

Module code: MOD010869	Version: 1 Date Amended: 07/Mar/2025
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1. Module Title
Research Skills in Sport and Exercise Science

2a. Module Leader
Null

2b. School
School of Psychology, Sport and Sensory Sciences

2c. Faculty
Faculty of Science and Engineering

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:			

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module will advance a broader and more detailed investigation into research methods and statistical analysis that was introduced in the first year during the Applied Professional Skills. These include the difference between parametric and non-parametric data, t-tests, ANOVA's, correlations and Chi-square tests. Following this, you'll develop your ability to critically analyse and interpret research in sports and exercise performance and produce apposite and detailed experimental work. You'll develop your knowledge, understanding, skills and thought processes necessary for effective original academic and/or your work-focused research will make use of real-life techniques and approaches. You'll take a researcher role to pilot a study and develop a research proposal using the skills developed in this module to critically investigate an area relating to sport and exercise science. This module is intended to further develop scholarly-, professional-, and research-based skills appropriate to the discipline of sports and exercise performance.

6b. Outline Content

Indicative content will include:

- Students will be taught the skills of how to analyse and communicate relevant themes and findings from the research literature of their chosen field.
- Students will be taught the fundamental principles of research definition and planning, to include: establishing a theoretical framework for research; literature search and review; defining a research question/hypothesis; establishing research objectives; defining information requirements; identifying types of data; research design; overview of piloting, timetabling, organising, data processing and analysis; identifying potential constraints and sources of error; research ethics.
- Students will be introduced to the concepts of samples/populations and selection; replication/randomisation and use of controls.
- Students will be introduced to qualitative data collection and analysis, to include documentary research; observation techniques (participant & non-participant); questionnaire/interview design (e.g. structured and semi-structured); case study research; analysis of qualitative data.
- Students will be introduced to quantitative data collection and analysis that will include observation and experiments; techniques for quantitative analysis of questionnaire/survey research.
- Students will have been given a grounding in all the main aspect of sampling: sample size; evaluation of designs for qualitative and quantitative data collection, response rates & sources of bias; estimation of sampling error and precision; standard error and confidence intervals.
- Students will also learn: the principles of hypothesis testing; the concept of probability and proof; principles of statistical significance testing; parametric and non-parametric tests; selection of appropriate tests for various test statistics and circumstances (e.g. means, percentages, frequencies, independent or matched samples); types of error; calculation examples of Student's t-test, matched-pair tests, ANOVA, non-parametric tests; identifying associations, relationships and making predictions; calculation examples of chi-squared goodness-of fit and contingency tables, bivariate correlation and regression analysis.
- The use of statistical software packages will be extended in this module from the basic analysis introduced in Applied Professional Skills at Level 4.
- Students will be taught the processes required to complete a literature review.

6c. Key Texts/Literature

The reading list to support this module is available at: <https://readinglists.aru.ac.uk/>

6d. Specialist Learning Resources

Writtle Performance Centre Laboratory, Computer Room, SPSS, Technician Support, Academic Tutor Support

7. Learning Outcomes (threshold standards)

No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Determine and Examine a specific area/site/line of enquiry.
2	Knowledge and Understanding	Synthesise the current empirical evidence associated with the line of enquiry.
3	Knowledge and Understanding	Identify potential research gaps within the chosen field of study
4	Intellectual, practical, affective and transferrable skills	Develop professionalism within sport and exercise science to increase employability in the field.
5	Intellectual, practical, affective and transferrable skills	Demonstrate the skills appropriate for data collection, analysis and evaluation for both quantitative and qualitative research.

8a. Module Occurrence to which this MDF Refers

Year	Occurrence	Period	Location	Mode of Delivery
2026/7	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence

Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	60	1-5	3-hour lecture per week
Other teacher managed learning	20	1-5	Individual and small group seminars, and peer discussion/collaboration opportunities
Student managed learning	220	1-5	Additional reading, tasks, synthesis and assessment preparation
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1-3	60 (%)	Fine Grade	30 (%)
Research proposal for pilot study (3000 words not including ethics and risk assessment)					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
011	Examination	5	20 (%)	Fine Grade	30 (%)
1:30 hour Microsoft Excel and statistical analysis exam					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
012	Coursework	4	20 (%)	Fine Grade	30 (%)
Develop a CV, Covering Letter and skills portfolio tailored to a specific sport related job description (2000-words)					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:

- (a) achieve the qualifying mark for each element of fine graded assessment as specified above
- (b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]