Courses requirements for the undergraduate students of the Department of
Information and Communication Engineering (ICE)

SUMMARY OF COURSES

Sl.	Course Code	Course Title	Contact Hrs/week	Credits
		B.Sc. (Engineering)courses for 1st year 1st semester		
1.	**ICE-1101**	Fundamentals of ICT	3.00	3.00
2.	**ICE-1102**	Fundamentals of ICT Sessional	3.00	1.50
3.	**ICE-1103**	Basic Electronics	3.00	3.00
4.	**ICE-1104**	Basic Electronics Sessional	3.00	1.50
5.	**ICE-1105**	Applied Electricity and Magnetism	3.00	3.00
6.	**ICE-1106**	Applied Electricity and Magnetism Sessional	1.50	0.75
7.	**Math-1101**	Differential Calculus and Geometry	3.00	3.00
8.	**Hum-1101**	Bangladesh Studies	3.00	3.00
9.	**ICE-1107**	Viva-voce	1.50	0.75
		Total ➔	**24**	**19.5**

Sl.	Course Code	Course Title	Prerequisite Course	Contact Hrs/week	Credits
		B.Sc. (Engineering) courses for 1st year 2nd semester			
1.	**ICE-1201**	Analog Electronics	ICE-1103	3.00	3.00
2.	**ICE-1202**	Analog Electronics Sessional		3.00	1.50
3.	**ICE-1203**	Programming with C	ICE-1101	3.00	3.00
4.	**ICE-1204**	Programming with C Sessional		3.00	1.50
5.	**ICE-1205**	Circuit Theory and Analysis		3.00	3.00
6.	**ICE-1206**	Circuit Theory and Analysis Sessional		1.50	0.75
7.	**Math-1201**	Integral Calculus and Differential Equations		3.00	3.00
8.	**BBA-1201**	Industrial Management and Accountancy		3.00	3.00
9.	**Eng-1201**	Fundamental English		2.00	2.00
10.	**Eng-1202**	Fundamental English Sessional		2.00	1.00
11.	**ICE-1207**	Viva-voce		1.50	0.75
			Total ➔	**28**	**22.5**

		B.Sc. (Engineering) courses for 2nd year 1st semester			
Sl.	**Course Code**	**Course Title**	Prerequisite Course	**Contact Hrs/week**	**Credits**
1.	**ICE-2101**	Digital Electronics	ICE-1201	3.00	3.00
2.	**ICE-2102**	Digital Electronics Sessional		3.00	1.50
3.	**ICE-2103**	Object Oriented Programming	ICE-1203	3.00	3.00
4.	**ICE-2104**	Object Oriented Programming Sessional		3.00	1.50
5.	**ICE-2105**	Discrete Mathematics and Numerical Methods		3.00	3.00
6.	**ICE-2106**	Discrete Mathematics and Numerical Methods Sessional		1.50	0.75
7.	**Math-2101**	Vector, Matrix and Linear Algebra		3.00	3.00
8.	**Stat-2101**	Elementary Statistics and Probability		3.00	3.00
9.	**Stat-2102**	Elementary Statistics and Probability Sessional		1.50	0.75
10.	**ICE-2107**	Viva-voce		1.50	0.75
			Total ➔	**25.5**	**20.25**

		B.Sc. (Engineering) courses for 2nd year 2nd semester			
Sl.	**Course Code**	**Course Title**	Prerequisite Course	**Contact Hrs/week**	**Credits**
1	**ICE-2201**	Data Structure and Algorithm	ICE-2103	3.00	3.00
2	**ICE-2202**	Data Structure and Algorithm Sessional		1.50	0.75
3	**ICE-2203**	Analog Communication		3.00	3.00
4	**ICE-2204**	Analog Communication Sessional		1.50	0.75
5	**ICE-2205**	Signals and Systems		3.00	3.00
6	**ICE-2206**	Signals and Systems Sessional		1.50	0.75
7	**ICE-2207**	Electromagnetic Fields and Waves	Math-2101	3.00	3.00
8	**Math-2201**	Complex Variable Analysis, Laplace and Fourier Transforms		3.00	3.00
9	**Stat-2201**	Sampling Distribution and Hypothesis Testing	Stat-2101	3.00	3.00
10	**Stat-2202**	Sampling Distribution and Hypothesis Testing Sessional		1.50	0.75
11	**ICE-2208**	Viva-voce		1.50	0.75
			Total ➔	**25.5**	**21.75**

**B.Sc. (Engineering) courses for 3rd year 1st semester**
Sl.	**Course Code**	**Course Title**	Prerequisite Course	Contact Hrs/week	**Credits**
1	**ICE-3101**	Artificial Intelligence and Robotics		3.00	3.00
2	**ICE-3102**	Artificial Intelligence and Robotics Sessional		1.50	0.75
3	**ICE-3103**	Web Programming	ICE-2103	3.00	3.00
4	**ICE-3104**	Web Programming Sessional		1.50	0.75
5	**ICE-3105**	Database Management Systems		3.00	3.00
6	**ICE-3106**	Database Management Systems Sessional		1.50	0.75
7	**ICE-3107**	Computer Architecture and Microcontroller Design		3.00	3.00
8	**ICE-3108**	Computer Architecture and Microcontroller Design Sessional		1.50	0.75
9	**ICE-3109**	Digital Signal Processing	ICE-2205	3.00	3.00
10	**ICE-3110**	Digital Signal Processing Sessional		1.50	0.75
11	**ICE-3111**	Viva-voce		1.50	0.75
			Total ➔	**24**	**19.5**

**B.Sc. (Engineering) courses for 3rd year 2nd semester**
Sl.	**Course Code**	**Course Title**	Prerequisite Course	**Contact Hrs/week**	**Credits**
1	**ICE-3201**	Network Programming with Java	ICE-2103	3.00	3.00
2	**ICE-3202**	Network Programming with Java Sessional		1.50	0.75
3	**ICE-3203**	Telecommunication Engineering		3.00	3.00
4	**ICE-3204**	Telecommunication Engineering Sessional		1.50	0.75
5	**ICE-3205**	Digital Communication		3.00	3.00
6	**ICE-3206**	Digital Communication Sessional		1.50	0.75
7	**ICE-3207**	Digital Image and Speech Processing	ICE-3109	3.00	3.00
8	**ICE-3208**	Digital Image and Speech Processing Sessional		1.50	0.75
9	**ICE-3209**	Antenna Engineering		3.00	3.00
10	**ICE-3210**	Antenna Engineering Sessional		1.50	0.75
11	**ICE-3211**	Project Design and Development		3.00	1.50
12	**ICE-3212**	Viva-voce		1.50	0.75
			Total ➔	**27**	**21**

**B.Sc. (Engineering) courses for 4th year 1st semester**
Sl.	**Course Code**	**Course Title**	Prerequisite Course	Contact Hrs/week	**Credits**
1	**ICE-4101**	Data Communication and Networking	ICE-3205	3.00	3.00
2	**ICE-4102**	Data Communication and Networking Sessional		1.50	0.75
3	**ICE-4103**	Cellular and Mobile Communication	ICE-3209	3.00	3.00
4	**ICE-4104**	Cellular and Mobile Communication Sessional		1.50	0.75
5	**ICE-4105**	Information Theory and Coding	Stat-2201	3.00	3.00
6	**ICE-4106**	Information Theory and Coding Sessional		1.50	0.75
7	**ICE-4107**	Cryptography and Computer Security		3.00	3.00
8	**ICE-4108**	Cryptography and Computer Security Sessional		1.50	0.75
9	**ICE-41xx**	**Optional-I**		3.00	3.00
10	**ICE-4110**	Viva-voce		1.50	0.75
			Total ➔	**22.5**	**18.75**

**B.Sc. (Engineering) courses for 4th year 2nd semester**
Sl.	**Course Code**	**Course Title**	Prerequisite Course	**Contact Hrs/week**	**Credits**
1.	**ICE-4201**	Wireless Communication	ICE-4103	3.00	3.00
2.	**ICE-4202**	Wireless Communication Sessional		1.50	0.75
3.	**ICE-4203**	System Analysis and Software Testing		3.00	3.00
4.	**ICE-4204**	System Analysis and Software Testing Sessional		1.50	0.75
5.	**ICE-4205**	Neural Networks	ICE-3101	3.00	3.00
6.	**ICE-4206**	Neural Networks Sessional		1.50	0.75
7.	**ICE-42xx**	**Optional-II**		3.00	3.00
8.	**ICE-42xx**	**Optional-II**		1.50	0.75
9.	**ICE-42xx**	**Optional-III**		3.00	3.00
10.	**ICE-4210**	Thesis		3.00	3.00
11.	**ICE-4211**	Viva-voce		1.50	0.75
			Total ➔	**25.5**	**21.75**

List of Optional Courses

Optional-I

Optional-I should be selected from the following courses:

Sl.	Course Code	Course Title	Contact Hrs./week	Credit
1.	ICE-4112	Advanced Computer Networks	3	3
2.	ICE-4113	Management Information System	3	3
3.	ICE-4114	E-Commerce and E-Governance	3	3
4.	ICE-4115	Information Security and Cyber Laws	3	3

Optional-II

Optional-II should be selected from the following courses:

Sl.	Course Code	Course Title	Contact Hrs./week	Credit
1.	ICE-4212	Microwave and Fiber Optic Communication	3	3
2.	ICE-4213	Microwave and Fiber Optic Communication Sessional	1.50	0.75
3.	ICE-4214	Computer Vision	3	3
4.	ICE-4215	Computer Vision Sessional	1.50	0.75
5.	ICE-4216	Natural Language Processing	3	3
6.	ICE-4217	Natural Language Processing Sessional	1.50	0.75
7.	ICE-4218	Design of VLSI Circuits and Systems	3	3
8.	ICE-4219	Design of VLSI Circuits and Systems Sessional	1.50	0.75

Optional-III

Optional-III should be selected from the following courses:

Sl.	Course Code	Course Title	Contact Hrs./week	Credit
1.	ICE-4220	Cloud Computing	3	3
2.	ICE-4221	Radar and Satellite Communication	3	3
3.	ICE-4222	Biomedical Engineering	3	3
4.	ICE-4223	Mobile Computing	3	3
5.	ICE-4224	Advanced Robotics	3	3