

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, Co-ordinate Geometry and Complex Variable	3.00	---	3.00	
PHY 101	Physics	3.00	---	3.00	
PHY 102	Physics Sessional	---	3.00	1.50	
SSS 101	History of the Emergence of Independent Bangladesh	3.00	---	3.00	
	Total	16.00	09.00	20.50	

*N.B.: SSS 101 Course is mandatory to fulfill the requirement of completing Bachelor's degree.

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, Linear Algebra	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 206	Viva Voce		2.00	1.00	
	Total	11.00	15.00	19.00	

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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	
STAT 301	Statistics for Engineers	3.00	---	3.00	
IPE 301	Management for Engineers	2.00	---	2.00	
	Total	16.00	08.00	20.00	

16 + 4 = 20

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	Web Engineering & E-Commerce	3.00	---	3.00	
CSE 404	Web Engineering & E-Commerce Sessional	---	3.00	1.50	
CSE 405	Computer Architecture	2.00	---	2.00	
CSE 407	Operating System	3.00	---	3.00	
CSE 408	Operating System Sessional	---	3.00	1.50	
MATH 401	Matrices, Vectors, Fourier Analysis, Laplace's Transforms	3.00	---	3.00	
CSE 400	Software Development II		4.00	2.00	
CSE 410	Viva Voce		1.00	1.00	
	Total	14.00	14.00	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	Numerical Methods	3.00	---	3.00	
CSE 504	Numerical Methods 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	Computer Networks	3.00	---	3.00	
CSE 508	Computer Networks Sessional	---	3.00	1.50	
LAW 501	Cyber and Intellectual Property Law	2.00	---	2.00	
CSE 509	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	Computer Graphics	2.00	---	2.00	
CSE 608	Computer Graphics 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 612	Viva Voce		1.00	1.00	
	Total	13.00	16.00	21.50	

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	

SEMESTER-VIII

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 822	Viva Voce		1.00	1.00	
	Total	9.00	16.00	17.50	