

	architectural archaeology, conservation of archaeological artefacts. Has basic knowledge of collecting, managing and processing archaeological source resources and using digital techniques for these purposes Is able to search, analyze, evaluate, select and use information using various sources and methods Is able to use basic theoretical approaches, research paradigms and concepts appropriate to the studied discipline and those disciplines from other areas (natural sciences, art sciences, earth sciences) that are an integral part of archaeology or cooperate with it Is able to use basic information technologies, multimedia and Internet resources and process archaeological data through the use of basic computer programs and multimedia devices and techniques Understands the need for lifelong learning Is able to appropriately determine priorities for the implementation of tasks specified by himself or others Is aware of the responsibility for preserving cultural heritage	K_W15 K_U01 K_U04 K_U12 K_K01 K_K03 K_K05
15.	Required and recommended literature (sources, studies, textbooks, etc.)	

<table>
<tr><td></td><td>

Conolly J., Lake M. 2006. Geographical Information Systems in Archaeology, Cambridge Manuals in Archaeology, Cambridge: Cambridge University Press.
Jasiewicz J. 2009. Zastosowanie analiz geoinformacyjnych w badaniu dawnych procesów osadniczych, [w:] Z. Zwoliński (red.), GIS – platforma integracyjna geografii, Poznań: Bogucki Wydawnictwo Naukowe, 175-195.
Urbański J. 2010. GIS w badaniach przyrodniczych, Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
Wheatley D., Gillings M. 2002. Spatial Technology and Archaeology. The archaeological applications of GIS, London-New York: Routledge.

Detailed and English-language literature will be provided during classes.
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<tr><td>16.</td><td>Methods of verifying the assumed learning outcomes:

- lecture: final test in written form

- laboratory: final test in practical form (solving tasks using GIS software)</td></tr>
<tr><td>17.</td><td>Conditions and form of passing individual components of the subject/module:

Lecture and laboratory: obtaining positive grades in final tests (grade scale in accordance with the University of Wrocław's Study Regulations)</td></tr>
<tr><td>18.</td><td>Student/PhD student workload
<table>
<tr><td>the form of carrying out classes by the student*/doctoral student*</td><td>the number of hours allocated to carry out a given type of classes</td></tr>
<tr><td>classes (according to the study plan) with the instructor:
- lecture:
- laboratory:</td><td>

10
30</td></tr>
<tr><td>student/doctoral student's own work (including participation in group work), e.g.:

- preparation for classes

- reading the indicated literature:</td><td>

25

25</td></tr>
<tr><td>Total number of hours</td><td>90</td></tr>
<tr><td>Number of ECTS points (if required)</td><td>3</td></tr>
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(T) – implemented in a traditional way
(O) – implemented online

* remove unnecessary