

Instrumental Analysis

Module Code:	ARC5009-B
Academic Year:	2018-19
Credit Rating:	20
School:	School of Archaeological and Forensic Sciences
Subject Area:	Archaeology
FHEQ Level:	FHEQ Level 5
Module Leader:	Dr Benjamin Stern

Additional Tutors:

Dr Julia Beaumont, Dr Colin Seaton, Dr Richard Telford, Dr Valerie Steele, Dr Adrian Evans

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	17
Practical classes and	18
Directed Study	165

Availability Periods

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

Module Aims

The module introduces the student to the principles of instrumental analytical techniques and the operational requirements of the techniques of importance to archaeological and forensic science applications. Emphasis will be placed on demonstrating the advantages and disadvantages inherent in the various instrumental approaches.

Outline Syllabus

Principles of analytical sciences, microscopy techniques and instruments, trace element techniques, X-ray techniques, separation science techniques including gas chromatography and spectrometry, vibrational instruments including infra-red and Raman spectroscopy, and isotope spectrometry.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Articulate the principles, operational requirements and appropriate applications of a range of instrumental analytical techniques.
- 2 Choose appropriate instrumental techniques and critically evaluate the data within disciplinary context.
- 3 Apply analytical techniques as a preparation for future training in the operation of specific instruments, quality control and analysis of data, reporting.

Learning, Teaching and Assessment Strategy

Lectures cover the principles of analytical approaches in general, and in detail for selected instrumental methods, and include quality control, sample preparation, data analysis and interpretation. Workshops are used to provide practical experience of producing and working with real analytical data. The reports of these workshops form the basis of assessment. The tutorial is used to train students in the preparation and writing of laboratory reports. Written feedback will be given on the assessments. 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	Final Assess'
Summative	Laboratory Report	Analysis and data report	1000 word equivalent	25%	No
Summative	Laboratory Report	Analysis and data report	1000 word equivalent	25%	No
Summative	Laboratory Report	Analysis and data report	1000 word equivalent	25%	No
Summative	Laboratory Report	Analysis and data report	1000 word equivalent	25%	Yes

Legacy Code (if applicable)

AR-4201D

Reading List

To view Reading List, please go to [rebus:list](#).