## **Prerequisite and Co-requisite modules**

## Honors Degree of Bachelor of Science in Information Technology

Module		Pre/Co-requisite	Pre-requisite Module/s	
CM 2110	Calculus & Statistical Distributions	Pre-requisite	CM 1110	Fundamentals of Mathematics & Statistics
CM 3110	Computational Mathematics	Pre-requisite	CM 2110	Calculus & Statistical Distributions
CM 3120	Computational Statistics	Pre-requisite	CM 2110	Calculus & Statistical Distributions
CM 3310	Artificial Intelligence	Pre-requisite	CM 2110	Calculus & Statistical Distributions
CM 3320	Logic Programming & Artificial Cognitive Systems	Co-requisite	CM 3310	Artificial Intelligence
CM 4110	Advanced Topics in Mathematics	Pre-requisite	CM 3110	Computational Mathematics
CM 4121	Advanced Topics in Statistics	Pre-requisite	CM 3120	Computational Statistics
CM 4130	Mathematical Modelling	Pre-requisite	CM 2110	Calculus & Statistical Distributions
CM 4140	Operational Research	Pre-requisite	CM 2110	Calculus & Statistical Distributions
CM 4210	Theory of Computability & Complexity	Pre-requisite	CM 3210	Automata Theory
CM 4220	Theory of Compilers	Pre-requisite	CM 3210	Automata Theory
CM 4230	Formal Methods and Software Verification	Pre-requisite	CM 3210	Automata Theory
CM 4310	Artificial Neural Networks & Evolutionary Computing	Pre-requisite	CM 3310	Artificial Intelligence
CM 4320	Complex Systems & Agent Technology	Pre-requisite	CM 3310	Artificial Intelligence
CM 4330	Semantic Web and Ontological Modelling	Pre-requisite	CM 3310	Artificial Intelligence
CM 4340	Natural Language Processing	Pre-requisite	CM 3310	Artificial Intelligence
CM 4350	Fuzzy Logic	Pre-requisite	CM 3310	Artificial Intelligence
CM 4360	Robotics	Pre-requisite	CM 3310	Artificial Intelligence
CM 4370	Machine Learning and Pattern Recognition	Pre-requisite	CM 2110	Calculus & Statistical Distributions
CM 4380	Deep Learning Architectures	Pre-requisite	CM 4310	Artificial Neural Networks & Evolutionary Computing
CM 4390	Advanced Topics in Bioinformatics	Pre-requisite	CM 3330	Fundamentals of Bioinformatics

Module		Pre/Co-requisite	Pre-requisite Module/s	
IN 2110	Data Structures and Algorithms	Pre-requisite	IN 1100	Programming Fundamentals
IN 2320	Computer Architecture	Pre-requisite	IN 1320	Computer Organization
IN 2400	Database Management Systems	Pre-requisite	IN 1400	Fundamentals of Databases and Database Design
IN 2510	Computer Networks	Pre-requisite	IN 1500	Data Communication
IN 2600	Computer Graphics and Animation	Pre-requisite	IN 2100	Object Oriented Programming
		Pre-requisite	CM 2110	Calculus & Statistical Distributions
IN 3100	Enterprise Applications Development	Pre-requisite	IN 1100	Programming Fundamentals
		Pre-requisite	IN 2100	Object Oriented Programming
		Pre-requisite	IN 2210	Object Oriented Analysis and Design
IN 3400	Advanced Database Management Systems	Pre-requisite	IN 2400	Database Management Systems
IN 3520	Internetworking	Pre-requisite	IN 2510	Computer Networks
IN 3600	Digital Video Production	Pre-requisite	IN 1610	Multimedia Technologies
IN 4100	Theory of Programming Languages	Pre-requisite	CM 3210	Automata Theory
IN 4110	Network Programming	Pre-requisite	IN 2510	Computer Networks
		Pre-requisite	IN 1100	Programming Fundamentals
IN 4300	Embeded Systems	Pre-requisite	IN 2320	Computer Architecture
IN 4310	IT Based Applications with Microcontrollers	Pre-requisite	IN 1310	Digital Systems and Computer Hardware
		Pre-requisite	IN 1320	Computer Organization
IN 4400	Data Mining & Data Warehousing	Pre-requisite	IN 2400	Database Management Systems
IN 4410	Big Data Analytics	Pre-requisite	IN 2400	Database Management Systems
		Co-requisite	IN 4400	Data Mining & Data Warehousing
IN 4500	Mobile & Wireless Networks	Pre-requisite	IN 2510	Computer Networks
IN 4510	Computer and Network Security	Pre-requisite	IN 2510	Computer Networks

IN 4520	High speed Communication Networks	Pre-requisite	IN 2510	Computer Networks
IN 4530	Multimedia Communications	Pre-requisite	IN 2510	Computer Networks
		Pre-requisite	IN 1610	Multimedia Technologies
IN 4540	Performance Evaluation of Computer Networks	Pre-requisite	IN 2510	Computer Networks
IN 4600	Multimedia Systems	Pre-requisite	IN 1610	Multimedia Technologies
IN 4610	Multi Media Programming	Pre-requisite	IN 1610	Multimedia Technologies
		Pre-requisite	IN 2600	Computer Graphics and Animation
IN 4620	Digital Image Processing	Pre-requisite	IN 1610	Multimedia Technologies
		Pre-requisite	CM 3110	Computational Mathematics
IN 4700	Cluster Computing	Pre-requisite	IN 2510	Computer Networks
IN 4710	Human Computer Interaction	Pre-requisite	IN 2200	Software Engineering Methods
IN 4730	High Performance Computing	Pre-requisite	IN 2310	Operating Systems
		Pre-requisite	IN 2320	Computer Architecture

Module		Pre/Co-requisite	Pre-requisite Module/s	
IS 4300	Marketing Management	Pre-requisite	IS 2300	Principles of Marketing
IS 4010	Appreciation of Literary Works (Non GPA)		IS 2010 (Grade B or above)	Scientific Communication
IS 4610	Financial Engineering	Pre-requisite	IS 1210	Financial Accounting
		Pre-requisite	IS 2210	Management Accounting