

H8DA: Data Analytics (Psychology)

Module Code:	H8DA
Long Title	Data Analytics (Psychology) APPROVED
Title	Data Analytics
Module Level:	LEVEL 8
EQF Level:	6
EHEA Level:	First Cycle
Credits:	5
Module Coordinator:	David Mothersill
Module Author:	Isabela Da Silva
Departments:	School of Business
Specifications of the qualifications and experience required of staff	Facultywhodeliverthis module will hold at least a Mastersqualification in business related field but ideally statistics.
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
#	Learning Outcome Description
LO1	Appreciate the modern business environment and evaluate the drivers and strategies for data analytics and its impact on business decision making.
LO2	Assess the role of data governance within a changing business context and demonstrate an understanding of current state-of-the-art in this area.
LO3	Demonstrate an understanding of current data analytics methods, including their inputs and outputs, and critically evaluate the output of a variety of different data analytics methods.
LO4	Demonstrate the capacity to frame business problems with a view to the use of quantitative methods and be able to use the output of various data analytics techniques in order to make data-informed business decisions.
Dependencies	
Module Recommendations	
No recommendations listed	
Co-requisite Modules	
No Co-requisite modules listed	
Entry requirements	There are no additional entry requirements for this module. The programme entry requirements apply. No pre-requisites or co-requisites apply.

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Module Content & Assessment			
Indicative Content			
Big Data opportunities • What is Big Data? • Four 'Vs' of Big Data – volume, variety, velocity and veracity • Challenges for Big Data – data lakes vs data swamps • Big Data opportunities – simple insights, data mining, Artificial Intelligence			
How to ask the right question: Framing the business problem • Identify what the business goal is • Develop a measurable question/hypothesis that can be answered using data • Determine how to use data to answer that question • Determine what you need from the data (aggregated groups, comparing different groups, comparing to other geographies, comparing across time) • Problems with using the wrong data to answer a question			
Data governance • What data sets are currently available; how and where to find good data • Setting up the right data infrastructure: data warehousing • How to use current datasets to answer your question			
Data analytics • Descriptive Analytics: Attempts to describe what happened • Diagnostic Analytics: Attempts to describe why it happened • Predictive Analytics: Attempts to describe what will happen • Prescriptive Analytics: Focuses on how can we make it happen • Intro to tools used to analyse data: Excel, SPSS, SAS, Tableau, R, Python • Intro to methods used to analyse data: A/B testing, regression, machine learning • Clear communication of business problems and making sense of feedback from data analysts			
Making decisions with data: Turning data into insights • Keep it simple: Descriptive statistics and data visualisation • Delve deeper: How simple insights lead to more interesting questions • Paralysis by analysis: How to know when to stop analysing and start deciding • Limits of data in decision-making • Using qualitative information to improve decisions			
Ethical and organisational issues surrounding data • Implementation Challenges • GDPR • Privacy and anonymization • Hacking and insider threats • Making customers comfortable			
Assessment Breakdown			%
Coursework			50.00%
End of Module Assessment			50.00%
Assessments			
Full Time			
Coursework			
Assessment Type:	Continuous Assessment	% of total:	50
Assessment Date:	n/a	Outcome addressed:	1,2,3,4
Non-Marked:	No		
Assessment Description: Learners will be presented with a contemporary business project, where they will be tasked with framing the business problem in a quantitative context, considering practical issues surrounding the implementation of the solution, interpreting the results of analyses, and proposing decisions, backed by data-informed reasoning. The assessment will entail an extensive review of relevant literature on approaches to the given business problem, critical analysis of statistical results, and the ability to synthesize this information to come to an informed decision.			
End of Module Assessment			
Assessment Type:	Terminal Exam	% of total:	50
Assessment Date:	End-of-Semester	Outcome addressed:	1,2,3,4
Non-Marked:	No		
Assessment Description: The end of semester examination paper which is two hours in duration will contain a combination of long and short-form questions, with learners required to answer a subset of these. These questions will be designed to test depth of topic knowledge, ability to appreciate the context of data analytics, and evidence of outside core reading.			
No Workplace Assessment			
Reassessment Requirement			
Repeat examination <i>Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.</i>			
Reassessment Description The module must be passed. Learners who fail to attain 40% average across the two assessment elements will be required to sit a repeat examination testing all learning outcomes. The repeat examination will be noted as a second sitting.			

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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	36	Per Semester	3.00
Independent Learning	Independent learning	89	Per Semester	7.42
Total Weekly Contact Hours				3.00

Module Resources	
<i>Recommended Book Resources</i>	
<p>Sharda, R., Delen, D., & Turban, E. (2018), <i>Business Intelligence, Analytics, and Data Science: A Managerial Perspective</i>, 4th Edition. Pearson.</p> <p>Smith, A. (2020), <i>Consumer Behaviour and Analytics</i>, Routledge, Oxon.</p>	
<i>Supplementary Book Resources</i>	
<p>Dearborn, J. (2015), <i>Data Driven: How Performance Analytics Delivers Extraordinary Sales Results</i>, John Wiley & Sons.</p> <p>Preuss, P.G. (2013), <i>Data-based decision making and dynamic planning</i>, Routledge.</p> <p>Sahay, A. (2018), <i>Business Analytics, Volume I: A Data-Driven Decision Making Approach for Business</i>, Business Expert Press.</p>	
<i>This module does not have any article/paper resources</i>	
<i>This module does not have any other resources</i>	
Discussion Note:	