

## DATA: Data Intensive Applications

Language of Instruction:       English         Credits:       5         STPQ Level:       8         Module Delivered In       1 programme(s)         Teaching & Learning       The course is taught by means of lectures and supervised practicals. The practical work consists of lab assignments and tutorials focusing on scalable datastores and data processing systems. The laboratory exercise topics (data models, data processing, analysis, etc) are designed to explore and analyse features of a variety of data intensive systems.         Module Aim:       To develop the student's knowledge of the design, operation and management of cloud and on-premises data storage and processing systems.         Learning Outcomes       On successful completion of this module the learner should be able to:         L01       Organize and analyze data to discover patterns and tends.         L02       Deploy and scale moderm on-premises and cloud data stores and warehouses.         L03       Evaluate and rationalize moderm polygiot data architectures         Pre-requisite learning (or a practical skill) that is recommended before enrolment in this module.         No recommendations listed         Incompatible Modules         Interpretite Modules listed         Co-requisite Modules listed         Requirements         Requisite Modules is listed         Requisite Modules is profile askill that is mandatory before enrolment in this module is allowed.	Medule Title: Deta Intensive Applications				
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## **DATA: Data Intensive** Applications

## **Module Content & Assessment**

## Indicative Content

### 1. Data Management in the Cloud

DaaS, DBaaS, Cloud-based DBMS Services, Security, AWS, EMC, Azure

2. Data Warehousing OLAP, dimensions, measures, roll-up/drill-down, dimension & fact tables, star schema, data warehouse, data mart, materialized view

3. Data Analytics market basket analysis, classification, association rules, clustering, decision trees, regression, neural nets, genetic algorithms, big data,

4. Scalable Datastores Unstructured data, polyglot persistence, NoSQL, graph, document-oriented, columnar, key-value, NewSQL, Hadoop, Spark

Assessment Breakdown	%	
Continuous Assessment	40.00%	
Practical	60.00%	

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	Class test or written assignment (e.g. problem sheets, literature surveys, etc)	1,2	15.00	Week 6
Other	Class test or written assignment (e.g. problem sheets, literature surveys, etc)	2,3	25.00	Week 12

## No Project

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Laboratory assignments to be completed on weeks 3, 6 and 10.	1,2,3	60.00	Week 10

No End of Module Formal Examination

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



# DATA: Data Intensive Applications

# Module Workload

Workload: Full Time			
Workload Type	Frequency	Average Weekly Learner Workload	
Lecture	12 Weeks per Stage	2.00	
Laboratory	12 Weeks per Stage	2.00	
Independent Learning Time	15 Weeks per Stage	5.13	
	Total Hours	125.00	

Module Delivered In				
Programme Code	Programme	Semester	Delivery	
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	8	Group Elective 1	