H6INSTAT: Introduction To Statistics

Module Code:	H6INSTAT
Long Title	Introduction To Statistics APPROVED
Title	Introduction To Statistics
Module Level:	LEVEL 6
EQF Level:	5
EHEA Level:	Short Cycle
Credits:	10
Module Coordinator:	David Mothersill
Module Author:	Caoimhe Hannigan
Departments:	School of Business
Specifications of the qualifications and experience required of staff	Lecturer with PhD in Psychology or related cognate discipline

Learning Outcomes

On successful completion of this module the learner will be able to:

#	Learning Outcome Description
LO1	Explain the fundamental nature of descriptive statistics and their use in psychology.
LO2	Demonstrate an understanding of the distinction between descriptive and inferential statistics in psychology.
LO3	Explain the nature of the null hypothesis significance testing paradigm used in psychology and its limitations.
LO4	Apply basic statistical concepts to real life examples.
LO5	Demonstrate a capacity to conduct, interpret and report the results of basic statistical analyses.

Dependencies

Module Recommendations

No recommendations listed

Co-requisite Modules

No Co-requisite modules listed

Entry requirements	

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Module Content & Assessment

Indicative Content
Introduction to Statistics • The role of statistics in psychology • An introduction to SPSS • Defining variables and entering data in SPSS • Recoding and computing data in SPSS
Descriptive Statistics: Measures of central tendency • The nature of descriptive statistics and the importance of central tendency • Different measures of central tendency • Normal distribution in statistics
Descriptive Statistics: Measures of variation • The nature of variability in statistics • Different measures of variability • Violations of normality in statistics • Conducting descriptive statistics in SPSS • Reporting descriptive statistics in APA style
Z-scores and Probability • Standardised scores in statistics • The normal distribution revisited with standard deviation • The role of probability in psychological research • An introduction to p-values • Calculation of z-scores and use of the standard normal distribution
Statistical Testing • An introduction to the null hypothesis significance testing model • Null versus alternative hypotheses • Errors in statistical testing – Type 1 and Type 2 error • Standard errors and confidence intervals • Sample size and statistical power • Effect sizes
Reliability Analysis • Principles of reliability and validity in quantitative research design • Calculating Cronbach's alpha using SPSS
Correlation analysis • An introduction to correlation analysis • Examples of correlation analysis • How to conduct a Pearson correlation in SPSS • How to report a correlation in APA style
T-Tests • An introduction to t-tests • The independent and paired samples t-test • How to conduct independent and paired samples t-tests in SPSS • How to report t-test results in APA style

Assessment Breakdown	%
Coursework	100.00%

Assessments

Full Time

Coursework

Assessment Type:	CA 1	**% of total:**	50
Assessment Date:	n/a	**Outcome addressed:**	1,2,3
Non-Marked:	No		

Assessment Description:
Multiple Choice Exam Students complete a multiple-choice question (MCQ) examination testing the material they have covered during the first 7 weeks of the module. The exam will include 50 questions completed in 1.5 hours.

Assessment Type:	CA 2	**% of total:**	50
Assessment Date:	n/a	**Outcome addressed:**	2,4,5
Non-Marked:	No		

Assessment Description:
Students are presented with an unseen SPSS data set and required to work through a set of tasks that examine their understanding of statistical concepts, their ability to use SPSS, and their ability to present these findings. This is an open book exam, which takes place as an in-class test in Week 12. Students have two hours to complete the assessment.

No End of Module Assessment

No Workplace Assessment

Reassessment Requirement

Coursework Only
This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

Reassessment Description
The pass mark for the module is 40% overall (average of grades from both assessments). Students must attempt all assessment components. If a student fails the module overall, they are required to repeat the failed component(s).

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Module Workload

Module Target Workload Hours 0 Hours

Workload: Full Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	Classroom and demonstrations	2	Every Week	2.00
Practical	Other: Practical Classes	2	Every Week	2.00
Tutorial	Mentoring and small-group tutoring	1	Every Week	1.00
Independent Learning Time	Independent learning	15.8	Every Week	15.80
			Total Weekly Contact Hours	5.00

Module Resources

Recommended Book Resources

Mark Forshaw. (2007), Easy Statistics in Psychology: A BPS Guide, BPS Blackwell.

Salkind, N.J. and Frey, B.B. (2019), Statistics for People Who (Think They) Hate Statistics (7th ed.). London, UK: Sage Publications., London, UK: Sage Publications..

Julie Pallant. (2020), SPSS: Survival Mannual, 7th Edition. McGraw Hill.

Supplementary Book Resources

Howitt, D. and Cramer, D.. (2017), Understanding Statistics in Psychology with SPSS (7th ed.)., London, UK: Pearson Education.

This module does not have any article/paper resources

Other Resources

[Journal], Journal of Statistics Education.

[Journal], Statistics Education Research Journal.

[Journal], Educational and Psychological Measurement.

[Journal], Journal of Psychoeducational Assessment.

[YouTube Page], How 2 Stats Page, https://www.youtube.com/user/how2stats

[YouTube Page], Andy Field Page, https://www.youtube.com/user/ProfAndyFie ld

Discussion Note:	