

Module Title:	Business Data Analytics
Language of Instruction:	English
Credits:	10
NFQ Level:	8
Module Delivered In	No Programmes
Teaching & Learning Strategies:	Learners will develop knowledge, understanding and practical skills through labs and workshops with supporting lectures where appropriate. Delivery of technical content will promote discovery learning, where hands-on practical workshops will be utilized to enable learners to apply knowledge and skills, supported by an instructor led, peer learning environment.
Module Aim:	The aim of this module is to allow learners to understand foundational skills in data analytics as applied in a business context and to successfully utilise tools to visualize data insights.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Summarize the role and importance of data analytics in business
LO2	Discover and explain the path from data analysis to business action
LO3	Synthesize software tools for business data analysis
LO4	Visualize data and effectively communicate analysis using appropriate technologies
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Understanding Data Analytics

The importance of data and data analytics in business, the information lifecycle, practical examples in business environment. Regulatory requirements including GDPR.

Modeling Data

How best to represent your data; designing a database for tabular data (1-N-F); designing an "unstructured" database for complex data; logical models (relational, ER, network, hierarchical, object); structured, semi-structured & unstructured data; pre-defined vs. user-defined data models; tables vs. key/value pairs.

Statistics

Tools from statistics for understanding distributions and probability, hypothesis testing for determining the significance of an observation, and the R system for working with statistical data.

Acquiring, Storing and Managing Data

Data acquisition, data storage, data retrieval, data volume/velocity/variety/veracity. ETL. Brief synopsis of Hadoop and related core technologies through prebuilt appliances (MR, HDFS, Hive, Pig, HBase, Spark).

Data Visualisation

Introduction to the theories underpinning data visualization, best practice in using visualizations effectively, and practical skills in creating visualizations from datasets (e.g. Tableau, D3.js, Einstein).

Assessment Breakdown	%
Continuous Assessment	60.00%
End of Module Formal Examination	40.00%

Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Case Studies	Review an existing case study and provide insight on the path from data analysis to business insight.	2	20.00	Week 10
Project	Perform analysis on a given data set and communicate results via visualisation technologies.	3,4	40.00	Week 26

No Project

No Practical

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	n/a	1,2	40.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Every Week	1.00
Laboratory	Every Week	2.00
Independent Learning Time	Every Week	3.00
Total Hours		6.00

