MQF Level 6

IT6-A08-23

Bachelor of Science (Honours) in Applied Data Sciences

Course Specification

Course Description

The Degree in Applied Data Sciences is designed for individuals who are interested in utilising data to solve complex challenges in various fields. With a focus on applied methodology, analytical skills, and hands-on experience, students will learn how to use advanced analytical tools and techniques to uncover hidden trends and patterns that can lead to business success. The programme covers a range of topics related to software engineering, data organisation, and data analysis using the latest technologies in business intelligence, reporting, machine learning, and big data. In addition, the Degree includes a strong emphasis on text mining and natural language processing (NLP), which are key tools for extracting insights from unstructured data.

The programme also covers critical thinking skills, building strategies for promoting businesses, understanding consumer behaviour, computational linguistics and the laws governing business processes. A work-based component provides an opportunity for students to gain valuable industry experience and learn from real-world professionals. At the end of the programme, students will undertake a research component in the form of a dissertation. The Degree is ideal for individuals who are passionate about leveraging technology to drive business performance and make data-driven decisions.

Programme Learning Outcomes

At the end of the programme the learner will be able to:

1. *Acquire knowledge and skills in various areas of information technology, business, and finance.*
2. *Evaluate and solve problems in a diverse range of data contexts.*
3. *Apply theoretical knowledge to real-world situations and develop practical solutions to address business and technological challenges.*
4. *Develop a strong ethical and professional foundation to be able to apply ethical principles and best practices to a variety of situations, including data governance, security, privacy, and social responsibility.*

Entry Requirements

MCAST Advanced Diploma in IT
Recommended streams: Multimedia Software Development OR Software Development OR iGaming
OR
2 A-Level passes and 2 I-Level passes
Compulsory A-Level: Computing
AND
Compulsory A-Level or I-Level: Mathematics (Pure or Applied) or Physics

Current Approved Programme Structure

Unit Code	Unit Title	ECTS	Year	Semester
BCFIN-506-1517	Managing Financial Resources and Decisions	6	1	1
ITSFT-506-2006	Object Oriented Programming	6	1	1
ITDBS-506-1603	Database Programming I	6	1	1
ITSFT-506-1606	Software Engineering	6	1	1
CDKSK-503-2328	English for Academic Purposes	3	1	1
ITSFT-506-1608	Data Structures and Algorithms	6	1	2
ITADS-506-2301	Programming for Data Science	6	1	2
ITADS-506-2302	Probability and Statistics for Data Science	6	1	2
ITDBS-506-2003	Database Programming II	6	1	2
CDWBL-506-1901	Work Based Learning I	6	1	2
ITADS-503-2303	Data Governance, Security and Ethics I	3	1	2
CDWBL-506-1902	Work Based Learning II	6	2	1,2
ITADS-506-2305	Data Visualisation and Data-Driven Decision-Making	6	2	1
ITADS-506-2306	Machine Learning 1	6	2	1
ITADS-506-2308	Text mining	6	2	1
ITADS-503-2304	Data Governance, Security and Ethics II	3	2	1
BCACC-506-1801	Financial Accounting and Reporting	6	2	2
ITADS-506-2307	Machine Learning 2	6	2	2
BCMTH-506-1810	Applied Business and Financial Mathematics	6	2	2
ITRSH-506-2101	Research Design I	6	2	2
CDKSK-604-2336	Entrepreneurship	4	2	2
CDKSK-602-2335	Community Social Responsibility	2	2	2
CDKSK-503-2329	English for Dissertation Writing	3	2	2
ITIMG-606-1601	Image Processing and Computer Vision	6	3	1
BCMRK-606-1514	Consumer Behaviour	6	3	1
ITMSD-606-2312	Full Stack Development	6	3	1
ITDVP-606-2101	Devops	6	3	1
ITADS-606-2309	Computational Linguistics	6	3	2
ITSFT-606-2304	Business Intelligence & Reporting	6	3	2
BCMGT-606-1507	Strategic Management	6	3	2
ITRSH-606-2102	Research Design II	6	3	2
ITDIS-612-1601	Dissertation	12	3	2
Total ECTS		**180**	**/**	**/**