UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

DIPARTIMENTO DI RICERCA E INNOVAZIONE UMANISTICA

General information		
Academic subject	Introduction to GIS-based Design	
Degree course	**Interuniversity Master's Degree in Archaeology**	
Academic Year	2022-2023	
European Credit Transfer and Accumulation System (ECTS)		: 3
Language	Italian	
Academic calendar (starting and ending date)	Second Semester (27.02.2023 – 19.05.2023)	
Attendance	Yes	

Professor/ Lecturer	
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Department and address	Laboratory of Landscape Archaeology
Virtual headquarters	
Tutoring (time and day)	The Lecturer is available on previously arranged days and times (via email) for any clarification on the topics presented in the lecture as well as on the exam preparation methods

Syllabus	
Learning Objectives	The student will acquire the ability to manage, analyse, and georeference different types of data, ranging from the surveying of an archaeological area to monuments, from perimeter mapping of topographic units to single archaeological finds. The course contents aim at creating a Geographic Information System focused on managing archaeological data and functional for the realisation of multi-scale thematic maps.
Course prerequisites	A basic understanding of information technology as well as of methods and tools for archaeological documentation is essential and prerequisite for this course.
Contents	The workshop will address both the design and management of archaeological data in a GIS (Geographic Information System) environment. These systems are designed to integrate information acquired from map resources with alphanumeric data. The use of GIS technology in archaeology is systematically applied in a large number of research projects focusing on the analysis of rural and urban landscapes. In particular, the use of GIS tools to analyse a specific case study as well as the knowledge of the software developed by the Central Institute for Archaeology for the elaboration of the Archaeological Impact Assessment will be covered extensively.
Books and bibliography	SANCHIRICO C., Elementi di topografia archeologica. Guida pratica alla documentazione sul campo nella ricerca di superficie, 2007. BIANCONI M., http://www.rilievoarcheologico.it/manuale_rilievo8_0000e6.htm BOGDANI J., GIS in archeologia, in Groma 2. In profondità senza scavare. Metodologie d'indagine non invasive e diagnostiche per l'archeologia. pp. 421-

	438. https://www.academia.edu/458336/GIS_per_l_archeologia
Additional materials	

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
75	21	54	
ECTS			
3		*3*	

Teaching strategy	During laboratory activities, students are actively encouraged to engage in self-assessment and in-progress evaluation of any gaps.
Expected learning outcomes	
Knowledge and understanding	Not included in the Bachelor's Degree Program, this course will allow the student to master the computer tools for the acquisition and processing of archaeological data in a GIS environment, both on a conceptual and practical level. Particular attention is paid to the creation of graphic layouts useful for the management of cartographic data acquired during the systematic archaeological surveys.
Applying knowledge and understanding	The course allows the student to learn about and contextualise the main methods of topographic documentation management within the broader scope of information technology applied to cultural heritage.
Soft skills	• *Making informed judgments and choices* The course allows the student to achieve the ability to: o critically review the contents, relating the know-how of application algorithms in GIS environment by applying them to other and different situations, both thematically and methodologically; o correctly use the necessary methods and tools for the computer-based processing of the graphic and topographic documentation acquired from field research. • *Communicating knowledge and understanding* The course allows the student to: o practise 'teamwork' in an integrated, interdisciplinary and complementary manner, with diversified and defined levels of autonomy. The latter, in particular, is an important aspect worthy of highlighting in relation to the professional profile of the archaeologist, which involves the organisation of work in research teams and the acquisition of diversified skills. This exercise is also linked to the field activities (on-site training) promoted by the Degree Course. • *Capacities to continue learning* In order for the student to become more and more independent in research activity, the course aims at: o a constant self-assessment of the acquired skills; o the integration of the different sector-specific viewpoints into organically constituted synthesis frameworks. The ability to continue learning is also enhanced and monitored during laboratory activities being organised with the active and creative contribution of the students. The acquired ability to continue learning leads to working independently by bringing their training and experience into other research contexts.

Assessment and feedback	
Methods of assessment	The final exam consists of a computer-based project in GIS environment to be carried out individually or as a team.
Evaluation criteria	• *Knowledge and understanding* o knowledge of methodological and archaeological aspects related to the discipline; o ability to analyse and establish the most suitable method and strategies based on the contexts of investigation. • *Applying knowledge and understanding* o self-assessment and on-going evaluation during laboratory activities; o ability to apply the archaeological methodology in developing correct content within interdependent categories. • *Autonomy of judgment* o critical review of content; o correct use of tools and methods related to the archaeological methodology; o correct and integrated use of IT tools. • *Communication skills* o familiarity with GIS tools to process clear thematic maps; o elaborate cartographic tools for processing tools and standards used in Public Administration for the Archaeological Impact Assessment (AIA) o ability to approach teamwork by analysing and discussing the identified topics. • *Capacities to continue learning* o ability to critically manage the specific bibliography under examination and the essential research tools; o ability to manage the documentation of an archaeological context through the use of GIS tools.
Criteria for assessment and attribution of the final mark	The assessment criteria will focus on the correct production of a practical test carried out independently by the student through the proper use and learning of GIS tools.
Additional information	The **exam schedule** is posted on the notice boards of the Degree Course and made available on the Degree Course website and also on the Esse3 system. To register for the exam, it is mandatory to use the Esse3 system. For students who are behind in the course schedule and for Erasmus students, whose study plans are currently not included in the Esse3 system, reservations can be made through other methods to be agreed upon with both the Academic Office and the Lecturer.