

Maths and Quantitative Methods

Module Code:	ARC7001-A
Academic Year:	2018-19
Credit Rating:	10
School:	School of Archaeological and Forensic Sciences
Subject Area:	Archaeology
FHEQ Level:	FHEQ Level 7 (Masters)

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	12
Tutorials	8
Directed Study	77
Other (DO NOT USE)	1
Examinations DO NOT USE	2

Availability Periods

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

Module Aims

To provide a mathematical and statistical grounding for the appropriate scientific methods and for data processing

Outline Syllabus

Revision of basic mathematics operations and notation; manipulating equations. Graphical representations of data. Descriptive statistics. Self and tutor assessment of mathematical skills by a formative test. Types of data; types of statistics. Probability and sampling distributions; Z-scores. Hypothesis testing. Statistical testing using; t-test, simple ANOVA; correlations and regressions; chi-square. Confidence limits and least significant differences.

Self assessment of statistical work by formative coursework throughout the module. The criteria for selecting an appropriate statistical test to use. The potential misuse of statistics. Critical appraisal of the statistical methods used in published articles. Use will be made throughout of relevant examples of data that are likely to be encountered by students on the different MSc programmes, and emphasis given to interpreting the results obtained.

Module Learning Outcomes

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

- 1 Show mastery of the concepts underlying statistical testing, and knowledge of the mathematical procedures involved.
- 2 Demonstrate the ability to use and apply mathematical and statistical methods. Display ability to solve problems relevant to scientific data treatment in archaeology. Demonstrate critical appraisal of statistical claims.
- 3 Demonstrate acquired and refined analytical, numerical and problem solving skills.
- 4 Display powers of logical reasoning and interpretation of statistical data used in publications.

Learning, Teaching and Assessment Strategy

Lectures. Workshops linked to lectures. Feedback: written comments on coursework: indicative mark from early formative assessment; formal feedback session. Office hours for resolving individual problems. Early formative MCQ test on basic mathematics. Formative coursework calculations throughout the module. During directed study hours students are expected to undertake reading and practicing to consolidate and expand on the content of formal taught sessions: prepare for assessments: revise material from formal taught sessions; and undertake specific elements of reading and practical exercises as directed.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Computerised examination	Worksheet using SPSS (1 hour 30 mins)	1.5 hours	100%	Yes

Legacy Code (if applicable)

AR-7001M

Reading List

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