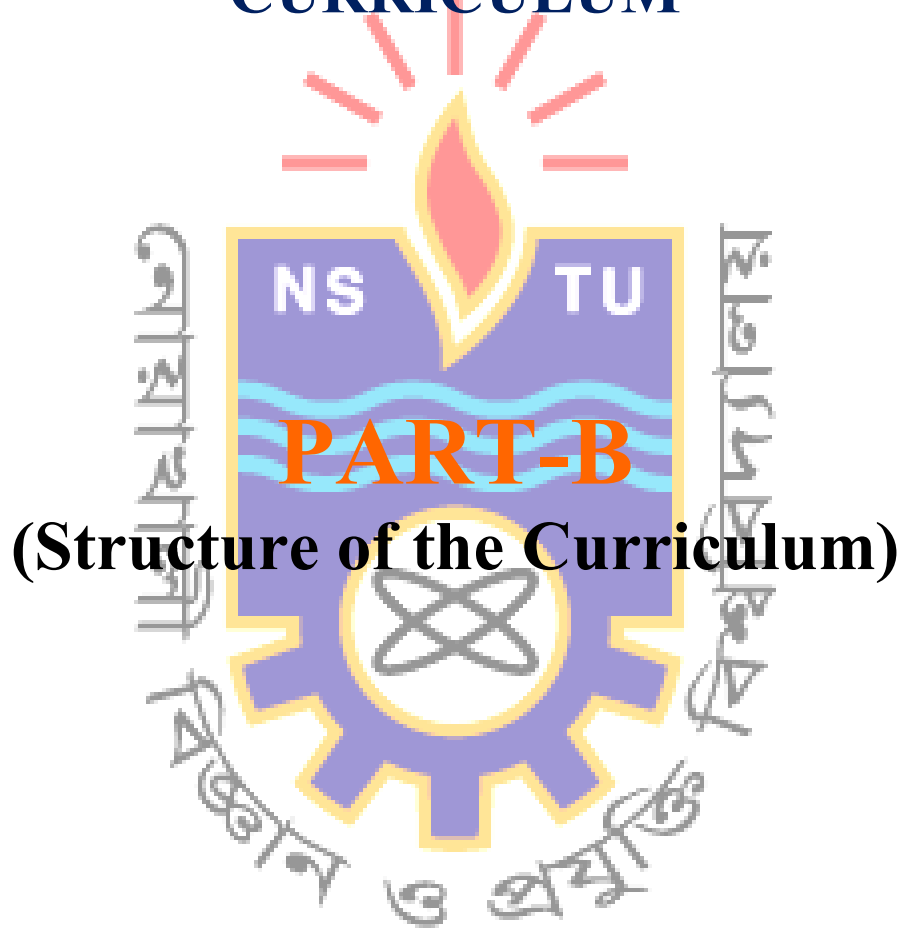


OUTCOME BASED EDUCATION (OBE) CURRICULUM





OBE Curriculum

16. Structure of the Curriculum

a) Duration of the Program	Years: 4 (Four)	Term: 8 (Eight)
b) Admission Requirements	i. Admission to the program requires a minimum of twelve years of schooling. ii. The candidate to be passed SSC and HSC from the science group with a minimum GPA of 3.5 iii. Participation in Mathematics is mandatory in the Admission Test or GST/NSTU Exam.	
c) Total Minimum Credit Requirement to Complete the Program	157.00	
d) Total Class Weeks in a Term	14	
e) Minimum CGPA Requirements for Graduation	2.20	
f) Maximum Academic Years of Completion	Six Year	

g) Area-wise Credit Distribution				
Area	Course Type	Number of	Credits	Total
General Education (GED) Courses**	Theory	13	33	36.75
	Sessional	3	3.75	
Core/Compulsory Courses	Theory	25	71.5	105.25
	Sessional	32	33.75	
Optional/Elective Courses	Theory	3	9	11.25
	Sessional	3	2.25	
Capstone Courses***	Sessional	5	8.75	8.75
Total		84	162	162
** 19.60% from GED				

*** Project and Thesis, Industrial Training, Field Trip, Software development project



OBE Curriculum

17. Year/Term-wise Distribution of Courses

Year I Term I		
Course Code	Course Title	Credits
ICE 1101	Information Technology Fundamentals	2
ICE 1103	Structured Programming Language	3
ICE 1104	Structured Programming Language Sessional	1.5
ICE 1105	Basic Electrical and Electronics Engineering	3
ICE 1106	Basic Electrical and Electronic Engineering Sessional	1.5
MATH 1111	Differential and Integral Calculus, and Coordinate Geometry	3
ICE 1108	Engineering Drawing and CAD Sessional	1.5
PHY 1103	Physics	3
PHY 1104	Physics Sessional	0.75
ICE 1100	Viva-Voce	0.75
Total =		20

Year I Term II		
Course Code	Course Title	Credits
ICE 1201	Object Oriented Programming Language	3
ICE 1202	Object Oriented Programming Language Sessional	1.5
ICE 1203	Discrete Mathematics	3
ICE 1205	Data Structures and Algorithms	3
ICE 1206	Data Structures and Algorithms Sessional	1.5
HUM 1207	Industrial Management and Accounting	2
MATH 1211	Differential Equations and Linear Algebra	3
HUM 1209	Technical & Communication English	2
HUM 1210	Developing English Skills Sessional	1.5
ICE 1200	Viva-Voce	0.75
Total =		21.25

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Year II Term I		
Course Code	Course Title	Credits
ICE 2101	Computer Architecture	2
ICE 2103	Digital Logic Design	3
ICE 2104	Digital Logic Design Sessional	1.5
ICE 2105	Data Communication	3
ICE 2106	Data Communication Sessional	0.75
ICE 2107	Electronic Devices and Circuits	3
ICE 2108	Electronic Devices and Circuits Sessional	0.75
ICE 2110	Software Development Project	0.75
MATH 2111	Vector Analysis and Numerical Analysis	3
HUM 2109	Bangladesh Studies (History of Independence)	2
ICE 2112	Field Trip	1
ICE 2100	Viva-Voce	0.75
	Total =	21.5

Year II Term II		
Course Code	Course Title	Credits
ICE 2201	Operating System	3
ICE 2202	Operating System Sessional	1.5
ICE 2203	Microprocessors and Microcontrollers	3
ICE 2204	Microprocessors and Microcontrollers Sessional	1.5
ICE 2205	Database Management Systems	3
ICE 2206	Database Management Systems Sessional	1.5
ICE 2208	Advance Programming Sessional	1.5
MATH 2211	Laplace Transformation, Fourier Series and Complex Variables	3
HUM 2209	Professional Ethics and Environmental Protection	2
ICE 2200	Viva-Voce	0.75
	Total =	20.75

Year III Term I		
Course Code	Course Title	Credits
ICE 3101	Digital Signal Processing	3
ICE 3102	Digital Signal Processing Sessional	0.75
ICE 3103	Web Programming	3
ICE 3104	Web Programming Sessional	1.5
ICE 3105	Microwave Engineering	3
ICE 3106	Microwave Engineering Sessional	0.75
MATH 3111	Statistics	3
HUM 3107	Engineering Economics	2
ICE 3100	Viva-Voce	0.75
	Total =	17.75

OBE Curriculum



Year III Term II		
Course Code	Course Title	Credits
ICE 3201	Artificial Intelligence	3
ICE 3202	Artificial Intelligence Sessional	1.5
ICE 3203	Embedded Systems and Internet of Things	3
ICE 3204	Embedded Systems and Internet of Things Sessional	1.5
ICE 3205	Computer Networks	3
ICE 3206	Computer Networks Sessional	1.5
ICE 3207	Wireless and Mobile Communication	3
ICE 3208	Wireless and Mobile Communication Sessional	0.75
ICE 3210	Research Methodology and Technical Writing	1.5
ICE 3212	Industrial Training	1
ICE 3200	Viva – Voce	0.75
	Total =	20.5

Year IV Term I		
Course Code	Course Title	Credits
ICE 4101	Software Engineering	3
ICE 4102	Software Engineering Sessional	0.75
ICE 4103	Antenna and Satellite Communication	3
ICE 4104	Antenna and Satellite Communication Sessional	0.75
ICE 4105	Simulation and Modeling	2
ICE 4106	Simulation and Modeling Sessional	0.75
ICE 41XX	Course from Option–I (Select any one course)	3
ICE 41XX	Course from Option–I Sessional	0.75
ICE 41XX	Course from Option–I (Select any one course)	3
ICE 41XX	Course from Option–I Sessional	0.75
ICE 4126	Project and Thesis	2
ICE 4100	Viva–Voce	0.75
	Total =	20.5

Option I (Select any two courses with related Sessional)		
Course Code	Course Title	Credits
ICE 4107	Machine Learning	3
ICE 4108	Machine Learning Sessional	0.75
ICE 4109	Robotics	3
ICE 4110	Robotics Sessional	0.75
ICE 4111	Data Mining	3
ICE 4112	Data Mining Sessional	0.75
ICE 4113	Computer Graphics	3
ICE 4114	Computer Graphics Sessional	0.75

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ICE 4115	VLSI Design	3
ICE 4116	VLSI Design Sessional	0.75
ICE 4117	Bioinformatics	3
ICE 4118	Bioinformatics Sessional	0.75
ICE 4119	Peripheral and Interfacing	3
ICE 4120	Peripheral and Interfacing Sessional	0.75
ICE 4121	Mobile Applications Development	3
ICE 4122	Mobile Applications Development Sessional	0.75
ICE 4123	Data Science and Big data Analytics	3
ICE 4124	Data Science and Big data Analytics Sessional	0.75

Year IV Term II

Course Code	Course Title	Credits
ICE 4201	Optical Communication	3
ICE 4202	Optical Communication Sessional	0.75
ICE 4203	Information Security and Cryptography	3
ICE 4204	Information Security and Cryptography Sessional	0.75
ICE 4205	Multimedia Communication	3
ICE 4206	Multimedia Communication Sessional	0.75
ICE 42XX	Course from Option-II (Select any one course)	3
ICE 42XX	Course from Option-II Sessional	0.75
ICE 4222	Project and Thesis	4
ICE 4200	Viva-Voce	0.75
Total =		19.75

Optional-II (Select any one course with related Sessional)

Course Code	Course Title	Credits
ICE 4207	Digital Image Processing	3
ICE 4208	Digital Image Processing Sessional	0.75
ICE 4209	Information System and Design	3
ICE 4210	Information System and Design Sessional	0.75
ICE 4211	E-commerce and E-governance	3
ICE 4212	E-commerce and E-governance Sessional	0.75
ICE 4213	Distributed and Parallel Computing	3
ICE 4214	Distributed and Parallel Computing Sessional	0.75
ICE 4215	Nanoscience and Nanotechnology	3
ICE 4216	Nanoscience and Nanotechnology Sessional	0.75
ICE 4217	Natural Language Processing	3
ICE 4218	Natural Language Processing Sessional	0.75
ICE 4219	Biomedical Engineering	3
ICE 4220	Biomedical Engineering Sessional	0.75