UNIVERSITY of BRADFORD

Module Descriptor

Laboratory Science

Module Code:	ARC5004-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 Catherine Batt, Dr Gillian Thompson

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	10
Laboratory	27
Directed Study	163

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 1 (Sep - Jan)

Module Aims

The aims of this module are to promote the understanding of aspects of physics and chemistry which underpin scientific techniques and analysis in archaeology, forensics and other areas of science and to allow students to gain laboratory experience.

Outline Syllabus

Writing styles and how to write up a laboratory report. Experimental errors, Laboratory safety. Soils, phosphorus cycle and phosphorus in soils. Introduction to chromatography.

Organic reaction mechanisms. Stable light isotopes, isotope effects, fractionation, delta notation. Carbon isotopes, the geological carbon cycle, photosynthetic pathways: C3, C4.

Radioactivity . Properties of materials (electrical and magnetic), X-ray properties, generation and characterisation.

Microscopy.

Module Learning Outcomes

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

1 Discuss the aspects of physical and chemical sciences which underpin scientific techniques and analysis in archaeology, forensics and other areas of science; specifically those to be encountered in specialist subject areas.

2 Use laboratory skills.

3 Evaluate experimental scientific data.

4 Analyse numerical examples.

5 Write laboratory reports.

Learning, Teaching and Assessment Strategy

Lectures (10), laboratory classes (27). Feedback: ongoing discussion in practical classes and advice on laboratory reports. Written comments about laboratory reports and indicative mark. Opportunity to discuss laboratory report marks. Assessment is through the writing up of laboratory sessions which addresses the broad range of learning outcomes. 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	Write up of laboratory report	-1500 words	33%	No
Summative	Laboratory Report	Write up of laboratory report	-1500 words	33%	No
Summative	Laboratory Report	Laboratory notebook	-1500 words	34%	Yes

Referral	Laboratory Report	Supplementary Assessment: Detailed laboratory report using provided data	-2000 words	100%	No

Legacy Code (if applicable)

AR-3507D

Reading List

To view Reading List, please go to **rebus:list**.