BSC (HONS) (DATA SCIENCE AND ANALYTICS) - CK411

Programme Requirements

Code	Title	Credits
Year 1		
Students take **60** credits as follows – all listed core modules (**55** credits) and **5** credits of elective modules:		
Core Modules		
CS1106	Introduction to Relational Databases	5
CS1112	Foundations of Computer Science I	5
CS1113	Foundations of Computer Science II	5
CS1117	Introduction to Programming	15
AM1054	Mathematical Software	5
MA1058	Introduction to Linear Algebra	5
MA1059	Calculus	5
ST1050	Statistical Programming in R	5
ST1051	Introduction to Probability and Statistics	5
Elective Modules		
Students take modules to the value of **5** credits from the following:		
AM1053	Introduction to Mathematical Modelling	5
or ST1402	Modelling and Systems for Decision Making	
Year 2		
Students take **60** credits as follows – all listed core modules (**55** credits) and **5** credits of elective modules:		
Core Modules		
CS2208	Information Storage and Management I	5
CS2209	Information Storage and Management II	5
CS2513	Intermediate Programming	5
CS2426	Data Visualization for Analytics Applications	5
CS2515	Algorithms and Data Structures I	5
CS2516	Algorithms and Data Structures II	5
MA2055	Linear Algebra	5
MA2071	Multivariable Calculus	5
ST2053	Introduction to Regression Analysis	5
ST2054	Probability and Mathematical Statistics	10
Elective Modules		
Students take modules to the value of **5** credits from the following:		
AM2052	Mathematical Modelling	5
or ST2403	Time-to-Event Analysis	
Year 3		
Students take **60** credits as follows:		
Core Modules		
CS3204	Cloud Infrastructure and Services	5
CS3205	Data Visualization for Analytics Applications	5
CS3220	Work Placement DSA	10
CS3306	Workplace Technology and Skills	10
CS3509	Theory of Computation	5
CS3516	Computational Machine Learning	5
ST3053	Stochastic Modelling I	5
ST3061	Statistical Theory of Estimation	5
ST3069	Generalised Linear Models	5
ST3071	Risk Prediction Modelling	5
Year 4		
Students take **60** credits as follows – all listed core modules (**45** credits) and **15** credits of elective modules:		
Core Modules		
CS4701	Analytics Project for Computer Science	15
or ST4092	Data Analytics Project	
CS4704	Algorithms and Data Structures for Analytics	5
CS4705	Computational Machine Learning	5
ST4060	Statistical Methods for Machine Learning I	5
ST4061	Statistical Methods for Machine Learning II	5
ST4069	Multivariate Methods for Data Analysis	10
Elective Modules		
Students take modules to the value of **15** credits from the following:		15
AM2061	Computer Modelling and Numerical Techniques (5)	
AM3064	Topics in Applied Mathematics (5)	
CS4150	Principles of Compilation (5)	
CS4405	Multimedia Compression and Delivery (5)	
CS4614	Cryptography and Security Protocols (5)	
CS4626	Constraint Programming and Optimisation (5)	
ST3054	Survival Analysis (5)	
ST4064	Time Series (5)	
Total Credits		**240**

Examinations

Full details and regulations governing Examinations for each programme will be contained in the *Marks and Standards Book* and for each module in the *Book of Modules*.