Curriculum of B.Sc. Engineering Honours Degree Programme
Department of Computer Science and Engineering
Computer Science and Engineering (CSE) Stream

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignm hrs/weeks	Credits		Norm		Evaluation(%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 1										
MA1013	Mathematics	C	3.0	1/1	3.0				20	80
CS1032	Programming Fundamentals	C	2.0	3/1	3.0				20	80
ME1032	Mechanics	C	2.0	3/4	2.0				20	80
MT1022	Properties of Materials	C	2.0	3/4	2.0				20	80
CE1022	Fluid Mechanics	C	2.0	3/4	2.0				20	80
EE1012	Electrical Engineering	C	2.0	3/4	2.0				20	80
EL1012	Language Skill Enhancement I	C	-	3/1	1.0		15.0		20	80
MN1012	Engineering in Context	C	1.0	-		1.0		1.0	30	70
				Total for Semester 1			15.0	1.0		
Semester 2										
CS2012	Principles of Object Oriented Programming	C	2.0	3/1	3.0				40	60
CS2022	Data Structures and Algorithms	C	2.0	3/2	2.5				40	60
CS2052	Computer Architecture	C	2.0	3/1	3.0				40	60
EN1012	Electronic Devices and Circuits	C	2.0	-	2.0				40	60
MA1032	Numerical Methods for Computer Science	C	3.0	-	3.0				30	70
EE2093	Theory of Electricity	C	2.0	-	2.0		19.5		30	70
CS2952	Communication Skills	C	0.5	3/1	1.5				80	20
ME1802	Introduction to Manufacturing Engineering	C	2.0	3/2	2.5				30	70
CS1962	Engineering Skill Development	C	0.5	3/1		1.5		1.5	100	-
				Total for Semester 2			19.5	1.5		
Semester 3										
CS2032	Principles of Computer Communication	C	2.0	3/1	3.0				40	60
CS2042	Operating Systems	C	2.0	3/2	2.5				40	60
CS2062	Object Oriented Software Development	C	2.0	3/1	3.0				40	60
EN2022	Digital Electronics	C	2.0	3/2	2.5				30	70
CE1822	Aspects of Civil Engineering	C	2.0	-	2.0				30	70
ME1822	Basic Engineering Thermodynamics	C	1.5	3/2	2.0				30	70

327

Curriculum of B.Sc. Engineering Honours Degree Programme
Department of Computer Science and Engineering
Computer Science and Engineering (CSE) Stream

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignm hrs/weeks	Credits		Norm		Evaluation(%)	
					GPA	NGPA	GPA	NGPA	CA	WE
CS2150	Graph Theory for Computing	C	2.0	-	2.0				30	70
MA2073	Calculus for System Modelling	C	2.0	-	2.0		19.0		30	70
CS2202	Programming Challenge I	C	-	3/1		1.0			100	-
CS2963	Presentation Skills	C	-	3/1		1.0		2.0	100	-
				Total for Semester 3			19.0	2.0		
Semester 4										
CS3022	Software Engineering	C	2.0	3/1	3.0				40	60
CS3032	Computer Networks	C	2.0	3/1	3.0				40	60
CS3042	Database Systems	C	2.0	3/1	3.0				40	60
MA2033	Linear Algebra	C	2.0	-	2.0				30	70
MA2063	Differential Equations and Applications	C	2.0	-	2.0				30	70
EN2062	Signals & Systems	C	2.0	3/2	2.5		15.5		30	70
DE1xxx	Humanities Elective I	E			2.0		2.0			
CS2212	Programming Challenge II	C	-	3/1		1.0			100	-
CS3953	Technical Writing	C	0.5	3/1		1.5		2.5	100	-
				Total for Semester 4			17.5	2.5		
Semester 5										
CS3202	Software Engineering Project	C		6/1	2.0				100	-
CS3052	Computer Security	C	2.0	-	2.0				40	60
CS3062	Theory of Computing	C	2.0	-	2.0				30	70
CS3242	Micro-controllers and Applications	C	2.0	3/1	3.0				60	40
MN3042	Business Economics & Financial Accounting	C	3.0	-	3.0				30	70
MA3013	Applied Statistics	C	2.0	-	2.0		14.0		30	70
CS3212	Software Architecture and Design	E	2.0	3/1	3.0				40	60
CS3412	Advanced Networking	E	2.0	3/1	3.0				40	60
CS3512	Programming Languages	E	2.0	3/1	3.0				40	60
CS3612	Intelligent Systems	E	2.0	3/1	3.0				40	60
CS3712	Image Processing	E	2.0	3/1	3.0		6.0		40	60

328

Effective for 2014 Intake onwards

Curriculum of B.Sc. Engineering Honours Degree Programme
Department of Computer Science and Engineering
Computer Science and Engineering (CSE) Stream

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignm hrs/weeks	Credits		Norm		Evaluation(%)	
					GPA	NGPA	GPA	NGPA	CA	WE
				Total for Semester 5			20.0	0.0		
Industrial Training										
CS3992	Industrial Training	C	-	-		6.0		6.0	100	-
				Total for Industrial Training			0.0	6.0		
Semester 6										
CS4012	Professional Practice	C	2.0	-	2.0				30	70
CS3962	Research and Report Writing	C	0.5	3/2	1.0		3.0		80	20
CS3312	Embedded System Design	E	2.0	3/1	3.0				30	70
CS4232	Formal Methods in Software Engineering	E	2.0	3/1	3.0				50	50
CS4242	Human Computer Interaction	E	2.0	3/1	3.0				40	60
CS4532	Concurrent Programming	E	2.0	3/1	3.0				40	60
CS4742	Bioinformatics	E	2.0	3/1	3.0		3.0		40	60
DE2xxx	Humanities Elective II	E			2.0		2.0			
				Total for Semester 6			8.0	0.0		
Semester 7										
CS4202	Research and Development Project	C			5.0				100	-
MN4062	Organizational Behavior and Management	C	2.0	-	2.0		7.0		30	70
CS4222	Software Process and Management	E	2.0	3/1	3.0				50	50
CS4232	Formal Methods in Software Engineering	E	2.0	3/1	3.0				50	50
CS4242	Human Computer Interaction	E	2.0	3/1	3.0				40	60
CS4252	Advanced Operating Systems	E	2.0	3/1	3.0				50	50
CS4262	Distributed Systems	E	2.0	3/1	3.0				50	50
CS4272	Quality Engineering	E	2.0	3/1	3.0				50	50
CS4322	Digital System Design	E	2.0	3/1	3.0				40	60
CS4332	Computer Aided Digital Design	E	2.0	3/1	3.0				40	60
CS4342	Advanced Computer Architecture	E	2.0	3/1	3.0				40	60
CS4352	Robotics and Automation	E	2.0	3/1	3.0				50	50
CS4432	Network and System Administration	E	2.0	3/1	3.0				40	60

329

Curriculum of B.Sc. Engineering Honours Degree Programme
Department of Computer Science and Engineering
Computer Science and Engineering (CSE) Stream

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignm hrs/weeks	Credits		Norm		Evaluation(%)	
					GPA	NGPA	GPA	NGPA	CA	WE
CS4442	Current Trends in Networking	E	2.0	3/1	3.0				50	50
CS4462	Computer & Network Security	E	2.0	3/1	3.0				50	50
CS4472	Mobile Computing	E	2.0	3/1	3.0				50	50
CS4482	High Performance Networking	E	2.0	3/1	3.0				40	60
CS4492	Wireless and Broadband Networking	E	2.0	3/1	3.0				40	60
CS4522	Advanced Algorithms	E	2.0	3/1	3.0				40	60
CS4532	Concurrent Programming	E	2.0	3/1	3.0				40	60
CS4542	Compiler Design	E	2.0	3/1	3.0				40	60
CS4552	Scientific Computing	E	2.0	3/1	3.0				40	60
CS4622	Machine Learning	E	2.0	3/1	3.0				40	60
CS4632	Database Internals	E	2.0	3/1	3.0				50	50
CS4642	Data Mining & Information Retrieval	E	2.0	3/1	3.0				40	60
CS4722	Computer Vision	E	2.0	3/1	3.0				40	60
CS4732	Computer Graphics	E	2.0	3/1	3.0				40	60
CS4742	Bioinformatics	E	2.0	3/1	3.0				40	60
				Total for Semester 7			12.0		40	60
							19.0	0.0		
Semester 8										
CS4202	Research and Development Project	C			5.0				100	-
MN4122	Human Resource Management & Industrial Relations	C	2.0	-	2.0		7.0		30	70
CS4222	Software Process and Management	E	2.0	3/1	3.0				50	50
CS4232	Formal Methods in Software Engineering	E	2.0	3/1	3.0				50	50
CS4242	Human Computer Interaction	E	2.0	3/1	3.0				40	60
CS4252	Advanced Operating Systems	E	2.0	3/1	3.0				50	50
CS4262	Distributed Systems	E	2.0	3/1	3.0				50	50
CS4272	Quality Engineering	E	2.0	3/1	3.0				50	50
CS4322	Digital System Design	E	2.0	3/1	3.0				40	60
CS4332	Computer Aided Digital Design	E	2.0	3/1	3.0				40	60
CS4342	Advanced Computer Architecture	E	2.0	3/1	3.0				40	60

330

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignm hrs/weeks	Credits		Norm		Evaluation(%)	
					GPA	NGPA	GPA	NGPA	CA	WE
CS4352	Robotics and Automation	E	2.0	3/1	3.0				50	50
CS4432	Network and System Administration	E	2.0	3/1	3.0				40	60
CS4442	Current Trends in Networking	E	2.0	3/1	3.0				50	50
CS4452	Information Security & Cryptography	E	2.0	3/1	3.0				50	50
CS4462	Computer & Network Security	E	2.0	3/1	3.0				50	50
CS4472	Mobile Computing	E	2.0	3/1	3.0				50	50
CS4482	High Performance Networking	E	2.0	3/1	3.0				40	60
CS4492	Wireless and Broadband Networking	E	2.0	3/1	3.0				40	60
CS4522	Advanced Algorithms	E	2.0	3/1	3.0				40	60
CS4532	Concurrent Programming	E	2.0	3/1	3.0				40	60
CS4542	Compiler Design	E	2.0	3/1	3.0				40	60
CS4552	Scientific Computing	E	2.0	3/1	3.0				40	60
CS4622	Machine Learning	E	2.0	3/1	3.0				40	60
CS4632	Database Internals	E	2.0	3/1	3.0				50	50
CS4642	Data Mining & Information Retrieval	E	2.0	3/1	3.0				40	60
CS4722	Computer Vision	E	2.0	3/1	3.0				40	60
CS4732	Computer Graphics	E	2.0	3/1	3.0				40	60
CS4742	Bioinformatics	E	2.0	3/1	3.0				40	60
MA4013	Linear Models and Multivariate Statistics	E	3.0	-	3.0		9.0		40	60
MA4023	Operational Research	E	3.0	-	3.0				30	70
MA4033	Time Series & Stochastic Process	E	3.0	-	3.0				30	70
MA4053	Numerical Analysis for Scientific Computing	E	3.0	-	3.0				30	70
							3.0		30	70
				Total for Semester 8			19.0	0.0		
				Total for the Programme			137.0	13.0		

331

Modules Offered to Other Fields of Specialization

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignm hrs/weeks	Credits	Norm	Evaluation (%)

Curriculum of B.Sc. Engineering Honours Degree Programme
Department of Computer Science and Engineering
Computer Science and Engineering (CSE) Stream

					GPA	NGPA	GPA	NGPA	CA	WE
Semester 2										
CS2812	Visual Programming	-	1.0	3/1	2.0				60	40
CS2842	Computer Systems	-	2.0	-	2.0				40	60
CS2850	Visual Programming & Applications	-	1.0	3/1		2.0			100	-
Semester 3										
CS2832	Modular Software Development	-	1.0	6/1	3.0				50	50
CS2812	Visual Programming	-	1.0	3/1	2.0				60	40
CS2882	Object Oriented Programming using C++	-	2.0	3/1	3.0				30	70

332