

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (CSE)
SCHOOL OF SCIENCE AND ENGINEERING
CHITTAGONG INDEPENDENT UNIVERSITY (CIU)
Syllabus for the Degree of B.Sc. in CSE

1st Year Courses:

Prefix	Code	Title	Credit	Prerequisite
CSE	0613 111	Structured Programming	3	
CSE	0613 111L	Structured Programming Lab	1.5	
EEE	0713 111	Introduction to Electrical Engineering	3	
EEE	0713 111L	Introduction to Electrical Engineering Lab	1.5	
MAT	0541 111	Calculus	3	
PHY	0533 111	Engineering Physics I	3	
PHY	0533 111L	Engineering Physics I Lab	1.5	
ENG	0231 101	Functional English	3	
CSE	0613 121	Object Oriented programming	3	CSE 0613 111
CSE	0613 121L	Object Oriented programming Lab	1.5	
CHE	0531 122	Engineering Chemistry	3	
EEE	0713 121	Electronic Devices and Circuits	3	EEE 0713 111
EEE	0713 121L	Electronic Devices and Circuits Lab	1.5	
MAT	0541 121	Differential Equations and Matrices	3	
BLL	0232 101	Bangla Bhasha	3	
SOC	0314 101	Introduction to Sociology	3	
		Total	40.5	

2nd Year Courses

Prefix	Code	Title	Credit	Prerequisite
CSE	0714 215	Digital Logic Design	3	EEE 0713 121
CSE	0714 215L	Digital Logic Design Lab	1.5	
CSE	0613 211	Data Structure	3	CSE 0613 111
CSE	0613 211L	Data Structure Lab	1.5	
CSE	0613 212	Discrete Mathematics	3	MAT 0541 111
MAT	0542 211	Engineering Statistics	3	
BDS	0222 201	History of Emergence of Independent Bangladesh	3	
ECN	0311 201	Introduction to Economics	3	
CSE	0714 221	Microprocessor and Interfacing	3	CSE 0714 215
CSE	0714 221L	Microprocessor and Interfacing Lab	1.5	
CSE	0613 222	Algorithm Design and Analysis	3	CSE 0613 211, CSE 0613 212
CSE	0613 222L	Algorithm Design and Analysis Lab	1.5	
CSE	0612 223	Database Management Systems	3	
CSE	0612 223L	Database Management Systems Lab	1.5	
ACN.	0411 201	Principle of Accounting	3	
MGT	0413 201	Industrial and Operational Management		
MAT	0514 221	Vector Analysis and Complex Variables	3	MAT 0541 121
		Total	40.5	

3rd Year Courses

Prefix	Code	Title	Credit	Prerequisite
CSE	0714 311	Computer Organization and Architecture	3	CSE 0714 221
CSE	0619 312	Artificial Intelligence	3	CSE 0613 211, CSE 0613 222
CSE	0619 312L	Artificial Intelligence Lab	1.5	
CSE	0714 313	Data Communication	3	
CSE	0714 313L	Data Communication Lab	1.5	
CSE	0613 314	Web Programming	3	CSE 0613 121, CSE 0612 223
CSE	0613 314L	Web Programming Lab	1.5	
CSE	0613 315	Theory of Computation	3	CSE 0613 212
MAT	0541 311	Transformation Theory	3	MAT 0541 221
CSE	0619 321	Machine Learning	3	CSE 0619 312
CSE	0619 321L	Machine Learning Lab	1.5	
CSE	0612 322	Computer Networks	3	CSE 0714 313
CSE	0612 322L	Computer Networks Lab	1.5	
CSE	0613/0619 37X	Elective I (Software Engineering)	3	
CSE	0613 324	Operating System	3	CSE 0613 211, CSE 0714 311
CSE	0613 324L	Operating System Lab	1.5	
CSE	0619 39X	Elective II (Data Science)	3	MAT 0542 211, CSE 0619 312
CSE	0619 39X L	Elective II Lab (Data Science)	1.5	
Total			43.5	

4th Year Courses

Prefix	Code	Title	Credit	Prerequisite
CSE	0619 411	Introduction to Internet of Things	3	CSE 0613 121, CSE 0714 221, CSE 0613 322
CSE	0619 411L	Introduction to Internet of Things Lab	1.5	
CSE	0541/0613 /0619/071 4 47X	Elective III (Theory and Hardware)	3	Depends on offered subject
CSE	0541/0613 /0619/071 4 47X L	Elective III Lab (Theory and Hardware)	1.5	
CSE	0788 401	LFE	3	
CSE	0613 412	Software Engineering	3	CSE 0613 121, CSE 0613/0619 37X
CSE	0613 412L	Software Engineering Lab	1.5	
CSE	0688 491	Final Project	For Project 1 credit / For internship 4 credits	Enrolled
CSE	0688 499	Internship		Must complete
CSE	0613 421	Computer Graphics	3	MAT 0541 121, CSE 0613 222
CSE	0613 421L	Computer Graphics Lab	1.5	
CSE	0613 422	Compiler Design	3	CSE 0613 315
CSE	0613 422L	Compiler Design Lab	1.5	
CSE	0612 423	Information Security	3	
CSE	0613/0714 48X	Elective IV (ICT)	3	
CSE	0688 491	Final Project	3	4 credits Complete
Total			35.5	

Technical Electives:

Software Engineering (3 Credits)

Course Code	Course Title	Credit	Prerequisite
CSE 0613 371	System Analysis and Design	3	
CSE 0619 372	Decision Support System	3	
CSE 0619 373	Human Computer Interaction	3	

Data Science (4.5 Credits)

Course Code	Course Title	Credit	Prerequisite
CSE 0619 391	Digital Image Processing	3	
CSE 0619 391L	Digital Image Processing Lab	1.5	
CSE 0619 392	Data Mining	3	
CSE 0619 392L	Data Mining Lab	1.5	
CSE 0619 393	Big Data	3	
CSE 0619 393L	Big Data Lab	1.5	
CSE 0619 394	Natural Language Processing	3	
CSE 0619 394L	Natural Language Processing Lab	1.5	

Theory & Hardware (4.5 Credits)

Course Code	Title	Credit	Prerequisite
CSE 0619 470	Neural Network and Fuzzy Logic	3	
CSE 0619 470L	Neural Network and Fuzzy Logic Lab	1.5	
CSE 0541 471	Numerical Method for Engineers	3	
CSE 0541 471L	Numerical Method for Engineers Lab	1.5	
CSE 0541 472	Mathematical Analysis for Computer Science	3	
CSE 0541 472L	Mathematical Analysis for Computer Science Lab	1.5	
CSE 0613 473	Basic Graph Theory	3	
CSE 0613 473L	Basic Graph Theory Lab	1.5	
CSE 0714 474	Robotics	3	

CSE 0714 474L	Robotics Lab	1.5	
CSE 0714 475	Digital Electronics and Pulse Techniques	3	
CSE 0714 475L	Digital Electronics and Pulse Techniques Lab	1.5	
CSE 0714 476	Electrical Drives and Instrumentation	3	
CSE 0714 476L	Electrical Drives and Instrumentation Lab	1.5	
CSE 0714 477	VLSI Design	3	
CSE 0714 477L	VLSI Design Lab	1.5	
CSE 0714 478	Digital Signal Processing	3	
CSE 0714 478L	Digital Signal Processing Lab	1.5	
CSE 0613 479	Introduction to Bioinformatics	3	
CSE 0613 479L	Introduction to Bioinformatics Lab	1.5	

Emerging Technology (3 Credits)

Course Code	Course Title	Credit	Prerequisite
CSE 0714 481	Wireless Communication	3	
CSE 0613 482	Mobile Apps and Computing	3	
CSE 0613 483	Cloud Computing	3	