

MODULE DESCRIPTOR

Module Title

Data Analytics For Healthcare Management

Reference	CB3051	Version	2
Created	February 2024	SCQF Level	SCQF 9
Approved	November 2023	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

This module prepares students to understand the principles of effectively using data to manage health care operations and to conduct and explain both patient-focused and public health analytics.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Demonstrate an understanding of CRISP-DM and its application to health data.
- 2 Analyse a range of data types.
- 3 Approach patient and public health issues analytically.
- 4 Demonstrate an understanding of data governance and privacy issues for health data use
- 5 Present analysis results with clear explanation of process and outcomes.

Indicative Module Content

Topics covered include, but are not limited to, the following: Introduction to Data Analytics, CRISP-DM and Business Understanding for Health; Data Understanding and Data Types(EMR vs Public health); Statistics overview; Data governance, privacy, and ethics; Data preparation and quality; Model Development and training; Classification models; Classification and ensemble methods; Model Evaluation; Unsupervised learning; Data visualisation and communication basics. The module engages students with UNESCO's Education for Sustainable Development Normative, Strategic, Critical thinking, and Integrated problem solving competencies in terms of recognising and understanding the norms and values for using health-related data, applying different problem solving approaches that can help balance necessary trade-offs, and developing appropriate and sustainable strategies for proper application of models and metrics to healthcare management challenges.

Module Delivery

The module is delivered in a blended mode through online self-study materials and supported workshops.

Indicative Student Workload	Full Time	Part Time
Contact Hours	36	12
Non-Contact Hours	114	138
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Individual portfolio assessment				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1.
B	The student needs to achieve a B in C1.
C	The student needs to achieve a C in C1.
D	The student needs to achieve a D in C1.
E	The student needs to achieve an E in C1.
F	The student needs to achieve an F in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 BROWN, M.S., 2014. Data mining for dummies. John Wiley & Sons.
- 2 KEIKHOSROKIANI, P. ed., 2022. Big data analytics for healthcare: datasets, techniques, life cycles, management, and applications. Academic Press.
- 3 MADSEN, L., 2012. Healthcare business intelligence: a guide to empowering successful data reporting and analytics. John Wiley & Sons.
- 4 REDDY, C.K. and AGGARWAL, C.C. eds., 2015. Healthcare data analytics (Vol. 36). CRC Press.