School of Technology and Mathematics

Programme Structure – B.Sc. in Data Science

REQUIREMENTS	COMPULSORY CREDIT HOURS	ELECTIVE CREDIT HOURS	TOTAL CREDIT HOURS
General Education Modules	28		28
Core Modules	60		60
Specialized Modules	21		21
Elective Modules		15	15
Total	**109**	**15**	**124**

COURSE CODE	COURSE TITLE	PRE-REQUISITE(S)	CREDIT HOURS
Non-credit modules: For matriculation purpose where the required CSEC subject (s) has not been attained at the Grade 1 or Grade 2.			
ACT001	Fundamentals of Accounting	None	0
ENG002	English for Academic Purposes	None	0
MTH002	Core Mathematics	None	0

COURSE CODE	COURSE TITLE	PRE-REQUISITE(S)	CREDIT HOURS
GENERAL EDUCATION:			
PSY100	Introduction to Psychology	N/A	3
SOC100	Introduction to Sociology	N/A	3
POL100	Introduction to Politics	N/A	3
SPA101	Introduction to Spanish	N/A	3
ENG109	Academic Writing I	CSEC English A (Grade 1 or 2)/ ENG002 English for Academic purposes	3
ITT101	Computer Information System	N/A	3
ENG110	Academic Writing II	ENG109 Academic Writing I	3
ENG111	Public Speaking	N/A	3
MTH101	College Algebra	N/A	3
UCC101	Orientation to University Life	N/A	1

COURSE CODE	COURSE TITLE	PRE-REQUISITE(S)	CREDIT HOURS
CORE MODULES:			
ITT107	Introduction to Data Science and Programming	N/A	3
ITT108	Introduction to Natural Language Processing and Deep Learning	ITT107 Introduction to Data Science and Programming	3
MTH103	Calculus I	MTH101 College Algebra	3
ITT103	Programming Techniques	ITT101 Computer Information Systems	3
ITT102	Discrete Mathematics I	N/A	3
MTH106	Mathematical Methods	MTH101	3
ITT110	Data Visualization and Data-Driven Decision-Making	ITT107 Introduction to Data Science and Programming	3
ITT211	Computer Data Analysis	N/A	3
ITT212	Python Programming	ITT103 Programming Techniques	3
ITT336	Machine Learning and Data Science	N/A	3
ITT401	Intelligent Systems	ITT300 Discrete Mathematics II	3
ITT323	IT Capstone Project I	N/A	3
ITT423	IT Capstone Project II	ITT323 IT Capstone Project I	3
ITT412	Calculus II	MTH103 Calculus I	3
ITT213	Introduction to Cryptography	N/A	3
ITT210	Database Management Systems	ITT103 Programming Techniques	3
ITT335	Linear Statistical Modelling with R programming	ITT211 Computer Data Analysis	3
ITT310	System Analysis and Design	ITT210 Database Management Systems	3
ITT215	Technical Writing for Digital Media	ENG109 Academic Writing I	3
ITT300	Discrete Mathematics II	ITT102 Discrete Mathematics I	3

COURSE CODE	COURSE TITLE	PRE-REQUISITE(S)	CREDIT HOURS
SPECIALIZED MODULES:			
ITT337	Algorithms and Machine Learning	ITT212 Python Programming	3
MTH302	Statistical Modeling and Inference	ITT335 Linear Statistical Modelling with R programming	3
ITT441	Bayesian Modelling	ITT336 Machine Learning and Data Science	3
ITT442	Stochastic Optimisation	ITT336 Machine Learning and Data Science	3
ITT443	Data Science for Scientific Computing	None	3
ITT444	Time Series Analysis	ITT336 Machine Learning and Data Science	3
ITT445	Multivariate Analysis	ITT336 Machine Learning and Data Science	3
ELECTIVES:			15
TOTAL CREDITS REQUIRED			**124**

ELECTIVES:			
COURSE CODE	COURSE TITLE	PRE-REQUISITE(S)	CREDIT HOURS
CRM 505	Cybercrime	N/A	3
ITT319	Entrepreneurship for IT Professionals	ITT310 Systems Analysis & Design	3
ITT405	Human Computer Interaction and Interface Design	ITT310 System Analysis and Design, PSY100 Introduction to Psychology	3
ITT408	Information Assurance and Security	ITT208 Internet Authoring I, ITT210 Database Management Systems & ITT403 Data Communication and Networks II	3
ITT425	Malware Analysis and Reverse Engineering	N/A	3
ITTT429	Digital Forensics	N/A	3
ITT426	Network Services I Fortinet	N/A	3

COURSE CODE	COURSE TITLE	PRE-REQUISITE(S)	CREDIT HOURS
ITT318	Cloud Computing	ITT209 Building Application with C# OR ITT212 Python Programming	3
ITT427	Routing and Switching	N/A	3
ITT428	System Administration	ITT403 Data Communication and Networks II	3
ITT430	Network Services II Fortinet	N/A	3