Quantitative Research Methods and Data Analysis

Module Code: PSY5011-B
Academic Year: 2018-19
Credit Rating: 20
School: School of Social Sciences
Subject Area: Psychology
FHEQ Level: FHEQ Level 5
Module Leader: Dr Eleanor Bryant

Pre-requisites: Introduction to Research Methods in Psychology 2017-18
Co-requisites:

Contact Hours

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Lectures</td>
<td>22</td>
</tr>
<tr>
<td>Laboratory</td>
<td>10</td>
</tr>
<tr>
<td>Directed Study</td>
<td>168</td>
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Availability Periods

<table>
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<tr>
<th>Occurrence</th>
<th>Location/Period</th>
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<tbody>
<tr>
<td>BDA</td>
<td>University of Bradford / Semester 1 (Sep - Jan)</td>
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Module Aims
To expand on skills acquired in PSY4006-B and learn more advanced techniques for analysing data collected from experiments. In particular: experimental designs using two or more independent variables; designs with multiple levels of independent variables (factorial designs); analysis techniques for examining data from such experiments (Analysis of Variance - ANOVA, and the non-parametric equivalents). Also questionnaire design, carrying out analyses to examine reliability/validity; perform simple regression and multiple regression.
Outline Syllabus
- Regression and multiple regression.
- Types of experiments, factorial, within subjects, between subjects, mixed designs.
- Analysis of variance (ANOVA); univariate and multivariate. Non-parametric equivalents for ANOVA.
- Questionnaire design.
- Issues in psychometrics, response format issues; open ended and closed response formats.
- Reliability and validity analyses.
- Critical issues in statistics.

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

1. be knowledgeable about a number of specialised quantitative analyses;
2. reason statistically and demonstrate competence in a range of statistical methods;
3. demonstrate ethical competence in psychological theory and research.
4. communicate ideas/research findings by effectively using written and visual means;
5. interpret and use numerical / statistical forms of data;
6. be computer literate to further your own learning in the analysis / presentation of ideas and research findings; approach problem solving in a systematic way;
7. undertake self-directed study;
8. recognise the need to assess your own skills and to harness them for future learning;
9. recognise the value of knowledge and its ability to be transformative;
10. recognise the value/application of ethical principles in a broader social context.
11. be knowledgeable about software to analyse data statistically;
12. be knowledgeable and demonstrate a critical understanding of quantitative research methods;
13. demonstrate knowledge of a range of quantitative research paradigms, research methods and measurement techniques;
14. demonstrate knowledge and application of ethical issues in quantitative research.
15. reason scientifically and demonstrate the relationship between theory and evidence;
16. detect meaningful patterns in behaviour and experience statistically
17. pose and operationalise research questions;
18. demonstrate competence in research skills through practical activities;
19. recognise the need to assess your own skills and to harness them for future learning;

Learning, Teaching and Assessment Strategy
Lectures will be used to present factual information about advanced experimental design and statistical techniques (LO1-5). Practical sessions will be used to teach you selective computer analysis packages and provide experience with handling large data sets (LO6-11). These practical sessions are also used to consolidate the theory learnt in the lectures (LO6-19). The exam and research article will assess all Learning Outcomes.

**Mode of Assessment**

<table>
<thead>
<tr>
<th>Type</th>
<th>Method</th>
<th>Description</th>
<th>Length</th>
<th>Weighting</th>
<th>Final Assess'</th>
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<tbody>
<tr>
<td>Summative</td>
<td>Examination</td>
<td>MCQ short answer and output interpretation unseen exam at the end of semester</td>
<td>1.5 hours</td>
<td>50%</td>
<td>Yes</td>
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<tr>
<td>Summative</td>
<td>Coursework</td>
<td>Research article based on a data set produced in the practical sessions.</td>
<td>-2000 words</td>
<td>50%</td>
<td>No</td>
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**Legacy Code (if applicable)**

SY-5012L

**Reading List**

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