POSTGRADUATE DIPLOMA (DATA SCIENCE AND ANALYTICS)

Programme Learning Outcomes

Programme Learning Outcomes for Postgraduate Diploma in Data Science and Analytics (NFQ Level 9, Major Award)

On successful completion of this programme, students should be able to:

- Interpret large, heterogeneous data sources by comparing and selecting appropriate data analytic techniques, using software tools for data storage/management and analysis, machine learning, and probabilistic and statistical methods;
- Describe the fundamental theories, models and principles of statistical methods, and carry out a wide range of calculations involved in statistical decision making, modelling, hypothesis generation and inference;
- Describe the fundamental theories, models and principles of computational methods for storing, processing and performing inference on large data sets;
- Manage large amounts of data using modern database tools, and understand the management implications of hardware, software and bandwidth constraints;
- Analyse data selected from a range of domains such as manufacturing, bio-informatics, marketing, social networking, finance, fraud detection, and drug discovery;
- Perform computational/statistical analyses and create visualizations to aid in understanding heterogeneous data;
- Analyse problems of a computational and/or quantitative nature, encountered in a range of types of large-scale data, and construct solutions to such problems using the tools and skills of modern data analytics, including the use of machine learning, statistical and mathematical computer packages, and the use of database programmes.