

Computer Science Coursework

Areas covered in undergraduate coursework

- Calculus, Algebra, Discrete mathematics, Probability, Statistics
- Computer programming, Operating Systems
- Data structures, Programming languages (Procedural and OOP)
- Number Systems, Digital Designing
- Computer Architecture and organization
- Assembly Language Programming, Hardware Description Language (VHDL)
- Embedded Systems
- Wireless and Mobile Communications, and Computer networking
- Neural Networks

Keys and abbreviations:

WBUT West Bengal University of Technology, Kolkata, WB, India (UG university)

BSNL Bharat Sanchar Nigam Ltd., Kolkata, WB, India (Telecom company)

HQS Hi-Q Solutions, Kolkata, WB, India (Product-based company)

(T) *Theory*

(P) *Practical*

<u>Course name</u>	<u>Areas Covered</u>	<u>Institute</u>	<u>Date</u> <u>(MM/YYYY)</u>	<u>Main textbook(s) referred</u>	<u>Subj. code</u> <u>and type</u>	<u>Grade pts.</u> <u>(out of 10)</u>
Mathematics-1	Calculus Algebra Discrete Mathematics	<i>WBUT</i>	08/2010	Higher Engineering Mathematics: John Bird, 4th Edition, 1st Indian Reprint 2006, Elsevier	M 101 (T)	8
Basic Computation & Principles of Computer Programming	Computer Programming Operating System	<i>WBUT</i>	01/2011	Theory and Problems of Computers and Programming: Schied F.S. Programming with C: Schaum, Gottfried	CS 201 (T) CS 291 (P)	7 10
Mathematics-2	Advanced Calculus Graphs	<i>WBUT</i>	01/2011	Advanced Engineering Mathematics, Erwin Kreyszig, Wiley Eastern	M 201 (T)	9
Mathematics-3	Advanced Calculus Probability Statistics	<i>WBUT</i>	08/2011	Advanced Modern Engineering Mathematics, James G., Pearson Education Probability (Schaum's Outline Series), Lipschutz S. and Lipson M.L., Tata McGraw Hill	M 302 (T)	7
Digital Electronics and Integrated Circuits	Number Systems Digital Designing	<i>WBUT</i>	01/2012	Digital Logic Design, Morris Mano, PHI	EC 402 (T) EC 492 (P)	9 10
Microprocessor & Microcontroller	Assembly Language Programming Microcomputer Interfacing and Architecture	<i>WBUT</i>	08/2012	Microprocessor architecture, programming and application with 8085, R. Gaonkar, Penram International The 8051 microcontroller and Embedded systems - Mazidi, Mazidi and McKinley, Pearson	EC 502 (T) EC 592 (P)	8 10

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Data Structure & C	Data Structures	<i>WBUT</i>	08/2012	Data Structures, S. Lipschutz	EC 504B (T)	7
					EC 594B (P)	9
Object Oriented Programming	Object Oriented Programming	<i>WBUT</i>	01/2013	Object Oriented System Development, Ali Bahrami, Tata McGraw Hill	EC 605A (T)	8
	Java Programming				EC 695A (P)	10
Wireless Communication & Networks	Wireless Cellular Communication	<i>WBUT</i>	08/2013	Wireless Networks: Applications and Protocols, T. S. Rappaport, Pearson Education	EC 701 (T)	8
				Wireless Communications: Principles and Practice, T.S. Rappaport, PHI Learning		
Embedded Systems	Embedded Systems	<i>WBUT</i>	08/2013	Embedded System design, S. Heath, Elsevier	EC 704B	9
[Junior year thesis]	Real Time OS and Computing					
	Embedded Programming					
Industrial Training	Mobile Communication	<i>BSNL</i>	08/2013	[Vocational training] [internship]	EC 781	9
	Computer networking			Computer Networks, A. S. Tanenbaum, 4 th Edition, Pearson Education/PHI		
	Embedded System Designing	<i>HQS</i>		[Part-time work] Embedded System Design – A unified hardware and software introduction, F. Vahid and John Wiley		
Project Part1	Computer Architecture	<i>WBUT</i>	08/2013	Computer System Architecture, Mano M.M, 3 rd Edition, Pearson	EC 782	10
	Computer Organization					
	VHDL			Circuit Design and Simulation With VHDL, Pedroni, 2 nd Edition, PHI		
Neural Network & Applications	Neural Networks	<i>WBUT</i>	01/2014	Fundamentals of Artificial Neural Networks, Mohamad H. Hassoun, PHI	EC 802A (T)	9