

## Liverpool John Moores University

Title: RESEARCH METHODS AND STATISTICS IN PSYCHOLOGY  
2: TESTING FOR DIFFERENCES  
Status: Definitive  
Code: **4205PSYSCI** (121356)  
Version Start Date: 01-08-2021  
Owning School/Faculty: Psychology  
Teaching School/Faculty: Psychology

Team	Leader
Ruth Ogden	Y

**Academic Level:** FHEQ4  
**Credit Value:** 10  
**Total Delivered Hours:** 32  
**Total Learning Hours:** 100  
**Private Study:** 68

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Online	10
Workshop	22

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	Portfolio	A portfolio containing a laboratory report and a results section.	100	

### Aims

1. To introduce the tools for carrying out a literature search.
2. To develop an understanding of basic statistical concepts, descriptive statistics, t-tests, Mann-Whitney U test, Wilcoxon Matched Pairs, ANOVA, post-hoc testing.
3. To use SPSS to carry out statistical analyses.
4. To give practical experience of between subjects research methods.
5. To develop practical report writing skills.

## Learning Outcomes

After completing the module the student should be able to:

- 1 Write a laboratory report conforming to APA style
- 2 Employ the appropriate statistical test, and interpret its outcome.
- 3 Demonstrate a basic knowledge of the generic principles of research design statistical testing.

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Portfolio	1	2	3
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## Outline Syllabus

*The module will explore different approaches to research design with a focus on the differences between testing for between and within-group differences, for example, t-test, Mann Whitney U test, Wilcoxon Matched Pairs, ANOVA and post-hoc tests using SPSS. Research report writing will be re-discussed with an emphasis on experimental designs. Advanced data processing (e.g. outlier analysis and transformation) will be discussed. Students will also gain experience of questionnaire design, and will develop understanding of ethical principles and procedures in research design.*

## Learning Activities

1. Attend online lectures and on-campus workshops
2. Use SPSS/PASW statistical software
3. Use databases to find literature.
4. Complete coursework tasks
5. Complete prescribed reading

## Notes

Introduction to Research Methods and Statistics in Psychology 2: differences provides students with a practical introduction to how to design an experiment, collect data in an ethical manner, perform statistical analysis and write up findings in a manner consistent with published material. Throughout the module students will be required to use computers to conduct literature searches and to perform statistical analysis. In the module students will be introduced to the basic principles of experimental research design, they will then learn more complex statistical tests for differences between two groups (t-test, Mann Whitney U test, Wilcoxon Matched pairs) and three groups (ANOVA). Students will also learn the basics of questionnaire

design. Students will demonstrate their learning through the coursework task by writing a scientific laboratory report and an additional results section. Both components together ensure both depth and breadth of understanding.