APPROVED

Higher Diploma in Science in Data Science & Analytics
Faculty of Engineering & Science

Award Class	

Awards
HDip in Sc

Programme Code	CR_SDAAN_8	Mode of Delivery	Full Time, Part Time, ACCS	No. of Semesters	2
NFQ Level	8	Embedded Award	No	Programme Credits	60

Next Review Date	
Review Type	*Date*
Programmatic Review	01/09/2022

Department	MATHEMATICS

Programme Outcomes

Upon successful completion of this programme the graduate will be able to demonstrate... :

#	PO Domains	Programme Learning Outcome
PO1	Knowledge - Breadth	Demonstrate detailed knowledge and understanding of areas of Mathematics, Statistics, Computer Science and Business Intelligence relevant to a Data Scientist.
PO2	Knowledge - Kind	Demonstrate understanding of the terminology, defining concepts and theories underlying the Data Science and Analytics field; demonstrate knowledge of the advanced methods and technologies for acquiring, interpreting and analysing big data, with a critical understanding of the appropriate contexts for their use; relate current issues in Data Science to society; understand current knowledge of the Data Science field, including current limits of theoretical and applied knowledge.
PO3	Skill - Range	Demonstrate mastery of relevant skills and tools in Statistics, Mathematics, Computer Science and Business Intelligence; use these to solve complex problems involving big data sets; interpret and apply appropriate and referenced literature and other information sources; work independently within defined time and resource boundaries; communicate scientific information in a variety of forms to specialist and non-specialist audiences.
PO4	Skill - Selectivity	Formulate and test hypotheses; design experiments; appreciate current limits of knowledge in the Data Science field and respond appropriately; think independently and make effective decisions; contribute fully to the day-to-day operations of the Data Science work setting.
PO5	Competence - Context	Apply data analysis skills and technologies in a range of contexts in order to critically interpret existing knowledge and apply in new situations; make and report appropriate decisions in a responsible and ethical manner.
PO6	Competence - Role	Act effectively under guidance in a peer relationship with qualified practitioners; participate constructively in a complex interdisciplinary team environment; plan for effective project implementation; reflect on own practices.
PO7	Competence - Learning to Learn	Learn to act in variable and unfamiliar learning contexts; identify learning needs and undertake continuous learning in the Data Science field; assimilate and apply new learning.
PO8	Competence - Insight	Demonstrate an understanding of the wider social, political, business and economic contexts of Data Science, including an appreciation of the philosophical and ethical issues involved.

Semester Schedules
Year 1 / Semester 1

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
STAT8006	**Applied Stats & Probability**	David Goulding	3	5
DATA8002	**Data Management Systems**	Ted Scully	3	5
DATA8001	**Data Science and Analytics**	David Goulding	3	5
STAT8010	**Intro to R for Data Science**	David Goulding	1	5
MATH8009	**Maths Methods and Modelling**	David Goulding	4	5
COMP8060	**Scientific Prog in Python**	Ted Scully	1	5

Year 1 / Semester 2

Mandatory				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
STAT8011	**Regression Analysis**	David Goulding	2	5
DATA8006	**Data Science Analytics Project**	David Goulding	4	10
DATA8008	**Data Visualisation & Analytics**	David Goulding	1	5
DATA8005	**Distributed Data Management**	Ted Scully	2	5

Elective				
Code	*Title*	*Module Coordinator*	*Version*	*Credits*
COMP8043	**Machine Learning**	Ted Scully	4	5
STAT8008	**Time Series & PCA**	David Goulding	4	5