

JALPAIGURI GOVERNMENT ENGINEERING COLLEGE
JALPAIGURI- 735102
(An Autonomous Government College)

COURSE STRUCTURE AND SYLLABUS
FOR
FIRST SEMESTER TO EIGHTH SEMESTER B.TECH. DEGREE
IN
COMPUTER SCIENCE & ENGINEERING

(Implemented for the new entry batch from the Academic Year 2021-22)



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Jalpaiguri Government Engineering College
Structure and syllabus of B.Tech. in **Computer Science & Engineering** to be implemented
from the entry batch of 2021-22

CC: Course Code, SC: Subject Code. Cr.: Credit, L-T-P-T: Lecture-Tutorial-Practical-Total

1st Year

CC	SC	Subject Name	Contact Hrs./Week		CC	SC	Subject name	Contact Hrs./Week	
			L-T- P-TO	Cr.				L-T-P-TO	Cr.
BSC	BS-CH101	Chemistry	3-1-0-4	4	BSC	BS-PH201	Physics	3-1-0-4	4
BSC	BS-M101A	Mathematics-IA	3-1-0-4	4	BSC	BS-M201A	Mathematics-IIA	3-1-0-4	4
ESC	ES-ES101	Basic Electrical Engineering	3-1-0-4	4	HUM	HM-HU201	English	2-0-0-2	2
BSC	BS-CH191	Chemistry Laboratory	0-0-3-3	1.5	ESC	ES-CS201	Programming for Problem Solving	3-0-0-3	3
ESC	ES-EE191	Basic Electrical Engineering Laboratory	0-0-2-2	1	ESC	ES-ME292	Workshop/Manufacturing Practice	1-0-4-5	3
ESC	ES-ME191	Engineering Graphics & Design	1-0-4-5	3	ESC	ES-CS291	Programming for Problem Solving Laboratory	0-0-4-4	2
Mandatory Induction Program- 3 weeks duration. It is to be done before initiation of classes (theoretical, laboratory & sessional) as per syllabus following guidelines of AICTE and MAKAUT			10-3-9-22	17.5	BSC	BS-PH291	Physics Laboratory	0-0-3-3	1.5
					HUM	HM-HU291	Language Laboratory	0-0-2-2	1
					Total				

2nd Year

HSM C	HSMC 301	Economics for Engineers	2-0-0-2	2	BSC	BS-M401	Mathematics – III	3-0-0-3	3
BSC	BS-CH301	Biology for Engineers	2-0-0-2	2	PCC	PCC-CS401	Computer Architecture	3-0-0-3	3
ESC	ESC301	Digital Electronics	3-0-0-3	3	PCC	PCC-CS402	Design and Analysis of Algorithms	3-0-0-3	3
PCC	PCC-CS301	Computer Organization	3-0-0-3	3	PCC	PCC-CS403	Object Oriented Programming	3-0-0-3	3
PCC	PCC-CS302	Data Structure & Algorithms	3-0-0-3	3	PCC	PCC-CS404	Formal Language and Automata Theory	3-0-0-3	3
MC	MC301	Essence of Traditional Knowledge	3-0-0-3	0	MC	MC401	Environmental Science	3-0-0-3	0
ESC	ESC-CS391	Digital Electronics Lab.	0-0-4-4	2	PCC	PCC-CS491	Computer Architecture Lab	0-0-4-4	2
PCC	PC-CS391	Computer Organization Lab.	0-0-4-4	2	PCC	PCC-CS492	Design and Analysis of Algorithms Lab	0-0-4-4	2
PCC	PC-CS392	Data Structure & Algorithms Lab	0-0-4-4	2	PCC	PC-CS493	Object Oriented Programming Lab.	0-0-4-4	2
PCC	PC-CS393	IT Workshop (Python/R/Sci Lab/ MATLAB)	0-0-4-4	2					
Total			16-0-16-32	21	Total			18-0-12-30	21

3rd Year

PCC	PCC-CS501	Software Engineering	3-0-0-3	3	HUM	HU601	Principles of Management	2-0-0-2	2
PCC	PCC-CS502	Discrete Mathematics	3-0-0-3	3	PCC	PCC-CS601	Compiler Design	3-0-0-3	3
PCC	PCC-CS503	Database Management Systems	3-0-0-3	3	PCC	PCC-CS602	Computer Networks	3-0-0-3	3
PCC	PCC-CS504	Operating System	3-0-0-3	3	PEC III	PEC-CS601	A. Data Warehousing and Data Mining B. Big Data C. Distributed Database D. Signals & Networks	3-0-0-3	3
PEC I	PEC-CS501	A. Advance Computer Architecture B. Soft Computing C. Advance Operating Systems D. Operation Research	2-0-0-2	2	PEC IV	PEC-CS602	A. Graph Theory B. Information Theory & Coding C. Image Processing D. Social Network Analysis	3-0-0-3	3
PEC II	PEC-CS502	A. Computer Graphics B. Advance Algorithm C. Artificial Intelligence D. Pattern Recognition	3-0-0-3	3	OEC	OEC-CS601	Soft Skills and Interpersonal Communication	2-0-0-2	2
PCC	PCC-CS591	Database Management Systems Lab.	0-0-4-4	2	PCC	PCC-CS691	Compiler Design Lab	0-0-4-4	2
PCC	PCC-CS592	Operating System Lab.	0-0-4-4	2	PCC	PCC-CS692	Computer Network Lab.	0-0-4-4	2
					Proj	PR-CS691	Project-I	0-0-2-2	1
Total			17-0-8-25	21	Total			16-0-10-26	21

4th Year

ESC	ES-CS701	Signal and Systems	3-0-0-3	3	HUM	HU801	Financial Management	3-0-0-3	3
PEC V	PEC-CS701	A. Adhoc and Sensor Networks B. Mobile Computing C. Neural Networks & Deep Learning	3-0-0-3	3	PEC VII	PEC-CS801	A. Cyber Security B. Cryptography & Network Security C. Introduction to Blockchain Technology	3-0-0-3	3

		D. Data Science								
PEC VI	PEC-CS702	A. Natural Language Processing B. Human Computer Interaction C. Cloud Computing D. Machine Learning	3-0-0-3	3		OEC	OEC-CS801	A. Cyber Law and Ethics B. Economic policies in India C. E-Commerce & ERP	3-0-0-3	3
OEC	OEC-CS701	A. Human Resource Development and Organizational Behaviour B. Indian Music System	3-0-0-3	3		Proj	PR-CS881	Project-III	0-0-12-12	6
OEC	OEC-CS702	A. Internet of Things B. Bio Informatics C. Introduction to GIS & Remote Sensing D. Robotics	3-0-0-3	3		Proj	PR-CS882	Viva-Voce	0-0-0-0	2
Proj	PR-CS781	Project-II	0-0-12-12	6		Proj	PR-CS883	Internship Evaluation (All three)	0-0-0-0	0
Total Credit			15-0-12-27	21					9-0-12-21	17