

Module Details	
Module Title:	Scientific Frameworks
Module Code:	ARC4013-B
Academic Year:	2019-20
Credit Rating:	20
School:	School of Archaeological and Forensic Sciences
Subject Area:	Archaeology
FHEQ Level:	FHEQ Level 4
Pre-requisites:	
Co-requisites:	

Contact Hours	
Type	Hours
Lectures	24
Practical classes and workshops	16
Directed Study	160

Availability	
Occurrence	Location / Period
	University of Bradford / Semester 2 (Feb - May)

Module Aims
This module is intended to give students an introduction to scientific principles and an understanding of the relevance of a range of applications of scientific techniques within archaeology and forensic anthropology.

Outline Syllabus
Introduction to the philosophical background of science and the scientific method. Scientific principles including atomic structure, stable and radioactive isotopes, trace elements, environmental measurements (pH, Eh equilibria), electricity and magnetism, biological molecules (lipids, proteins, DNA) The principles, applications and limitations of scientific techniques in a range of key thematic

areas which would typically include chronology and dating, human diet and mobility, provenance, materials analysis, prospection. palaeoenvironmental indicators

All areas illustrated with case studies of the application of science to archaeology and forensic anthropology, including recent relevant examples.

Learning Outcomes

1	Describe the underlying scientific principles behind a range of research areas in modern archaeological science and forensic anthropology.
2	Discuss the appropriateness of techniques in particular archaeological and forensic circumstances.
3	Recognise and reproduce scientific terminology, basic scientific formulae and calculations.
4	Identify scientific methods, demonstrate analytical, numerical and problem solving skills and display critical writing skills.

Learning, Teaching and Assessment Strategy

Lectures will be used to introduce key principles and these will be supplemented by structured workshops. Detailed archaeological and forensic case studies will be used to contextualise the principles discussed. Assessment comprises a worksheet which focuses on problem-solving and application, and an exam which tests knowledge and understanding of basic principles. Past questions and model answers provided on the VLE for formative self-assessment. During directed study hours students are expected to undertake reading to consolidate and expand on the content of formal taught sessions; research and prepare for assessments; revise material from formal taught sessions; and undertake specific elements of reading as directed.

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Examination - closed book	Exam	2 hours	50%
Summative	Coursework	Worksheet	-2000 words	50%

Reading List

To access the reading list for this module, please visit <https://bradford.rl.talis.com/index.html>.

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

