APPROVED

Programme Code	BSHDS	**Programme Duration**	4
Programme Level	8	**EQF Level**	6
EHEA Level	First Cycle		
Programme Credits	240		

Semester Duration	12 Week(s)
Language of Instruction	English
Field of Study	0611 - Computer use
Supplementary Field of Study	Computer use
CAO Code; QQI Progamme Code etc	**Code**

Programme Outcomes

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

Description
Identify, clean, integrate, select, transform, and mine different types of datasets in order to evaluate knowledge and present novel insight.
Design, implement, evaluate and document algorithmic solutions that demonstrate use of state of the art processes, methodologies, tools and techniques that efficiently solve a variety of complex problems.
Utilise advanced statistical analysis, modelling, data mining and machine learning tools and techniques to analyse and derive insight and value from data in an applied context.
Adopt appropriate professional, ethical, legal, security and privacy principles in the construction and implementation of data science solutions.
Effectively visualise and communicate the results of analysis to both technical and non-technical audiences in a professional setting.
Critically and effectively analyse problems through both independent and collaborative efforts in order to develop solutions and provide information and insight to meet business requirements as part of a professional team.
Use problem solving and analytical thinking techniques, communication, and interaction skills to support decision making in a variable and unfamiliar learning context.

Semester Schedules

Stage 1 / Semester 1

Core Subject	
Module Code	**Title**
H6CMPTHNK	Computational Thinking
H6DISMTHS	Discrete Mathematics

H6IDS	Introduction to Data Science
H6PSPC	Problem Solving & Programming Concepts
H6TCI	The Computing Industry

Stage 1 / Semester 2

Core Subject	
Module Code	**Title**
H6COMPSYS	Computing Systems
H6IDMD	Introduction to Data Modelling and Databases
H6PROG1	Programming I
H6STATS1	Statistics I

Stage 2 / Semester 1

Core Subject	
Module Code	**Title**
H6ADA	Advanced Databases
H6DV	Data Visualisation
H6PROG2	Programming II
H6STATS2	Statistics II

Stage 2 / Semester 2

Core Subject	
Module Code	**Title**
H6DMML	Data Mining and Machine Learning
H6ITPM	IT Project Management

H6LA	Linear Algebra

H6PROG3	Programming III

Stage 3 / Semester 1

Core Subject	
Module Code	**Title**
H7AML	Advanced Machine Learning

H7DA	Data Architecture

H7SDA	Scalable Data Analytics

Group Elective 1	
Module Code	**Title**
H7AI	Artificial Intelligence

H7DWBI	Data Warehousing & Business Intelligence

Stage 3 / Semester 2

Group Elective 2	
Module Code	**Title**
H7ACI	Academic Internship

H7ACI	Academic Internship

H7WP	Work Placement

Stage 4 / Semester 1

Core Subject	
Module Code	**Title**
H8DSP	Data Science Project

Group Elective 3	
Module Code	**Title**
H8NNPA	Neural Networks & Prescriptive Analytics
H8SDA	Strategic Data Analysis
H8SMSOA	Systems Modelling, Simulation & Optimization for Analytics
H8TA	Text Analytics

Stage 4 / Semester 2

Core Subject	
Module Code	**Title**
H8DGSE	Data Governance, Security and Ethics

Group Elective 4	
Module Code	**Title**
H8HA	Healthcare Analytics
H8IOTRTA	IoT Real Time Analytics
H8TSFA	Time Series & Financial Analytics