AR2008  Environmental Archaeology

Academic Year: 2009-2010

Semester: 1

Time and location: Thursday, 10.00 - 12.00: Att SB2.07

First meeting: Thursday 8th October 2009

Module coordinator: Dr Richard Thomas
e-mail: rmt12@le.ac.uk
Room: 124
Office hours: Tuesdays 1300-1500

Your individual appointments (e.g. tutorials, seminars):

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document prepared by: Richard Thomas, September 2009
## AR2008 Environmental Archaeology

### Weighting:
20

### Coordinator:
Dr Richard Thomas

### Other tutors:
Dr Huw Barton, Dr. Mark Gillings, Matilda Holmes, Kate Parks, and Dr David Smith (University of Birmingham)

### Module outline:
The module offers an introduction to environmental archaeology. Some sessions will focus on categories of environmental data and their analysis and interpretation, supported by practical and/or workshop components; others on how environmental archaeology can be used to address core archaeological themes within an integrated approach.

### Aims:

1. to develop an awareness of the potential and limitations of environmental archaeology for the study of past human societies;
2. to develop an understanding of the principal theories and techniques of environmental archaeology;
3. to introduce an awareness of the practical skills of environmental archaeology through hands-on experience of materials.

### Intended learning outcomes:

1. students will be able to critically evaluate the strengths and limitations of different approaches and analytical techniques in environmental archaeology;
2. students will be able to recognise some of the core materials of environmental archaeology - pollen, plant remains, molluscs, animal bones, insects - and will have experience of practising some of the basic analytical skills used in their analysis;
3. students will be able to demonstrate, through critical evaluation of techniques and results of selected case studies, the contribution of environmental archaeology to the study of past human societies;
4. students will be able to demonstrate their written communication skills by using, as appropriate, text, tables and charts to convey information of a factual, descriptive and analytical nature.

### Method(s) of teaching:
The module is made up of two-hour sessions, which include lectures and workshop elements; the latter including some hands-on work in the laboratory.

### Method of assessment:
One mini-workbook (50%); one essay (50%)
Teaching schedule

Week 2  8 October  Introduction to environmental archaeology: history and principles  
         Dr R. Thomas  
Week 3  15 October  Reconstructing the environment: insects  
         Dr D. Smith  
Week 4  22 October  Reconstructing the environment: land snails  
         Dr. R. Thomas and T. Gouldwell  
Week 5  29 October  Reconstructing the environment: pollen  
         Dr R. Thomas  
Week 6  5 November  Modelling the environment  
         Dr M. Gillings  
Week 7  12 November  Reading Week  
Week 8  19 November  Reconstructing diet and agriculture: ancient starch and stable isotope analysis  
         Dr H. Barton and K. Parks  
Week 9  26 November  Reconstructing diet and agriculture: zooarchaeology  
         M. Holmes and Dr R. Thomas  
Week 10  3 December  Reconstructing diet and agriculture: archaeobotany  
         K. Parks and Dr. R. Thomas  
Week 11  10 December  Food and culture  
         Dr R. Thomas
Assignments and deadlines

The assessment for this module consists of two pieces of coursework (for details see below), with submission deadlines of 5pm Monday 7th December 2009 for Assignment 1, and 5pm Monday 11th January 2010 for Assignment 2. Each assignment constitutes 50% of the module mark.

You are also required to submit an electronic copy of both pieces of coursework via the Turnitin facility of the AR2008 Blackboard site – please make sure that you have read the Turnitin – Personal Data and Intellectual Property section of your Undergraduate Handbook.

The electronic copy is to be submitted by the same deadline as the paper copies (i.e. 5pm Monday 7th December and 5pm Monday 11th January). Please note that this electronic submission is COMPULSORY. Late submission of either copy will result in the appropriate lateness penalties being applied to the final mark. Students failing to submit both paper and electronic copies by the designated deadline will be deemed to have FAILED the assessment (i.e. a mark of zero will be recorded).

Assignment 1: mini-workbook

This assignment concerns data analysis and interpretation exercises related to the classes in weeks 3, 4, 5, 8, 9 and 10. At the end of each of these sessions you will be given one or more data sets and a related series of questions. You need to choose TWO out of the six data sets for this assignment. In each case you need to present the data using tables and charts, analyse the data using the questions given and write up your answers in a succinct and critical way. Make sure you consult the relevant reading and avoid simply quoting from first year textbooks such as ‘Renfrew and Bahn’. Please also note that your answers should never simply represent a replication of lecture notes.

The write-up of each session should be NO MORE than 1250 words (please use 1.5 line spacing), PLUS bibliography, charts and tables (though the latter may represent NOT MORE than two/three pages per session). In cases where more than two sessions are submitted, only the first two will be marked.

Assignment 2: essay

This assignment requires the completion of an essay (c. 2500 words excl. bibliography) that either concerns the integration and interpretation of more than one type of evidence, and/or a critical discussion of methods of interpretation. Your essay should be supported by a number of, critically examined, case studies that support the evidence you are presenting – it should not
be purely descriptive! Please ensure that the content of your essay does not replicate the text of your workbook assignment – self-plagiarism is still plagiarism (see the course tutor if you have any doubts).

The topics are as follows:

1) To what extent are archaeobotanical OR zooarchaeological reconstructions of diet and agriculture influenced by the sampling and recovery strategies adopted during excavation?

2) Pollen provides the best source of environmental archaeological evidence for reconstructing past climate change. Discuss.

3) What are the strengths and weaknesses of using computer-based techniques to reconstruct aspects of the past environment?

4) How can environmental archaeologists identify the cultural aspects of food consumption? Illustrate your answer with case studies from a specific time and place (e.g. Mesolithic Scandinavia, Iron Age France, Roman Britain, 17th-century North America).

5) To what extent does contemporary environmental archaeology remain embedded within a processual theoretical paradigm?

6) To what degree has the structure and nature of commercial archaeology in Britain affected the quality of environmental archaeological evidence and its integration into mainstream archaeology?

7) What is taphonomy and what impact does it have on environmental archaeological evidence? Consider ONE form of environmental archaeological evidence in detail to illustrate your answer.
Reading list: AR2008

General textbooks and collected papers

TEXT BOOKS IN ENVIRONMENTAL ARCHAEOLOGY

Below are listed a series of books which describe and discuss the discipline of environmental archaeology. You are advised to look at these and compare them in terms of approach. Some focus on the reconstruction of past environments and vegetation, others focus on the reconstruction of human palaeoecology (agriculture, living conditions, subsistence, etc.), some on both. Most will also contain discussions on the various theoretical approaches, techniques of analysis and types of data used within the broad area of environmental archaeology, as well as useful case studies and bibliographies. A more detailed bibliography can be found on Blackboard.


See also the Association of Environmental Archaeology Website (www.envarch.net)
1. INTRODUCTION: THEORY AND PRINCIPLES


2. RECONSTRUCTING THE ENVIRONMENT: INSECTS

KEY READING


3. **RECONSTRUCTING THE ENVIRONMENT: LAND SNAILS**


4. **RECONSTRUCTING THE ENVIRONMENT: POLLEN**

**KEY READING - POLLEN**


CASE STUDY: THE ELM DECLINE


CASE STUDY: PRE-ULMUS DECLINE DISTURBANCES


CASE STUDY: individual papers


5. MODELLING THE ENVIRONMENT

KEY READING


6. **RECONSTRUCTING DIET AND AGRICULTURE: STARCH AND STABLE ISOTOPE ANALYSIS**

**KEY READING - STARCH**


**KEY READING - ISOTOPES**


**CASE STUDIES**


For recent case studies also see: *Journal of Archaeological Science, Antiquity, Journal of Anthropological Archaeology* and *World Archaeology*.

6. **RECONSTRUCTING DIET AND AGRICULTURE: ARCHAEOBOTANY**

**KEY READING**


FURTHER READING


Van Zeist, W., Behre, K.E. and Wasylykowa, K. (eds.) (1991) *Progress in Paleoethnobotany*. Rotterdam, Balkema (the first half contains a series of important methodological papers; the second half contains syntheses of the evidence for agriculture and change in the different regions of Europe as well as the Near East).

7. RECONSTRUCTING DIET AND AGRICULTURE: ZOOARCHAEOLOGY

KEY READING


CASE STUDY: MEDIEVAL ENGLAND


9. FOOD AND CULTURE

**KEY READING**


