

**Curriculum and Syllabi for  
Honors Degree of Bachelor of Science in Information Technology  
Faculty of Information Technology, University of Moratuwa**

**Level 01**

CourseCode	CourseTitle	Type	Lectures	Labs/ Tutorials	Credits	Min <sup>1</sup>	Max <sup>2</sup>
CM 1110	Fundamentals of Mathematics & Statistics	C	3	3	4		
IN 1100	Programming Fundamentals	C	3	3	4		
IN 1310	Digital Systems and Computer Hardware	C	2	3	3		
IN 1320	Computer Organization	C	2	3/2	2.5		
IN 1400	Fundamentals of Databases and Database Design	C	2	3/2	2.5		
IN 1500	Data Communication	C	2	3/2	2.5		
IN 1610	Multimedia Technologies	C	2	3/2	2.5		
IN 1620	Web Technologies	C	2	3/2	2.5		
IN 1900	ICT Project	C	-	-	2		
IS 1020	Principles of Economics	C	2	3/2	2.5		
IS 1100	Principles of Management	C	2	3/2	2.5		
IS 1210	Financial Accounting	C	2	3/2	2.5		
<b>Total Compulsory (GPA)</b>						<b>33</b>	
IS 1010	English (Non GPA)	C	2	3	3		
IS 1030	Sri Lankan Studies (Non GPA)	C	2	-	2		
<b>Total Compulsory (Non GPA)</b>						<b>5</b>	

**Level 02**

CourseCode	CourseTitle	Type	Lectures	Labs/ Tutorials	Credits	Min <sup>1</sup>	Max <sup>2</sup>
CM 2110	Calculus & Statistical Distributions	C	3	3	4		
IN 2100	Object Oriented Programming	C	2	3	3		
IN 2110	Data Structures and Algorithms	C	2	3/2	2.5		
IN 2200	Software Engineering Methods	C	2	3	3		
IN 2210	Object Oriented Analysis and Design	C	2	3/2	2.5		
IN 2310	Operating Systems	C	2	3/2	2.5		
IN 2320	Computer Architecture	C	2	3/2	2.5		
IN 2400	Database Management Systems	C	2	3/2	2.5		
IN 2510	Computer Networks	C	2	3/2	2.5		
IN 2600	Computer Graphics and Animation	C	2	3/2	2.5		
IN 2900	Industry Based Project	C	-	-	2.5		
IS 2010	Scientific Communication	C	1	3	2		
IS 2210	Management Accounting	C	2	3/2	2.5		
IS 2220	Essentials of Law	C	2	3/2	2.5		
IS 2300	Principles of Marketing	C	2	3/2	2.5		
<b>Total Compulsory (GPA)</b>						<b>39.5</b>	

**Level 03 & 04**

CourseCode	CourseTitle	Type	Lectures	Labs/ Tutorials	Credits	Min <sup>1</sup>	Max <sup>2</sup>
CM 3310	Artificial Intelligence	C	2	3/2	2.5		
CM 3320	Logic Programming & Artificial Cognitive Systems	C	2	3/2	2.5		
IN 3900	Independent Study	C	-	-	2		
IN 4910	Comprehensive Group Project	C	-	-	10		
IS 3230	Social Aspects of IT	C	2	3/2	2.5		
IS 3400	Management Information Systems	C	2	3/2	2.5		
IS 3420	Software Management	C	2	3/2	2.5		
IS 3430	IT Project Management	C	2	3/2	2.5		
IS 3440	IT Quality Assurance	C	2	3/2	2.5		
IS 4200	Professional Practice	C	2	3/2	2.5		
<b>Total Compulsory (GPA)</b>						<b>32</b>	
IS 3010	Communication Skills (Non GPA)	C	1	3	2		
IN 3000	Industrial Training (Non GPA)	C	-	-	6		
<b>Total Compulsory (Non GPA)</b>						<b>8</b>	

CM 3110	Computational Mathematics	E	2	3/2	2.5		
CM 3120	Computational Statistics	E	2	3/2	2.5		
CM 3210	Automata Theory	E	2	3/2	2.5		
CM 3330	Fundamentals of Bioinformatics	E	2	3/2	2.5		
CM 4110	Advanced Topics in Mathematics	E	2	3/2	2.5		
CM 4121	Advanced Topics in Statistics	E	2	3/2	2.5		
CM 4130	Mathematical Modelling	E	2	3/2	2.5		
CM 4140	Operational Research	E	2	3/2	2.5		
CM 4210	Theory of Computability & Complexity	E	2	3/2	2.5		
CM 4220	Theory of Compilers	E	2	3/2	2.5		
CM 4230	Formal Methods and Software Verification	E	2	3/2	2.5		
CM 4310	Artificial Neural Networks & Evolutionary Computing	E	2	3/2	2.5		
CM 4320	Complex Systems & Agent Technology	E	2	3/2	2.5		
CM 4330	Semantic Web and Ontological Modelling	E	2	3/2	2.5		
CM 4340	Natural Language Processing	E	2	3/2	2.5		
CM 4350	Fuzzy logic	E	2	3/2	2.5		
CM 4360	Robotics	E	2	3/2	2.5		
CM 4370	Machine Learning and Pattern Recognition	E	2	3/2	2.5		
CM 4380	Deep Learning Architectures	E	2	3/2	2.5		
CM 4390	Advanced Topics in Bioinformatics	E	2	3/2	2.5		
CM 4410	Reinforcement Learning	E	2	3/2	2.5		
IN 3100	Enterprise Application Development	E	2	3	3		
IN 3400	Advanced Database Management Systems	E	2	3/2	2.5		
IN 3520	Internetworking	E	2	3/2	2.5		
IN 3600	Digital Video Production	E	2	3/2	2.5		
IN 4100	Theory of Programming Languages	E	2	3/2	2.5		
IN 4110	Network Programming	E	2	3/2	2.5		
IN 4300	Embedded Systems	E	2	3/2	2.5		
IN 4310	IT Based Applications with Microcontrollers	E	2	3/2	2.5		
IN 4400	Data Mining & Data Warehousing	E	2	3/2	2.5		
IN 4410	Big Data Analytics	E	2	3/2	2.5		
IN 4500	Mobile & Wireless Networks	E	2	3/2	2.5		
IN 4510	Computer & Network Security	E	2	3/2	2.5		
IN 4520	High speed Communication Networks	E	2	3/2	2.5		
IN 4530	Multimedia Communications	E	2	3/2	2.5		
IN 4540	Performance Evaluation of Computer Networks	E	2	3/2	2.5		
IN 4600	Multimedia Systems	E	2	3/2	2.5		
IN 4610	Multi Media Programming	E	2	3/2	2.5		
IN 4620	Digital Image Processing	E	2	3/2	2.5		
IN 4700	Cluster Computing	E	2	3/2	2.5		
IN 4710	Human Computer Interaction	E	2	3/2	2.5		
IN 4720	Geographic Information Systems	E	2	3/2	2.5		
IN 4730	High Performance Computing	E	2	3/2	2.5		
IN 4920	Individual Research Project	E	-	-	6	20	*
IS 3100	Organizational Behaviour	E	2	3/2	2.5		
IS 3710	Behavioural Science I	E	2	3/2	2.5		
IS 4210	Management of Sensitive Projects	E	2	3/2	2.5		
IS 4300	Marketing Management	E	2	3/2	2.5		
IS 4310	Business Studies	E	2	3/2	2.5		
IS 4320	eBusiness Management	E	2	3/2	2.5		
IS 4330	Supply chain Management	E	2	3/2	2.5		
IS 4340	Innovation Management	E	2	3/2	2.5		
IS 4400	Management of Technology	E	2	3/2	2.5		
IS 4410	IT Infrastructure Management	E	2	3/2	2.5		
IS 4420	Decision Management	E	2	3/2	2.5		
IS 4510	e-Education	E	2	3/2	2.5		
IS 4450	Knowledge Management	E	2	3/2	2.5		
IS 4010	Appreciation of Literary Works (Non GPA)	E	1	3	2		
IS 4610	Financial Engineering	E	2	3	2.5		
IS 4710	Behavioural Science II	E	2	3/2	2.5	5	10.5
<b>Total Elective (GPA)</b>						<b>30.5</b>	
<b>Total GPA Credits</b>						<b>135</b>	
<b>Total Compulsory Non GPA Credits</b>						<b>13</b>	
<b>Required Elective Non GPA Credits</b>						<b>2</b>	

\* To be based on a minimum total GPA of 135 credits

1 - Minimum required

2 - Maximum allowed

Note: At least 2 elective subjects must be taken at Level 03