

❖ **Current Syllabus of CSI (Regular Students)**

Language and General Education Courses: 9 courses (22 credits)

Course Code	Course Title	Credit Hour
ENG 101	Elementary English	2
ENG 102	English Comprehension and Speaking (As per guideline of UGC restructuring)	3
BNG 101	Functional Bengali Language (As per guideline of UGC restructuring)	2
ECO 316	Introduction to Economics	3
SOC 100	Introduction to Sociology	3
HIS 301	Bangladesh Studies (History of Independence)	2
HIS 228	Professional Ethics and Environmental Protection	2
PHI 116	World Civilization Cultures of South Asia	2
MGT 301	Introduction to Management	3

Basic Science: 3 Theory and 2 Lab courses (11 credits)

Course Code	Course Title	Credit Hour
PHY 101	Physics- I- General Physics	3
PHY 102	Physics- II- Electrical Circuits & Electronics	3
PHY 104	Physics II Lab	1
CHE 101	General Chemistry	3
CHE 102	Chemistry Lab	1

Mathematics: 4 Theory (12 credits)

Course Code	Course Title	Credit Hour
MAT 119	Integral and Differential Calculus	3
MAT 219	Differential and Partial Differential Equations.	3
MAT 229	Engineering Mathematics	3
STA 132	Statistics and Probability	3

Other Engineering: 3 Theory Courses and 3 Lab Courses(11 Credits)

Course Code	Course Title	Credit Hour
CSI 111	Engineering Drawing and Lab	2
CSI 244	Electrical Engineering	3
CSI 280	Electrical & Electronic Circuit Design Lab I	1.5
CSI 264	Electronic Devices and Circuits & Pulse techniques	3
CSI 380	Electrical and Electronic Circuit Design Lab II	1.5

Core Courses: 18 Theory Courses, 13 Lab Courses and Project/Thesis Work (75 credits)

Course Code	Course Title	Credit Hour
CSI 100	Basic Computing Lab	1.5
CSI 101	Introduction to Computing	3
CSI 102	Computer Programming	3
CSI 103	Computer Programming Lab	1.5
CSI 220	Data Structure	3
CSI 221	Data Structure Lab	1
CSI 230	Digital Logic	3
CSI 231	Digital Logic Lab	1

CSI 233	Computer Organization & Design	3
CSI 260	Object Oriented Programming	3
CSI 261	Object Oriented Programming Lab	1.5
CSI 290	Discrete Mathematics	3
CSI 320	Operating system	3
CSI 321	Operating system Lab	1
CSI 325	Software Engineering	3
CSI 326	Software Engineering Lab	1
CSI 330	Microprocessors & Microcontrollers	3
CSI 332	Microprocessors & Microcontrollers Lab	1
CSI 331	Computer Networks	3
CSI 333	Computer Networking Lab	1
CSI 350	Design and Analysis of Algorithms	3
CSI 351	Design and Analysis of Algorithms Lab	1
CSI 360	Computer Graphics	3
CSI 383	Database Management System	3
CSI 384	Database Management System Lab	1
CSI 393	System analysis and design	3
CSI 394	System analysis and design Lab	1
CSI 424	Compiler Construction	3
CSI 430	Web Programming	3

CSI 431	Web Programming Lab	1.5
CSI 481	Computer and cyber security	3
CSI 499	Project/Internship	6
Total		75

Elective Courses: 5 (Five) courses (15 Credits)

Elective courses are divided into six groups: Computer Engineering, Computer Science and Engineering, Computer Science, Data Science, Software Engineering and Information and Communication Groups. A student doing major in Computer Engineering, should take at least two courses from hardware and one course from system and any two courses from other groups, respective. Similarly, a student doing major in Computer Science and Engineering, should take any courses from any branch and any two courses from other groups. A student doing major in Computer Science should take at least three courses from theory based course and any two courses from other groups. A student doing major in Data Science should take at least three courses from Data Science and any two courses from other groups. A student doing major in Software Engineering should take at least two courses from Software Engineering and one course from Information and communication Technology and any two courses from other groups. A student doing major in Information and communication Technology should take at least three courses from Information and communication Technology and and any two courses from other groups. Thus a completion of 15 credit hours (5 theory courses each having 3 credits) of required elective courses for fulfilment of B.Sc. in CSI degree will be assessed.

Computer Engineering group		
Course Code	Course Title	Credit Hour
MAT 359	Numerical Methods	3
CSI 426	Advanced Operating System	3
CSI 437	VLSI Design	3
CSI 445	Networks & Distributed System	3
CSI 454	Robotics	3
Computer Science and Engineering group		

CSI 451	Computer and Society	3
CSI 455	Neural Network	3
CSI 458	Multimedia System development	3
CSI 459	Artificial Intelligence	3
CSI 473	Parallel Algorithms	3
Computer Science group		
CSI 460	Mathematical Analysis for Computer Science	3
CSI 461	Graph Theory	3
CSI 462	Simulation and Modeling	3
CSI 477	Computational Geometry	3
CSI 478	Automata and Formal Language	3
Computer Science group		

Data Science Group		
CSI 450	Machine Learning	3
CSI 452	Digital Image Processing	3
CSI 456	Digital Signal Processing	3
CSI 463	Data Mining	3
CSI 464	Web Application Security	3

Software Engineering Group		
CSI 427	Mobile Application Development	3
CSI 436	Software Architecture	3
CSI 465	Software testing and Quality assurance	3
CSI 466	Human computer Interaction	3
CSI 467	Visualizing Complex Information	3

Information and Communication Technology Group		
CSI 291	Data Communication	3
CSI 453	Management Information System	3
CSI 468	Electronic Business	3
CSI 469	Mobile Web Development and Usability Testing	3
CSI 470	Enterprise Systems: Concepts and Practice	3

❖ **Current Syllabus of CSI (Diploma Holder Students)**

Language and General Education Courses: 1 courses(03 credits)

Course Code	Course Title	Credit Hour
ENG 102	English Comprehension and Speaking (As per guideline of UGC restructuring)	3

Basic Science: 1 Theory and 1 Lab courses (04 credits)

Course Code	Course Title	Credit Hour
PHY 102	Physics- II- Electrical Circuits & Electronics	3
PHY 104	Physics II Lab	1

Mathematics: 4 Theory (12 credits)

Course Code	Course Title	Credit Hour

MAT 119	Integral and Differential Calculus	3
MAT 219	Differential and Partial Differential Equations.	3
MAT 229	Engineering Mathematics	3
STA 132	Statistics and Probability	3

Other Engineering: 3 Theory Courses and 3 Lab Course (11 Credits)

Course Code	Course Title	Credit Hour
CSI 111	Engineering Drawing and Lab	2
CSI 244	Electrical Engineering	3
CSI 280	Electrical and Electronic Circuit Design Lab I	1.5
CSI 264	Electronic Devices and Circuits & Pulse techniques	3
CSI 380	Electrical and Electronic Circuit Design Lab II	1.5

Core Courses: 18 Theory Courses, 13 Lab Courses and Project/Thesis Work (75 credits)

Course Code	Course Title	Credit Hour
CSI 100	Basic Computing Lab	1.5
CSI 101	Introduction to Computing	3
CSI 102	Computer Programming	3
CSI 103	Computer Programming Lab	1.5
CSI 220	Data Structure	3
CSI 221	Data Structure Lab	1
CSI 230	Digital Logic	3
CSI 231	Digital Logic Lab	1
CSI 233	Computer Organization & Design	3
CSI 260	Object Oriented Programming	3
CSI 261	Object Oriented Programming Lab	1.5
CSI 290	Discrete Mathematics	3

CSI 320	Operating system	3
CSI 321	Operating system Lab	1
CSI 325	Software Engineering	3
CSI 326	Software Engineering Lab	1
CSI 330	Microprocessors & Microcontrollers	3
CSI 332	Microprocessors & Microcontrollers Lab	1
CSI 331	Computer Networks	3
CSI 333	Computer Networking Lab	1
CSI 350	Design and Analysis of Algorithms	3
CSI 351	Design and Analysis of Algorithms Lab	1
CSI 360	Computer Graphics	3
CSI 383	Database Management System	3
CSI 384	Database Management System Lab	1
CSI 393	System analysis and design	3
CSI 394	System analysis and design Lab	1
CSI 424	Compiler Construction	3
CSI 430	Web Programming	3
CSI 431	Web Programming Lab	1.5
CSI 481	Computer and cyber security	3
CSI 499	Project/Internship	6
Total		75

Elective Courses: 7 (Five) courses (21 Credits)

Elective courses are divided into six groups: Computer Engineering, Computer Science and Engineering, Computer Science, Data Science, Software Engineering and Information and Communication Groups. A student doing major in Computer Engineering, should take at least two courses from hardware and one course from system and any two courses from other groups, respective. Similarly, a student doing major in Computer Science and Engineering, should take any courses from any branch and any two courses from other groups. A student doing major in Computer Science should take at least three courses from theory based course and any two courses from other groups. A student doing major in Data Science should take at least three courses from Data Science and any two courses from other groups. A student doing major in Software Engineering should take at least two courses from Software Engineering and one course from Information and communication Technology and any two courses from other groups. A student doing major in Information and communication

Technology should take at least three courses from Information and communication Technology and any two courses from other groups. Thus a completion of 15 credit hours (5 theory courses each having 3 credits) of required elective courses for fulfilment of B.Sc. in CSE degree will be assessed.

Computer Engineering group		
Course Code	Course Title	Credit Hour
MAT 359	Numerical Methods	3
CSI 426	Advanced Operating System	3
CSI 437	VLSI Design	3
CSI 445	Networks & Distributed System	3
CSI 454	Robotics	3
Computer Science and Engineering group		
CSI 451	Computer and Society	3
CSI 455	Neural Network	3
CSI 458	Multimedia System development	3
CSI 459	Artificial Intelligence	3
CSI 473	Parallel Algorithms	3
Computer Science group		
CSI 460	Mathematical Analysis for Computer Science	3
CSI 461	Graph Theory	3
CSI 462	Simulation and Modeling	3
CSI 477	Computational Geometry	3
CSI 478	Automata and Formal Language	3

Data Science Group

CSI 450	Machine Learning	3
CSI 452	Digital Image Processing	3
CSI 456	Digital Signal Processing	3
CSI 463	Data Mining	3
CSI 464	Web Application Security	3

Software Engineering Group		
CSI 427	Mobile Application Development	3
CSI 436	Software Architecture	3
CSI 465	Software testing and Quality assurance	3
CSI 466	Human computer Interaction	3
CSI 467	Visualizing Complex Information	3

Information and Communication Technology Group		
CSI 291	Data Communication	3
CSI 453	Management Information System	3
CSI 468	Electronic Business	3
CSI 469	Mobile Web Development and Usability Testing	3
CSI 470	Enterprise Systems: Concepts and Practice	3

❖ Semester wise Course Distribution

1st Year (Freshman)

1st Semester			
SL. No	Course Code	Course Title	Credit Hours
1	ENG 100	Elementary English	2
2	PHY 101	Physics - I	3
3	MAT 119	Integral and Differential Calculus	3
4	CSI 111	Engineering Drawing	2
Total Credit			10

2nd Semester			
SL. No.	Course Code	Course Title	Credit Hours
1.	ENG 102	English Comprehension, Writing and Speaking	3
2.	PHY 103	Physics II	3
3.	PHY 104	Physics II Lab	1
4.	CSI 100	Introduction to Computing	3
5.	CSI 101	Basic Computing Lab	1.5
Total Credit			11.5

3rd Semester			
SL. No.	Course Code	Course Title	Credit Hours
1.	MAT219	Differential and Partial Differential Equations	3
2.	CSI 102	Structured Programming Language	3
3.	CSI 103	Structured Programming Language Lab	1.5
4.	CHE 101	Chemistry	3
5.	CHE 102	Chemistry Lab	1
6.	BNG 101	Functional Bengali Language	2
Total Credit			13.5

2nd Year (Sophomore)

4th Semester

SL. No.	Course Code	Course Title	Credit Hours
1.	HIS 328	Bangladesh Studies (History of Independence)	2
2.	STA 132	Statistics and Probability	3
3.	CSI 244	Introduction to Electrical Engineering	3
4.	CSI 280	Electrical and Electronic Circuit Design Lab I	1.5
5.	SOC 101	Sociology	3

Total Credit 12.5

5th Semester

SL. No.	Course Code	Course Title	Credit Hours
1.	MAT 229	Engineering Mathematics	3
2.	CSI 254	Electronic Devices and Circuits & Pulse techniques	3
3.	CSI 380	Electrical and Electronic Circuit Design Lab II	1.5
4.	CSI 260	Object Oriented Programming	3
5.	CSI 261	Object Oriented Programming Lab	1.5

Total Credit 12

6th Semester

SL. No.	Course Code	Course Title	Credit Hours
6.	CSI 220	Data Structure	3
7.	CSI 221	Data Structure Lab	1
8.	CSI 230	Digital Electronics	3
9.	CSI 231	Digital Electronics Lab	1
10.	MGT 101	Business Management	3
6.	HIS 228	Professional Ethics and Environmental Protection	2

Total Credit 13

3rd Year (Junior)

7th Semester

SL. No.	Course Code	Course Title	Credit Hours
1.	CSI 233	Computer Architecture	3
2.	CSI 290	Discrete Mathematics	3
3.	CSI 330	Microprocessors & Microcontrollers	3
4.	CSI 332	Microprocessors & Microcontrollers Lab	1
5.	CSI 350	Algorithms	3
6.	CSI 351	Algorithms Lab	1

Total Credit 14

8th Semester

SL. No.	Course Code	Course Title	Credit Hours
1.	PHI 115	World Civilization Cultures of South Asia	2
1.	ECO 316	Engineering Economics	3
2.	CSI 331	Networking	3
3.	CSI 333	Networking Lab	1
4.	CSI XXX	Elective Course	3

Total Credit 12

9th Semester

SL. No.	Course Code	Course Title	Credit Hours
1.	CSI 383	Database	3
2.	CSI 384	Database Lab	1
3.	CSI 430	Web Programming	3
4.	CSE 431	Web Programming Lab	1.5
5.	CSE 360	Graphics	3
6.	CS XXX	Elective Course	3

Total Credit 14.5

4th Year (Senior)

10 th Semester			
SL. No.	Course Code	Course Title	Credit Hours
1.	CSI 320	Operating system	3
2.	CSI 321	Operating system Lab	1
3.	CSI 424	Compiler	3
4.	CSI XXX	Elective Course	3
5.	CSI 499	Computer and Cyber Security	3
Total Credit			13

11 th Semester			
SL. No.	Course Code	Course Title	Credit Hours
1.	CSI 325	Software Engineering	3
2.	CSI 326	Software Engineering Lab	1
6.	CSI 499	Project/Internship	6
7.	CSI XXX	Elective Course	3
Total Credit			13

12 th Semester			
SL. No.	Course Code	Course Title	Credit Hours
1.	CSI 393	System analysis and design	3
2.	CSI 394	System analysis and design Lab	1
6.	CSI 499	Project/Internship	---
7.	CSI XXX	Elective Course	3
Total Credit			13

Year-wise distribution of courses

First Year	35 credit hours
Second Year	37.5 credit hours
Third Year	40.5 credit hours
Fourth Year	33 credit hours

Total 146 credit hour