

Intermediate Statistical Analysis in Psychology

Module title										
Intermediate Statistical Analysis in Psychology										
Module NFQ level (only if an NFQ level can be demonstrated)		Module number / reference		ECTS Value		Duration				
8				10		24 weeks				
Parent programme(s). Principal programme title, and embedded(s) if relevant				Stage of parent programme		Semester No.				
BA (Honours) in Psychology				2		1&2				
Teaching and Learning modes		Proportion (% of Total Directed Learning)								
Classroom / Face to Face		22.4%								
Workplace										
Online										
Other (Identify)		77.6% (directed and self-directed learning)								
Entry requirements (statement of knowledge, skill and competence)										
The entry requirements, as set out in Section 4, must be satisfied for entry onto the programme.										
Maximum number of learners per instance of the module				40						
Average (over the duration of the module) of the contact hours per week				2.3						
Pre-requisite module title(s) (if any)										
Co-requisite module title(s) (if any)										
Is this a capstone module? (Yes or No)				No						
Module-specific physical resources and support required per centre (or instance of the module)										
SPSS and NVivo are required for this module in order to engage with statistical software. Learners will need to bring their own laptop for this module, in line with the requirements specified in Section 5.8 Lecture Hall, Library, IT Resources.										
Specification of the qualifications (academic, pedagogical and professional/occupational) and experience required of staff working in this module.										
Role e.g. Tutor, Mentor etc.		Qualifications & experience required:				# of Staff with this profile (WTEs)				
Lecturer/Tutor		Minimum level 9 qualification in Psychology with teaching and/or research competence in the area				100%				
Analysis of required learning effort										
				Hours of Learner effort						
Classroom and demonstrations		Mentoring and small-group tutoring		Other (specify)		Directed e-learning	Independent learning	Other (specify)	Work-based learning	Total effort
Hours	Minimum ratio teacher / learner	Hours	Minimum ratio teacher / learner	Hours	Minimum ratio teacher / learner					

28	1:10	8	1:10				194			250
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Allocation of Marks					
	Continuous Assessment	Supervised Project	Proctored Practical Exam.	Proctored Written Exam	Total
Percentage Contribution	100%				100%

<p>Rationale for Inclusion of the Module in the Programme and its Contribution to the Overall IPLOs</p>	<p>The rationale for the inclusion of <i>Intermediate Statistical Analysis in Psychology</i> is that statistical analysis is considered to be a core component of any psychology degree and a necessary aid in the execution of the final year dissertation. This statistics module is at stage 2 on the programme and builds upon <i>Introduction to Statistical Analysis in Psychology</i>, from stage 1. By providing such a module in the second year of the degree, we are ensuring that we are scaffolding learners' learning in relation to statistics for psychology and providing a firm foundation to engage in other modules within the programme.</p> <p>Furthermore, engagement in this module provides learners with a stepping-stone to pursue a career in Psychology, Statistics and/or Research. This module also provides learners with the required credits necessary to attain graduate membership of the Psychological Society of Ireland, or the British Psychological Society. This module also presents learners with the opportunity to augment their applied skills as they are guided through the process of conducting research and engaging in statistical analysis.</p> <p>By engaging in this module, learners will be provided with some of the core knowledge which will augment and cement their knowledge in subsequent modules of the programme. By introducing learners to this content it will provide them with a competitive edge within the field of psychology.</p>
<p>Module Aims and Objectives</p>	<p>The second dedicated core statistics module in this Psychology programme, this module aims to advance learners statistical understanding, following on from the introductory statistical module at stage 1. The objectives are to provide learners with a more in-depth grounding in statistical analyses and to make them familiar with carrying out more advanced statistical tests, using SPSS (quantitative analyses) and NVivo (qualitative analyses). The learner will have practical hands-on engagement with these statistical computer software packages. The tests to be conducted and interpreted as part of this module include mainly inferential analysis such as t-tests (within and between subject designs), confidence interval testing, linear regression analyses, univariate and multivariate analyses of variance and post-hoc comparisons and the learners will be taught and guided in the reporting of results of statistical tests in an accordance with the American Psychological Association (APA) procedures and guidelines.</p>

<p>Minimum Intended Module Learning Outcomes</p>	<p>On successful completion of this module, learners should be able to:</p> <ol style="list-style-type: none"> 1. Analyse and interpret quantitative information relevant to psychological research in graphs, figures, and tables and determine whether appropriate statistical tests have been used. (MIPLO 4, 7) 2. Identify and critique the principles of Independent Group Designs and Within Subject Designs. (MIPLO 1, 3, 4) 3. Conduct and interpret linear models that demonstrates a critical understanding of the material. (MIPLO 1, 2, 4, 6) 4. Understand the principles of specific qualitative research designs. (MIPLO 1, 3) 5. Compile and present a psychology report 'Results' section, based upon statistical analyses conducted in laboratory tutorials. (MIPLO 4, 5)
<p>Information Provided to Learners about the Module</p>	<p>College Prospectus specifies module name, stage and ECTS.</p> <p>College website and programme handbook to contain (in addition to above) short description of module content, module learning outcomes, prerequisite modules, and assessment mechanisms.</p> <p>Module Moodle page to contain (in addition to above) schedule of classes and topics, detailed assessment information with titles and submission dates, full bibliography and list of learning resources.</p>
<p>Module Content, Organisation and Structure</p>	<p>Over the course of 24 weeks, the learner will cover topics such as:</p> <p>Brief Review of the different types of Data Analysis Methods</p> <ul style="list-style-type: none"> • Quantitative Data Analysis: Descriptive and Inferential Statistics • Qualitative data analysis: Content analysis; Narrative analysis; Thematic Analysis. <p>Statistical Tests for One Independent Variable</p> <ul style="list-style-type: none"> • Revisiting the differences between variables. • What is the logic of a statistical test? • Introduce the statistical tests for one independent variable. <p>Covariations: Relationships between Two Independent Variables</p> <ul style="list-style-type: none"> • What are effect sizes? • Consider the meanings of covariations. • Exploring examples of covariation. <p>Tests of difference</p> <ul style="list-style-type: none"> • Independent samples t-test • Between and within subject designs • Univariate Analysis of Variance (ANOVA) • Multivariate Analysis of Variance (MANOVA) <p>General Linear Models</p> <ul style="list-style-type: none"> • Interpreting regression coefficients. • When are these models employed? • What are confidence intervals?

	<ul style="list-style-type: none"> • What to do if you have a model that has several predictors? • Multilevel models and generalized linear mixed-effects models for modelling longitudinal and hierarchical data structures • Bayesian inferential framework • Post-hoc comparisons <p>Using NVivo for Qualitative Analyses</p> <ul style="list-style-type: none"> • Using the sample project • Themes and subthemes • Refine working ‘Nodes’ in NVivo, which can then be ordered in hierarchies • Inductive versus deductive exploration using NVivo • Coding a framework <p>Lab Work: Applying Knowledge</p> <ul style="list-style-type: none"> • Learners will engage in a practical and immersive research experience by applying the theories and statistical knowledge previously acquired within the context of experiments (using SPSS and NVIVO).
<p>Module Teaching and Learning (including formative assessment) Strategy</p>	<p>The module will be delivered in the context of a two-hour lecture format across twenty-four weeks and via eight one-hour tutorials across sixteen weeks. The lectures will offer a pragmatic and practical approach to Intermediate statistical analysis, building on the stage 1 introductory statistics module. The module will begin by outlining the rationale and theory behind the lecture content and will then further cement this understanding by engaging in psychology laboratory based tutorials to:</p> <ul style="list-style-type: none"> • Run statistical tests using SPSS (t-tests, confidence interval testing, regression analyses, general linear modelling, post-hoc comparisons) • Run statistical tests using NVivo (thematic analyses, comparison tests, producing frameworks, exploring computed themes and nodes) • Debate appropriate methods of analysis and design for research questions proposed, • Refine statistical and lab report writing, specifically the results and findings sections. <p>The rationale for this teaching methodology rests in the practical and applied dimension of the module and considers the importance of hands-on directed learning when engaging with software such as SPSS, NVivo and research methodologies. Furthermore, it considers the appropriate methods to introduce and solidify complex research components in an understandable and interactive way by scaffolding and supporting the learners’ learning.</p> <p>Moodle will also be employed each week to upload relevant articles, PowerPoints of the lecture material, practice material, required reading and in some instances, videos of appropriate methodology within research or explanations of particular topics within the module.</p>

	<p>Moodle will also be used to encourage learner engagement and to provide learners with dummy data sets to familiarise themselves with SPSS, NVivo and data entry.</p> <p>Furthermore, Moodle will be used for short screen-recording videos (where necessary and appropriate) to provide learners with examples of how to engage in statistical analysis for specific research designs within the current module.</p> <p>Moodle will be monitored and contributed to weekly by the lecturer with appropriate learning materials in order to ensure continued engagement and learning.</p>
Work-Based Learning and Practice-Placement	N/A
E-Learning	N/A
Specifications for Module Staffing Requirements	<p>Staff: Learner ratio is typical of the overall program approach with a maximum of 40 learners.</p> <p>The maximum tutor: learner ratio is 1:20</p> <p>Staffing Requirements: 1 lecturer with teaching and/or research competence in the relevant area.</p>
Module Summative Assessment Strategy	<p>This module will be assessed by three continuous assessment pieces, comprising:</p> <ul style="list-style-type: none"> • SPSS Lab Assignment (25%) • NVivo Lab Assignment (25%) • Submission of Psychology lab report 'Results' Section, based on the analyses carried out in the labs (50%)
Sample Assessment Materials	<p>(A) This module will ask the learner to undertake an SPSS assignment in the psychology lab. The students will be provided with sample data. They will be required to input the data into SPSS, code the variables and conduct a number of inferential statistical tests (t-tests, confidence interval tests, regression analyses, general linear models) and illustrate with charts/graphs where appropriate. They will then be required to interpret the SPSS output.</p> <p>This assessment is worth 25% of the overall Continuous Assessment mark.</p> <p>(B) This module will ask the learner to undertake an NVivo assignment in the psychology lab. The students will be provided with sample unstructured data (e.g. interview transcript). They will be required to input the data into NVivo, code the data into 'nodes', identify emergent themes and identify a content framework. They will then be required to interpret the outcome analyses.</p> <p>This assessment is worth 25% of the overall Continuous Assessment mark.</p> <p>(C) For the final assignment of this module, the learner will be required to produce a psychology lab report 'Results' section based on either</p>

	<p>their SPSS or NVivo assignment and outcome results. They will need to be able to understand and interpret their findings, based on the data supplied to them and the tests carried out in the psychology labs.</p> <p>This will have a word limit of 1,000 – 1,250 words and should take a minimum of seven - eight hours of learner effort. The guidelines include:</p> <ol style="list-style-type: none"> 1. Adhering to APA referencing and formatting (i.e., Times New Roman font size 12 with 1.5 line spacing). 2. Work must be proofread for spelling and grammatical errors. 3. Demonstrating evidence of work in the case of statistical calculations (i.e., output/charts/graphs). 4. Using a balanced, objective approach to the question outlined. 5. Do not refer to “I” in this work, instead write in the third party. 6. All work should include reference to appropriate peer-reviewed texts or resources when making a specific point or argument. 7. Strengths and Limitations of the statistical tests used, in terms of their appropriateness to the variables and the data. <p>This assignment is worth 50% of the Continuous Assessment mark.</p>
<p>Reading Lists and Other Information Resources</p>	<p>Essential Reading: Watt, R. and Collins, E. (2019). <i>Statistics for Psychology: A guide for beginners and everyone else</i>. London: Sage</p> <p>Other Reading: Case studies and articles as posted on Moodle by the Lecturer. Learners will also be provided with articles from relevant journals, such as:</p> <p><i>Journal of Mixed Methods Research</i> <i>Qualitative Research</i> <i>Qualitative Inquiry</i> <i>Survey Research Methods</i> <i>Journal of Research Practice</i> <i>Research Synthesis Methods</i> <i>Statistical Methods in Medical Research</i></p> <p>Essential Viewing: Screen Recordings of how to conduct statistical analyses within specific contexts.</p>
<p>Module Physical Resource Requirements</p>	<p>Lecture Hall with PowerPoint, Computer or Laptop with SPSS, NVivo, DVD and internet access.</p>