

Module Details	
Module Title	Scientific Frameworks
Module Code	ARC4013-B
Academic Year	2021/2
Credits	20
School	School of Archaeological and Forensic Sciences
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Lectures	18
Practical Classes or Workshops	11
Tutorials	18
Directed Study	153

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

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
<p>Introduction to the philosophical background of science and the scientific method.</p> <p>Scientific principles including atomic structure, stable and radioactive isotopes, trace elements, environmental measurements (pH, Eh equilibria), electricity and magnetism, biological molecules (lipids, proteins, DNA).</p> <p>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</p> <p>All areas illustrated with case studies of the application of science to archaeology and forensic anthropology, including recent relevant examples.</p>

Learning Outcomes	
Outcome Number	Description
01	Describe the underlying scientific principles behind a range of research areas in modern archaeological science and forensic anthropology.
02	Discuss the appropriateness of techniques in particular archaeological and forensic circumstances.
03	Recognise and reproduce scientific terminology, basic scientific formulae and calculations.
04	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. Sessions are originally planned for online delivery, but some may be brought on to campus depending on situation and availability. 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. 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	Weighting
Summative	Coursework - Written	Worksheet (1500 words)	30%
Summative	Coursework - Written	Worksheet (2500 words)	70%

Reading List
To access the reading list for this module, please visit <a href="https://bradford.rl.talis.com/index.html">https://bradford.rl.talis.com/index.html</a>

*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.*