Joint Faculties of Humanities and Theology

ARKN24, Archaeology and Ancient History: GIS and Spatial Analysis in Archaeology, 15 credits

Arkeologi och antikens historia: GIS och rumslig analys i arkeologi, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Pro Dean of First and Second Cycle Studies at The Joint Faculties of Humanities and Theology on 2024-06-03 (U 2024/394) and was last revised on 2026-08-26 (U 2026/288). The revised syllabus comes into effect 2026-08-26 and is valid from the spring semester 2027.

General information

The course is offered as a freestanding course. It can normally be included in a general qualification for first or second-cycle studies.

Language of instruction: English

Main field of study	*Specialisation*
Archaeology and Ancient History	A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

On completion of the course, students shall be able to

Knowledge and understanding

- give an account of extensive knowledge of the archaeological application of Geographical Information Systems (GIS), its technologies and applications in a general sense to model, simulate, visualise and communicate archaeological data and interpretations
- Through speech, images and writing, clarify and communicate how in general this research field increases our knowledge of humankind and environments of the past.

Competence and skills

- independently develop archaeological GIS projects
- select, process and prepare data for integration in GIS, with a focus on usability and functionality.

Judgement and approach

- offer reasonable interpretations of analysed spatial data from a scientific critical perspective.

Course content

The course gives the students the ability to use Geographic Information Systems (GIS) and to navigate among the different tools and instruments that are offered in these technologies. A key element of the course is the introduction to the principles of digital geographic representation by means of vectors (points, lines, polygons) and raster graphics that are used in spatial databases. The students learn to import and process data from a number of different instruments and sensors, e.g. total stations, GPS, LiDAR, photogrammetry and other image sources, and to integrate this data in GIS in order to carry out analysis. The course also includes a detailed overview of the cartographic principles that are essential for the analysis and communication of spatial data relevant in archaeology. This includes the development of skills in a range of GIS-based spatial analyses with a focus on understanding spatial patterns, visibility, network analysis and simulation of land and resource use. The students will participate in predictive modelling that aims to identify potential settlements and other archaeological relics.
Through practical application and learning theories, the students will become independent users of GIS for archaeological field surveys and landscape analysis. They will also be equipped to handle specific research questions by synthesising data from several sources and methods.

Course design

The teaching consists of exercises, lectures and seminars.

Attendance is compulsory at all teaching activities. In order to meet the attendance requirement, students must participate in at least 80% of the scheduled activities. If overall participation falls within the range of 70–80%, the student must complete a compensatory assignment in accordance with the instructions provided by the course coordinator in order to achieve a pass grade. If participation is below 70%, no final grade will be awarded for the course, and the student must re-register for and retake the course, subject to availability.

However, if a student has been unable to participate due to circumstances beyond their control, for example due to an accident, sudden illness or similar, they will be given the opportunity to complete one or more supplementary assignments according to the lecturer's instructions to receive a grade of Pass. This also applies to students participating in activities in an elected position as a student representative.

This is a translation of the syllabus
which was established in Swedish.

Assessment

Assessment of the course is based on an invigilated on-campus exam and a take-home exam.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Grades

Grading scale includes the grades: Fail, Pass, Pass with distinction
For the grade of Pass on the whole course, students must have been awarded at least the grade of Pass on all exams. For the grade of Pass with Distinction on the whole course, the student must in addition have been awarded this grade on the take-home exam.

Entry requirements

To be admitted to the course, the student must have completed courses ARKK01, ARKK04, AKSK04, ARKH04 and HOSK04 or equivalent.

Further information

- The course is offered at the Department of Archaeology and Ancient History, Lund University.
- The course replaces ARKN09.
- The number of credits allocated for course content that is shared in whole or in part with another course can only be credited once for a degree.
- For further details, see current registration and information material.

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