

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data					
Module Title	Data Analysis				
Module Code	UINXPW-15-2	Level	2	Version	1
Owning Faculty	Hartpury	Field	Sport		
Contributes towards	FdSc Sports Studies FdSc Animal Management FdSc Equine Management				
UWE Credit Rating	15	ECTS Credit Rating	7.5	Module Type	Standard
Pre-requisites	None		Co-requisites	None	
Excluded Combinations	None		Module Entry requirements	None	
Valid From	01 September 2013		Valid to	01 September 2019	

CAP Approval Date	24 June 2013
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Part 2: Learning and Teaching		
Learning Outcomes	On successful completion of this module students will be able to:	
	1	Demonstrate mathematical and statistical rules as well as the uncertainties of statistics in science and how this contributes to the development of evidence (A, B).
	2	Identify the basic properties of research design and quantitative data, such as hypothesis testing and experimental manipulation, independent and dependent variables, validity, counterbalancing, sampling and its types, reliability, questionnaire design and the significance of results (A, B).
	3	Discuss the assumptions of statistical tests and the appropriate context for their use (A).
	4	Demonstrate knowledge of the statistical package software (B).
	5	Explore how different types of evidence can be used to inform or challenge professional practice (A).
Syllabus Outline	1	Appreciate the importance of being able to interpret data to assess its reliability and significance.
	2	Develop professional skills using data to inform evidence-based practice..
	3	Random allocation and counterbalancing.
	4	Psychological assessment; standardisation, assessment scales, reliability and validity.
	5	Sampling; types of samples (related, unrelated), sampling techniques (random, probability, opportunistic, snowball).
	6	Quasi-experimental designs in social sciences; single subject and case studies.
	7	Probability theory and distributions, z scores.
	8	Data; ordinal, nominal, interval and ratio data.

	<div><div>9</div><div>Inferential statistics; significance testing, type 1 and 2 errors, power, effect size and confidence intervals.</div></div> <div><div>10</div><div>Assumptions of statistical testing; normality, homogeneity of variance, linearity and data transformation.</div></div> <div><div>11</div><div>T-tests.</div></div> <div><div>12</div><div>Non-parametric alternatives to t-tests; Wilcoxon, Mann-Whitney.</div></div> <div><div>13</div><div>Tests of proportions; chi-square (goodness of fit and contingency tables).</div></div> <div><div>14</div><div>Correlation and linear regression; Pearson's, Spearman's, linear regression.</div></div> <div><div>15</div><div>One-way analysis of variance.</div></div> <div><div>16</div><div>Non-parametric alternatives to one-way ANOVA.</div></div> <div><div>17</div><div>Principles of probability theory, descriptive statistics, parametric and non-parametric testing, z-scores, t-tests, non-parametric alternatives to t-tests, tests of proportions (e.g., chi-square), correlational methods (Pearson's, partial, Spearman's, Kendall's rank order, basic linear regression equations), one-way analysis of variance and its non-parametric alternatives and compile a selection of examples within a portfolio.</div></div> <div><div></div><div><i>All of the above will be considered utilising case studies and examples from rural enterprises including those from the animal, equine and sports sector. This module will be delivered with a sport; equine; or small animal focus, depending upon the programme of study.</i></div></div>
Contact Hours	<div>Indicative delivery modes:</div> <div><div><div>1</div><div>Lectures guided learning, seminars etc</div><div>54</div></div><div><div>2</div><div>Independent learning</div><div>96</div></div><div><div>TOTAL</div><div></div><div>150</div></div></div>
Teaching and Learning Methods	<div>Introductory lectures are supported by seminars, case studies, visits and practical workshops. In addition this module will be supported by interactive forums and learning tools.</div> <div>150 hours study time of which 54 hours will represent scheduled learning.</div> <div><div>Scheduled learning</div><div>May include lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits; supervised time in studio/workshop, and self-directed study.</div></div> <div><div>Independent learning</div><div>May include hours engaged with essential reading, case study preparation, assignment preparation and completion. Student study time will be organised each week with a series of both essential and further readings and preparation for practical workshops. It is suggested that preparation for lectures and seminars will take 4 hours per week with a further expectation of 32 hours preparation for the pre-seen case study exam and 30 hours preparation of portfolio work.</div></div> <div><div>Virtual Learning Environment (VLE), or equivalent</div><div>This module is supported by a VLE where students will be able to find all necessary module information. Direct links to information sources will also be provided from within the VLE.</div></div>

Key Information Sets Information	Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.				
	Key Information Set – Module Data				
	Number of credits for this module				15
	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
	150	54	96	0	150
	The table below indicates as a percentage the total assessment of the module which constitutes a:				
	1 <i>Written Exam:</i> Unseen written exam, open book written exam, in-class test.				
	2 <i>Coursework:</i> Written assignment or essay, report, dissertation, portfolio, project.				
	3 <i>Practical Exam:</i> Oral Assessment and/or presentation, practical skills assessment, practical exam.				
	Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:				
Reading Strategy	Total assessment of the module:				
	Written exam assessment percentage	50%			
	Coursework assessment percentage	50%			
	Practical exam assessment percentage	0%			
	100%				
	Access and Skills				
	Further development of literature searching skills is supported by a Library Plus seminar provided within the first semester and by study skills sessions. Additional support is available through the Library Plus Services and online resources, including interactive tutorials on finding books and journals, evaluating information and referencing.				
	All students will be encouraged to make use of the print and electronic resources available to them through membership of both the college and the university. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. Weston College Library’s web pages provide access to subject relevant resources and to the library catalogue as well as signposting the University Library’s web pages. Many resources can be accessed remotely.				
	This guidance will be available in the programme handbook, module handbook and via module information on the VLE.				
	Essential reading				
Any essential reading will be indicated clearly, along with the method for accessing it. Students may be asked to purchase a set text, be given a print study pack or be referred to texts that are available electronically.					

	<p>Further reading</p> <p>Students will be encouraged to read widely using the library catalogue, a variety of bibliographic and full text databases, and Internet resources. Many resources can be accessed remotely. The purpose of this is to ensure students are familiar with current research, classic works and material specific to their interests from the academic literature.</p> <p>All further reading resources will be available via both College and University libraries.</p>
Indicative Reading List	<p>The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms, including the module guide.</p> <ul style="list-style-type: none"> • Bart, J., Flinger, M.A., and Notz, W.J. (Current Edition). <i>Sampling and statistical methods for behavioural ecologists</i>. Cambridge: Cambridge University Press. • Currell, G. A. (Current Edition). <i>Essential Mathematics and Statistics for Science</i>. Chichester: John Wiley & Son. • Dytham C (Current Edition) <i>Choosing and using statistics. A biologist's guide</i>. Oxford: Blackwell Publishing. • Gray, C. D. (Current Edition) <i>SPSS Statistics Made Simple</i>. Hove: Psychology Press. • Gratton, C. and Jones, I. (Current Edition) <i>Research Methods for Sport Studies</i>. Oxon: Routledge. • Greenfield, T. (Current Edition). <i>Research methods</i>. London: Arnold. • Hunt, A. (Current Edition). <i>Your research project: how to manage it</i>. London: Routledge. • Locke, L.F., Spirduso, W.W. and Silverman, S.J (Current Edition). <i>Proposals that work: A guide for planning dissertations and grant proposals</i>. California: Sage Publications. • Lumley, J.S.P. and Benjamin, W. (Current Edition). <i>Research: some ground rules</i>. Oxford: Oxford University Press. • McMillan, V. (Current Edition). <i>Writing Papers in the Biological Sciences</i>. Boston: Bedford/St Martin's. • Pallant, J. (Current Edition). <i>SPSS survival manual: a step by step guide to data analysis using SPSS for windows (version 12)</i>. London: Open University Press. • Rowntree, D. (Current Edition), <i>Statistics without Tears – An Introduction for Non-Mathematicians</i>, London: Penguin. • Ruxton, G.D. & Colgrave, N. (Current Edition). <i>Experimental design for the life sciences</i>. Oxford: Oxford University Press. • Saunders, M. N. K., Thornhill, A., and Lewis, P. (Current Edition). <i>Research Methods for Business Students</i>. Harlow, Essex: Pearson Education Limited.

Part 3: Assessment	
Assessment Strategy	<p>A range of assessment techniques will be employed to ensure that learners can meet the breadth of learning outcomes presented in this module alongside the ability to demonstrate transferable skills e.g. communication skills.</p> <p>Pre-seen Case Study Examination: A research paper in the field of sports studies will be used to create an examination testing the ability to critically analyse the methodologies used and the significance of the results.</p> <p>Portfolio Activity: A series of mathematical and data analysis techniques relevant to sports coaching/industries including statistical analysis. The approach to this assessment takes the form of weekly exercises undertaken by the student to build a portfolio of evidence. Weekly submission is encouraged by allocation of marks as part of the assessment scheme.</p>

	Opportunities for formative assessment exist for the assessment strategy used. Verbal feedback is given and all students will engage with personalised tutorials setting SMART targets as part of the programme design. In line with the College's commitment to facilitating equal opportunities, a student may apply for alternative means of assessment if appropriate. Each application will be considered on an individual basis taking into account learning and assessment needs. For further information regarding this please refer to VLE.		
Identify final assessment component and element		Pre-seen Case Study Examination.	
% weighting between components A and B (Standard modules only)		A:	B:
		50%	50%
First Sit			
Component A (controlled conditions) Description of each element		Element weighting	
1 Pre-seen Case Study Examination (1 hour)		100%	
Component B Description of each element		Element weighting	
1 Portfolio of Statistical Package Activities		100%	
Resit (further attendance at taught classes is not required)			
Component A (controlled conditions) Description of each element		Element weighting	
1 Pre-seen Case Study Examination (1 hour)		100%	
Component B Description of each element		Element weighting	
1 Portfolio of Statistical Package Activities		100%	
If a student is permitted an EXCEPTIONAL RETAKE of the module the assessment will be that indicated by the Module Description at the time that retake commences.			