

Semester 1	Code	Course Title	Pre Req.	Credits
	ENG 1101	English Reading Skills and Public Speaking	N/A	3/Lab
	PHY 1101	Physics 1	N/A	3
	PHY 1102	Physics 1 Lab	N/A	1
	CHEM 1101	Chemistry	N/A	3/Lab
	MAT 1102	Differential Calculus and Co-Ordinate Geometry	N/A	3
	COE1102	Introduction to Engineering Studies	N/A	1/ Lab
<b>Total</b>			<b>14</b>	

Semester 2	Code	Course Title	Pre Req.	Credits
	ENG 1202	English Writing Skills and Communication	ENG 1101	3/Lab
	CSC 1103	Introduction to Programming Language	MAT 1102	3
	CSC 1104	Introduction to Programming Language Lab	MAT 1102	1
	PHY 1203	Physics 2	CHEM 1101 & PHY 1101	3
	PHY 1204	Physics 2 Lab	CHEM 1101 & PHY 1102	1
	MAT 1205	Integral Calculus and Ordinary Differential Equations	MAT 1102	3
	BAS 1204	Bangladesh Studies	N/A	3
	EEE 1203	Electrical Circuits 1 (DC)	COE 1102 & PHY 1101	3
	EEE 1204	Electrical Circuits 1 (DC) Lab	COE 1102 & PHY 1102	1
<b>Total</b>			<b>21</b>	

Semester 3	Code	Course Title	Pre Req.	Credits
	MAT 2101	Complex Variable, Laplace Transform and Z -Transform	MAT 1205	3
	CSC 1201	Data Structure	CSC 1103	3
	CSC 1202	Data Structure Lab	CSC 1104	1
	CSC 2101	Algorithm	CSC 1201 & CSC 1202	3/Lab
	EEE 2101	Electrical Circuits 2 (AC)	EEE 1203	3
	EEE 2102	Electrical Circuits 2 (AC) Lab	EEE 1204	1
	CSC 1204	Discrete Mathematics	MAT 1102	3
	EEE 2103	Electronic Devices	EEE 2101	3
EEE 2104	Electronic Devices Lab	EEE 2102	1	
<b>Total</b>			<b>21</b>	

Semester 4	Code	Course Title	Pre Req.	Credits
	MAT 2202	Matrices, Vectors and Fourier Analysis	MAT 2101	3
	EEE 2209	Analog Electronics	EEE 2103	3
	EEE 2210	Analog Electronics Lab	EEE 2104	1
	EEE 2213	Signals and Linear Systems	MAT 2202	3
	CSC 2208	Operating System	CSC 2101	3/Lab
	BBA 1102	Principles of Accounting	MAT1102	3
	CSC 2107	Introduction to Database	CSC 1201	3/Lab
	EEE 2215	Engineering Ethics and Environmental Protection	COE 1102	1
BAE 2101	Computer Aided Design and Drafting Lab	EEE 1203	1	
<b>Total</b>			<b>21</b>	

Semester 5	Code	Course Title	Pre Req.	Credits
	CSC 2209	Object Oriented Programming 1	CSC 2101	3/Lab
	BBA 3113	Principles of Economics	BBA 1102	2
	ENG 2103	Business Communication	ENG 1202	3
	COE 3101	Digital Logic and Circuits	EEE 2103	3
	COE 3102	Digital Logic and Circuits Lab	EEE 2104	1
	EEE 3103	Digital Signal Processing	MAT 2202 & EEE 2213	3/Lab
	EEE 3110	Engineering Shop	EEE 2209	1
MAT 3101	Numerical Methods for Science and Engineering	MAT 2202	3	
<b>Total</b>			<b>19</b>	

Semester 6	Code	Course Title	Pre Req.	Credits
	MAT 3103	Computational Statistics and Probability	MAT 2101	3/Lab
	MGT 3202	Engineering Management	EEE 2215	3
	CSC 3115	Object Oriented Programming 2	CSC 2209	3/Lab
	COE 3218	Applied Industrial Electronics Lab	EEE 2210	1/Lab
	COE 3201	Data Communication	EEE 2209	3/Lab
	EEE 4101	Modern Control Systems	EEE 2213	3
	EEE 4102	Modern Control Systems Lab	EEE 2213	1
<b>Total</b>			<b>17</b>	

Semester 7	Code	Course Title	Pre Req.	Credits
	COE 4000	Capstone Project	105 credits	1
	COE 4101	Microprocessor and Embedded System	COE 3101 & CSC 2209	3/Lab
	COE 4105	VLSI Circuit Design	COE 3101	3/Lab
	COE 4103	Computer System Architecture	COE 4101	3/Lab
	CSC 3224	Computer Graphics	CSC 2101 & MAT2202	3/Lab
	COE 4111	Elective 1		3/Lab
COE 4113	Elective 2		3/Lab	
<b>Total</b>			<b>19</b>	

Semester 8	Code	Course Title	Pre Req.	Credits
	COE 4000	Capstone Project	EEE 2215 & ENG 2103	2
	COE 4001	Internship/Seminar/Workshop	EEE 2215 & ENG 2103	1
	COE 4201	Digital Design with System Verilog, VHDL and FPGAs	COE 4105	3/Lab
	CSC 4121	Artificial Intelligence and Expert System	CSC 3115	3/Lab
	COE 4211	Elective 3		3/Lab
	COE 4213	Elective 4		3/Lab
<b>Total</b>			<b>15</b>	

**Total Credit: 147**

## Computer Engineering with Major

### Major in Biomedical Engineering

Code	Course Title	Pre Req.	Credits
COE 4101	Biomechanics	EEE 4101	3
COE 4103	Biomedical Informatics	CSC 2209	3
EEE 4229	Biomedical Instrumentation, Measurement and Design	COE 3218	3/Lab
COE 4203	Biomedical Image Processing	COE 4101	3/Lab

### Major in Electronics, IC Design and Embedded System

Code	Course Title	Pre Req.	Credits
EEE 4221	Optoelectronic Devices	COE 3201	3/Lab
CSC 4253	Embedded Technologies	EEE 4233	3/Lab
EEE 4211	Measurement and Instrumentation	EEE 4101	3/Lab
EEE 4229	Biomedical Instrumentation, Measurement and Design	COE 3218	3/Lab

### Major in Communication Engineering

Code	Course Title	Pre Req.	Credits
EEE 3107	Electromagnetic Fields and Waves	PHY 1203 & MAT 2202	3
EEE 4209	Telecommunications Engineering	COE 3201	3/Lab

Code	Course Title	Pre Req.	Credits
EEE 4205	Microwave Engineering	COE 3201	3/Lab
EEE 4223	Cellular Mobile Communications	EEE 4209	3/Lab

### Elective Subjects from EEE

Code	Course Title	Pre Req.	Credits
EEE 4221	Optoelectronic Devices	EEE 3215	3/Lab
BAE 1201	Basic Mechanical Engineering	PHY 1101	3
EEE 4205	Microwave Engineering	COE 3201	3/Lab
EEE 4229	Biomedical Instrumentation, Measurement and Design	EEE 3218	3/Lab
EEE4235	Robotics Engineering	EEE 4101	3/Lab
CSC3114	Software Engineering	CSC 2207	3/Lab

Code	Course Title	Pre Req.	Credits
MMC4003	Introduction to Animation	CSC 2207	3/Lab
EEE 4109	Computer Interface Design	EEE 4103	3/Lab
EEE 4239	Nanotechnology for Engineers	COE 4105	3/Lab
EEE 4241	Mixed Signal Analog Circuits	COE 4105	3/Lab
EEE 4243	Intelligent Robotics and Automation	EEE 4101	3/Lab

### Elective Subjects from CSE

Code	Course Title	Pre Req.	Credits
CSC 2210	Object Oriented Analysis and Design	CSC 2107	3
CSC 3114	Software Engineering	CSC 2210	3
CSC 4133	Software Quality and Testing	CSC 3114	3
CSC 3116	Computer Networks	COE 3201	3/Lab
CSC 3223	Advance Computer Networks	CSC 3116	3
CSC 3231	Network Security	CSC 3223	3
CSC 3222	Web Technologies	CSC 3115	3/Lab
CSC 4180	Advance Topics in Programming 1	CSC 3115	3

Code	Course Title	Pre Req.	Credits
CSC 4181	Advance Topics in Programming 2	CSC 3115	3
CSC 4182	Advance Topics in Programming 3	CSC 3222	3
CSC 2212	Advance Database Management	CSC 2107	3/Lab
CSC 4139	Data Warehouse and Data Mining	CSC 4121 & CSC 2107	3
CSC 4140	Human Computer Interaction	CSC 4121	3
CSC 4138	Computer Vision And Pattern Recognition	CSC 3224 & CSC 4121	3
CSC 4141	Linear Programming	CSC 4121 & MAT 3101	3

## Computer Engineering with Minor

### Minor in 3D Modelling and Animation

Code	Course Title	Pre Req.	Credits
MMC 4119	Introduction to Animation	CSC 3115	3
MMC 4220	Animation Production	MMC 4119	3
	<i>Elective 1 for Minor*</i>		
	<i>Elective 2 for Minor*</i>		

**Note:** CoE Students may take a Minor in **3D Modeling and Animation** by completing additional two mandatory courses (MMC 4119 : Introduction to Animation, and MMC 4220: Animation Production) and two elective courses from the list offered by the Media and Mass Communication (MMC) department of AIUB.

### List of elective courses

Code	Course Title	Pre Req.	Credits
MMC 4118	Introduction to Drawing and Design	BAE 2101 & MMC 4119	3
MMC 4221	3D Character Animation	MMC 4120	3
MMC 4222	Special and Visual Effects	MMC 4119 & MMC 4220	3
MMC 4223	Writing for Animation	MMC 4119 & MMC 4220	3
MMC 4224	Advance Animation and Set-Up	MMC 4119 & MMC 4220	3
MMC 4225	3D Character Modeling	MMC 4119 & MMC 4220	3
MMC 4226	Advance 3D Character Modeling and Lighting	MMC 4119 & MMC 4220	3