An advanced programme available over one year (full-time) or two years (part-time)

An understanding of context is critical to a modern archaeology. The layers and deposits within which archaeological objects are situated provide their most immediate context. Our MSc in Geoarchaeology, which explores and builds on the connections between archaeology and the earth sciences, provides you with the knowledge and skills to understand the formation processes that lead to the creation of archaeological layers, sites and landscapes. Geoarchaeology is fundamental to both professional and academic archaeology - and this programme is designed both to appeal to those who want to pursue doctoral research in the subject, and to meet the need for skilled specialists within commercial archaeology and in environmental management in governmental and non-governmental organisations as well as in private practice.

The programme offers a range of closely integrated core modules, which enable you to develop your experience and understanding of the method and theory of geoarchaeology. You will learn to think critically and we will train you in a range of problem solving and analytical skills. You will acquire advanced IT skills (including GIS and Remote Sensing) as well as general research (group-based seminar work, practical work and independent research) and presentational skills that can be applied in a broad range of employment contexts. We place a strong emphasis on developing your skills and knowledge 'in the field', during fieldtrips and within ongoing research projects.

Sheffield is the ideal place to undertake advanced training in Geoarchaeology. The programme draws upon the strengths of both departments, especially the Landscape Archaeology and Palaeobotany and Land Use research groups in Archaeology, and the Sediment Systems and the Centre for Drylands Research groups in Geography. You will have access to the well-equipped Geoarchaeology and Landscape Archaeology laboratories in the Archaeology department, and the Sediment-Solute Systems (S3) and SCIDR Luminescence Dating laboratories in Geography. The programme's teaching staff (including Gianna Ayala on geoarchaeology, Mark Bateman, Tony Parsons and John Wainwright on quaternary palaeoenvironments, Mike Charles on quaternary palynology, and Bob Johnston on landscape archaeology) are active in the generation of new knowledge about humanity's relationship with, and creation of, the physical, natural world - knowledge that feeds directly into their teaching. As in all our programmes, we stress the integration of 'science-based' and 'humanities' approaches to produce a deeper understanding of past humanity, and throughout provide you with the opportunity to work between and across different view points and approaches and to make your own mind up about their strengths and weaknesses. What we will ask of you, as a member of our lively academic community, is that you learn, think and develop your own answers to the questions raised.

1 Joint-programme with the Department of Geography.
Programme Structure

Seven core modules (each 15 credits) provide you with key knowledge and understanding of geoarchaeology –

**Method and Theory in Geoarchaeology** - provides you with an introduction to geoarchaeological research, familiarises you with theoretical and logistical approaches, and introduces you to analytical techniques used to solve archaeological problems. In addition we explore key themes - such as the nature of site formation, buried and modified landscapes, and the integration of geoarchaeology in archaeological research (Ayala).

**From Desk to Field: methods in landscape archaeology** (Archaeology) - provides in-depth field and lab-based training in a range of analytical techniques (GIS, aerial photography, archival research, and field survey). This module is taught through formal day-long practical classes and independent research (Johnston, Merrony).

**Method and Theory in Quaternary Palynology** (Archaeology) - serves as an introduction to the principles underpinning palynology, as well as providing practical and laboratory experience in the process of recovering, identifying and analysing pollen and spores. Accompanying seminars cover topics such as the representativeness of the pollen record, the assembling of pollen data, environment modelling, and the integration of pollen and other data sources (Charles, Craigie).

**Landscape Project** (Archaeology) – offering advanced field training in geophysics, total station and GPS survey. The module is taught through formal day-long practical classes and a ten-day field course (in previous years this has been based in the Lake District and North Wales) (Johnston, Merrony).

**Sources to Sinks field class** (Geography) - provides an introduction to sedimentary environments based around a three-day local field class. The module illustrates key concepts and introduces field-based techniques of environmental analysis (Parsons).

**Unlocking the Sedimentary Archive** (Geography) - a field- and laboratory-based approach to the characterisation of sediments and the use of sediments for dating. The module introduces a range of techniques, including physical properties of sediments (e.g. composition, particle size, shape, mineralogy, magnetic susceptibility, structures) and geochronological (e.g. luminescence, uranium series, Lead-210, Cs-137, palaeomagnetism, radiocarbon) (Bateman, Piotrowski).

**Spatial Techniques for Environmental Analysis** (Geography) - this module will provide instruction in advanced approaches to remote sensing, Geographical Information Systems (GIS) and modelling methodologies for data collection, integration and interpretation of complex environmental systems (Wainwright).

You then chose one of the following 15 credit options –

**Environmental Process Fluxes** - An overview of process-based approaches to sediment (Earth-Surface) systems. A detailed introduction to conceptual and practical issues in hardware modelling, field experiments and field monitoring will be presented and practical skills developed in these areas (Parsons).

**Geochemical Techniques in Environmental Analysis** - A field- and laboratory-based approach to geochemistry, with an emphasis on the linkage of theory to applied applications. State-of-the-art techniques in water and soil chemistry will be presented and put into practice using the Departments laboratory facilities (Hodson).

**Researching Archaeological Landscapes** - seminars, fieldtrips and talks from invited speakers focus on case studies in the reconstruction of prehistoric and historic landscapes from around the world (various).

Finally, you complete a 60-credit dissertation in which you independently design and carry out a theoretically informed research project on a subject of your choice within the field of Geoarchaeology.

Programme Requirements²

We welcome applications from candidates with a good honours degree (2.1/GPA 3.0 or better) in archaeology, anthropology, or one of the natural or earth sciences.

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² See also the Applying to Sheffield page for details of University entry and language requirements.