

CHAPTER 4

COURSE REQUIREMENTS FOR UNDERGRADUATE COMPUTER SCIENCE AND ENGINEERING STUDENTS

Undergraduate students of the Department of Computer Science and Engineering have to follow a particular course schedule which is given in this chapter according to semester-wise distribution of the courses:

SEMESTER-I

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/Sessional		
CSE 101	Computer Programming with C	3.00	---	3.00	
CSE 102	Computer Programming with C Sessional	--	3.00	1.50	
CSE 103	Discrete Mathematics	2.00	---	2.00	
EEE 105	Introduction to Electrical Engineering	2.00	---	2.00	
EEE 106	Introduction to Electrical Engineering Sessional	---	3.00	1.50	
MATH 101	Differential Calculus and Co-ordinate Geometry	3.00	---	3.00	
PHY 101	Physics	3.00	---	3.00	
PHY 102	Physics Sessional	---	3.00	1.50	
HUM 101	Bangladesh and Liberation War Studies	2.00	---	2.00	
	Total	13.00	12.00	19.50	

SEMESTER-II

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/Sessional		
CSE 201	Data Structures	3.00		3.00	
CSE 202	Data Structures Sessional		3.00	1.50	
CSE 204	Computer Engineering Drawing Sessional	---	3.00	1.50	
MATH 201	Integral Calculus, Differential Equations and Series	3.00	----	3.00	
CHEM 201	Chemistry	2.00	---	2.00	
CHEM 202	Chemistry Sessional	---	2.00	1.00	
ENG 201	English Language	1.00	---	1.00	
ENG 202	Communication in English (Practice)	---	2.00	1.00	
SS 201	Managerial Economics & Accounting	2.00	---	2.00	
CSE 200	Software Development I		4.00	2.00	
CSE 205	Viva Voce	1.00		1.00	
	Total	14.00	11.00	19.00	11+8

SEMESTER-III

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/ Sessional		
CSE 301	Object Oriented Programming Language	3.00	---	3.00	
CSE 302	Object Oriented Programming Language Sessional	---	3.00	1.50	
CSE 303	Theory of Computation & Concrete Mathematics	3.00	---	3.00	
CSE 305	Digital Logic Design	3.00	---	3.00	
CSE 306	Digital Logic Design Sessional	---	3.00	1.50	
EEE 309	Electronic Devices and Circuits	2.00	---	2.00	
EEE 310	Electronic Devices and Circuits Sessional	---	2.00	1.00	
MATH 301	Complex Variable and Statistics for Engineers	3.00	---	3.00	
IPE 301	Industrial Management	2.00	---	2.00	
	Total	16.00	08.00	20.00	

SEMESTER-IV

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/ Sessional		
CSE 401	Algorithms	3.00	---	3.00	
CSE 402	Algorithms Sessional	---	3.00	1.50	
CSE 403	E-Commerce	3.00	---	3.00	
CSE 404	E-Commerce Sessional	---	3.00	1.50	
CSE 407	Computer Networks	3.00	---	3.00	
CSE 408	Computer Networks Sessional	---	3.00	1.50	
MATH 401	Matrices, Vectors, Fourier Analysis, Laplace's Transforms	3.00	---	3.00	
LAW 401	Cyber and Intellectual Property Law	2.00	---	2.00	
CSE 400	Software Development II		4.00	2.00	
CSE 409	Viva Voce	1.00	1.00	1.00	
	Total	14.00	13.00	21.50	

SEMESTER-V

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/ Sessional		
CSE 501	Database Management System	3.00	---	3.00	
CSE 502	Database Management System Sessional	---	3.00	1.50	
CSE 503	Computer Graphics	3.00		3.00	
CSE 504	Computer Graphics Sessional		3.00	1.50	
CSE 505	Microprocessors and Microcontrollers	3.00	---	3.00	
CSE 506	Microprocessors and Microcontrollers Sessional	---	3.00	1.50	
CSE 507	Operating System	3.00	---	3.00	
CSE 508	Operating System Sessional	---	3.00	1.50	
CSE 509	Computer Architecture	2.00	---	2.00	
CSE 511	Communication-I	3.00		3.00	
	Total	17.00	12.00	23.00	

SEMESTER-VI

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/ Sessional		
CSE 601	Compiler Design	3.00	---	3.00	
CSE 602	Compiler Design Sessional	---	3.00	1.50	
CSE 603	Introduction to Data Science	2.00		2.00	
CSE 604	Introduction to Data Science Sessional		3.00	1.50	
CSE 605	Software Engineering and Design Patterns	3.00	---	3.00	
CSE 607	Numerical Methods	2.00	---	2.00	
CSE 608	Numerical Methods Sessional	---	2.00	1.00	
CSE 609	Cryptography and Network Security	3.00	---	3.00	
CSE 610	Cryptography and Network Security Sessional	---	3.00	1.50	
CSE 600	Software Development III	---	4.00	2.00	
CSE 611	Viva Voce	1.00	2.00	1.00	
	Total	14.00	15.00	21.50	

13.00

17.00
8.5

SEMESTER-VII

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/ Sessional		
CSE 700	Thesis ✓	---	6.00	3.00	
	Or				
CSE 702	Project		6.00	3.00	
CSE 703 ✓	Artificial Intelligence	3.00	---	3.00	
CSE 704	Artificial Intelligence Sessional ✓	---	3.00	1.50	
CSE 705 ✓	Peripheral and Interfacing	3.00	---	3.00	
CSE 706	Peripheral and Interfacing Sessional ✓	---	3.00	1.50	
CSE 707 ✓	Information System Design	3.00		3.00	
CSE 709	Simulation and Modeling	3.00	---	3.00	
CSE 710	Simulation and Modeling Sessional		3.00	1.50	
	Or				
CSE 711	Basic Graph Theory	3.00	---	3.00	
CSE 712	Basic Graph Theory Sessional		3.00	1.50	
	Or				
CSE 713	Fault Tolerant Systems	3.00	---	3.00	
CSE 714	Fault Tolerant Systems Sessional				
	Or				
CSE 715 ✓	Digital Image Processing	3.00	---	3.00	
CSE 716	Digital Image Processing Sessional ✓		3.00	1.50	
	Or				
CSE 717	Basic Multimedia Theory	3.00	---	3.00	
CSE 718	Basic Multimedia Theory Sessional		3.00	1.50	
	Total	12.00	15.00	19.50	

$$3 + 1.50 + 1.50 + 1.50$$

$$= 7.5$$

Course Number	Course Title	Hours/Week		Credit	Pre-requisite
		Theory	Practical/ Sessional		
CSE 800	Thesis		6.00	3.00	
	Or				
CSE 802	Project		6.00	3.00	
CSE 803	Machine Learning	3.00		3.00	
CSE 804	Machine Learning Sessional		3.00	1.50	
CSE 805	Digital Signal Processing	3.00		3.00	
CSE 806	Digital Signal Processing Sessional		3.00	1.50	
Network and Communications group					
One subject from the following groups (depending on availability of Resources) :					
CSE 807	Communication-II	3.00		3.00	
CSE 808	Communication-II Seasonal		3.00	1.50	
Or					
CSE 809	Wireless & Mobile Communication	3.00		3.00	
CSE 810	Wireless & Mobile Communication Sessional		3.00	1.50	
Theoretical Computer Science group					
One subject from the following groups (depending on availability of Resources) :					
CSE 811	Advanced Algorithm Engineering	3.00		3.00	
CSE 812	Advanced Algorithm Engineering Sessional		3.00	1.50	
Or					
CSE 813	Computational Geometry	3.00		3.00	
CSE 814	Computational Geometry Sessional		3.00	1.50	
Or					
CSE 815	VLSI Design	3.00		3.00	
CSE 816	VLSI Design Sessional		3.00	1.50	
Or					
CSE 817	Introduction to Distributed Computing	3.00		3.00	
CSE 818	Introduction to Distributed Computing Sessional		3.00	1.50	
Or					
CSE 819	Natural Language Processing	3.00		3.00	
CSE 820	Natural Language Processing Sessional		3.00	1.50	
CSE 821	Viva Voce	1.00		1.00	
	Total	10.00	15.00	17.50	