

Module Details	
Module Title	Instrumental Analysis
Module Code	ARC5034-B
Academic Year	2024/5
Credits	20
School	School of Archaeological and Forensic Sciences
FHEQ Level	FHEQ Level 5

Contact Hours	
Type	Hours
Directed Study	169
Lectures	14
Practical Classes or Workshops	17

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

Module Aims
The module introduces the student to the principles of instrumental analytical techniques and the operational requirements of the techniques of importance to 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, fundamental concepts for quality assurance and quality control. Techniques and instruments; microscopy, trace element, X-ray, separation science, mass spectrometry (molecular and isotopic), spectroscopy (infra-red and Raman spectroscopy).

Learning Outcomes	
Outcome Number	Description
01	Articulate the principles, operational requirements and appropriate applications of a range of instrumental analytical techniques.
02	Choose appropriate instrumental techniques and critically evaluate the data within disciplinary context.
03	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
<p>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. Formative workshops are used to provide practical experience of producing and working with real analytical data. The reports of these workshops form the basis of the summary 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.</p> <p>Assessment is based on practical sessions, reporting on data collected during practical experiments.</p>

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework - Written	Laboratory report based on data collected in the subject specific workshops.	100%

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.