

## 2017 Syllabus amended in 2019



Bachelor of Architecture

Department of **ARCHITECTURE**

Military Institute of science and Technology,  
Mirpur Cantonment,  
Dhaka 1216

**THE COMMITTEE OF COURSES**

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3. Prof. Dr. Md. Ashikur Rahaman Joarder, Dept. of Architecture, BUET

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## CHAPTER 01: INTRODUCTION

### 1.1 INTRODUCTION.....

Military Institute of science and Technology (MIST), the pioneer Technical Institute of Armed Forces, started its journey from 19th April 1998. MIST is located at Mirpur Cantonment, which is on the northwest of Dhaka city. Mirpur Cantonment is well known to be as an Education Village of Bangladesh Armed Forces, a hub of knowledge for military and civil professionals. At present the institute has twelve degree awarding departments (CE, CSE, EECE, ME, AE, NAME, ARCH, BME, NSE, EWCE, IPE and PME). MIST has launched the Bachelor of Architecture (B. Arch.) Degree Program from January 2015.

**Vision:** Architecture, the science and art of designing and realizing buildings, is an academic field with its own identity. An important objective of architectural education is to construct theories related to the foundations of the domain of architecture. The way form, construction and function are related is given new meaning, particularly now society has a growing interest in the practical value, the future value and the cultural value of buildings. The Department of Architecture at MIST aims to be the leading Architectural school in Bangladesh in the provision of quality education and the development of responsible, educated and creative architecture and design professionals who are able to create a better built environment through unique and effective architectural and artistic ideas, designs and solutions.

**Mission:** The mission of the Department of Architecture of MIST is to disseminate and improve the knowledge of architecture, art and design. Its main aim is to provide a balanced and integrated curriculum which enables the graduates to combine the theoretical and practical skills in finding unique and realistic solutions to challenging architecture and design problems facing their society. It also aims to insure that its graduates are equipped with intellectual capabilities and professional skills to create a better world through unique and effective ideas and solutions. And to have a direct interaction and relationship with the profession through consultations, research, and training to enable the Department and the job market to benefit through the enhancement of the architecture and design profession in Bangladesh.

## 1.2 GENERAL OVERVIEW OF BACHELOR DEGREE PROGRAM.....

All enrolled students for the five (5) years' Bachelor of Architecture (B.Arch.) program shall have to complete minimum **189.0** credit hours. There will be total of **16.0** credit hours of **General Education** (Human Science) courses of 16.0 contact hours, **82.0** credit hours of **Design** courses with the 123 contact hours, **21.0** credit hours of **Design Communication studios** 42.0 contact hours, **20.0** credit hours of **Technical System** Courses with 20.0 contact hours, **16.0** credit hours of **History, Human Behavior & Environment** courses with 16.0 contact hours and **32.0** credit hours of **Design Related theory** courses with the necessary contact hours of 32.0 and **2.0** credit of **Practice** with 2.0 contact hours to complete the program. Students of the program need to earn minimum CGPA of 2.20 to obtain the degree.

## CHAPTER 02: SUMMARY OF UNDERGRADUATE COURSES AND CREDITS

### 2.1 TYPES OF COURSES.....

The courses included in the undergraduate curricula are divided into the following groups:

\* **Core Courses**

In each discipline, a number of courses are identified as core courses, which form the nucleus of the respective bachelor's degree program. A student has to complete the entire designated core courses of his/her discipline.

\* **Prerequisite Courses**

Some of the core courses are identified as prerequisite courses for a specific subject. A prerequisite course is one, which is required to be completed before some other course(s) can be taken.

\* **Elective Courses**

Apart from the core courses, the students can choose from a set of Elective courses on the basis of proposed courses by the semester.

\* **Additional Elective Courses (open credit)**

Apart from the required courses for the degree of Bachelor of Architecture (B.Arch.), the students can choose from a set of Additional Elective courses on the basis of proposed courses by the semester as open credit courses. These courses will help the students for future higher education background.



**2.2 SUMMARY OF COURSES AND CREDITS .....**

		Offered Cr.	Required Cr.	Hr.
Core Sessional	First sessional	82.0	82.0	123.0
	Design Communication studios	21.0	21.0	42.0
	<b>Total Cr. &amp; Cr. Hr. Sessional</b>	<b>103</b>	<b>103</b>	<b>165.0</b>
Core Theory	General Education	16.0	16.0	16.0
	Design Related Theories	20.0	20.0	20.0
	Technical System	20.0	20.0	20.0
	History, Human Behavior & Environment	12.0	12.0	12.0
	Practice	2.0	2.0	2.0
	<b>Total Cr. &amp; Cr. Hr. Core Theory</b>	<b>70.0</b>	<b>70.0</b>	<b>70.0</b>
Elective Theory	General Education	4.0	2.0	2.0
	Technical System	-	-	-
	Design Related Theories	38.0	12.0	12.0
	History, Human Behavior & Environment	6.0	2.0	2.0
	<b>Total Cr. &amp; Cr. Hr. Elec. Theory</b>	<b>48.0</b>	<b>16</b>	<b>16</b>
	<b>Total Cr. &amp; Cr. Hr. of Bachelor of Architecture (B.Arch.) Program</b>	<b>221.0</b>	<b>189.0</b>	<b>251</b>

**2.3 LIST OF BACHELOR COURSES.....**

<b>a. General Education.</b>					
<b>Course Code</b>	<b>Course name</b>		<b>Type of the course</b>	<b>Contact hour</b>	<b>Credit hour</b>
HUM 1111	English		Theory	2.0	2.0
MATH 1111	Mathematics		Theory	2.0	2.0
PHY 1211	Physics		Theory	2.0	2.0
HUM 1213	Sociology		Theory	2.0	2.0
HUM 2111	Logic and Philosophy	Electives	Theory	2.0	2.0
HUM 2113	Psychology & Behavior				
HUM 4211	Economics		Theory	2.0	2.0
HUM 4213	Project Management		Theory	2.0	2.0
HUM 5111	Accounting		Theory	2.0	2.0
ARCH 5175	Research Methodology		Theory	2.0	2.0
<b>Total</b>				<b>18.0</b>	<b>18.0</b>

<b>b. Core Sessional: Design Studios.</b>					
<b>Course Code</b>	<b>Course name</b>		<b>Type of the course</b>	<b>Contact hour</b>	<b>Credit hour</b>
ARCH 1102	Design Studio I		Studio	9.0	6.0
ARCH 1202	Design Studio II		Studio	9.0	6.0
ARCH 2102	Design Studio III		Studio	12.0	8.0
ARCH 2202	Design Studio IV		Studio	12.0	8.0
ARCH 3102	Design Studio V		Studio	12.0	8.0
ARCH 3202	Design Studio VI		Studio	12.0	8.0
ARCH 4102	Design Studio VII		Studio	12.0	8.0

ARCH 4202	Design Studio VIII	Studio	12.0	8.0
ARCH 5102	Design Studio IX	Studio	15.0	10.0
ARCH 5202	Design Studio X	Studio	18.0	12.0
ARCH 5208	Design Studio X (Thesis): Alternative to Arch 5202 Design Studio X			
<b>Total</b>			<b>123.0</b>	<b>82.0</b>

### c. Core Sessional : Design Communication Studios

Course Code	Course name	Type of the course	Contact hour	Credit hour
ARCH 1104	Architectural Graphics I	Studio	6.0	3.0
ARCH 1204	Architectural Graphics II	Studio	6.0	3.0
ARCH 1230	Computer Applications I	Studio	3.0	1.5
ARCH 2130	Computer Applications II	Studio	3.0	1.5
ARCH 2104	Graphic Art & Sculpture	Studio	3.0	1.5
ARCH 2230	Computer Applications III	Studio	3.0	1.5
ARCH 2204	Photography & Film	Studio	3.0	1.5
ARCH 3104	Landscape Design Studio	Studio	3.0	1.5
ARCH 3204	Working Drawing I: Construction Drawing	Studio	3.0	1.5
ARCH 4104	Working Drawing II: Production Drawing	Studio	3.0	1.5
ARCH 4204	Interior Design Studio	Studio	3.0	1.5
ARCH 5104	Seminar	Studio	3.0	1.5
<b>Total</b>			<b>42.0</b>	<b>21.0</b>

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**d. Design Related Theories**

Course Code	Course name	Type of the course	Contact hour	Credit hour
ARCH 1103	Design Theory I	Theory	2.0	2.0
ARCH 1105	Building & Finish Materials	Theory	2.0	2.0
ARCH 1203	Design Theory II	Theory	2.0	2.0
ARCH 1205	Climate & Design	Theory	2.0	2.0
ARCH 2103	Visual & Sonic Environment(Lighting and Acoustic Design)	Theory	2.0	2.0
ARCH 2105	Basic Planning	Theory	2.0	2.0
ARCH 2203	Landscape Design	Theory	2.0	2.0
ARCH 2205	Design in The Tropics	Electives	Theory	2.0
ARCH 2207	Green and Sustainable Architecture			
ARCH 2209	Vernacular Architecture			
ARCH 3103	Bio-Design and Architecture	Electives	Theory	2.0
ARCH 3105	Advanced Construction and Building Technology			
ARCH 3107	Modular Architecture, Production Line And Customization			
ARCH 3203	Urban Design	Theory	2.0	2.0
ARCH 3205	Advanced Planning	Electives	Theory	2.0
ARCH 3207	Rural Planning			
ARCH 3209	Transportation and Mobility Design			
ARCH 4103	Interior Design	Theory	2.0	2.0
ARCH 4105	Housing	Theory	2.0	2.0
ARCH 4203	Ambient Technology and Building Environment	Electives	Theory	2.0
ARCH 4205	Architecture in Extreme Environments			
ARCH 4207	Spaces & Forms in Architecture			
ARCH 5103	Health Facilities Planning & Design	Electives	Theory	2.0

ARCH 5105	Industrial & Commercial Building Design				
ARCH 5107	Educational, Religious & Recreational Design				
ARCH 5203	Building Safety Design	Electives	Theory	2.0	2.0
ARCH 5205	Disaster & Post Disaster Responsive Architecture				
ARCH 5207	Architecture for Children and Differently Able People				
ARCH 5209	Architectural Conservation				
<b>Total</b>				<b>32.0</b>	<b>32.0</b>

e. Technical System.				
Course Code	Course name	Type of the course	Contact hour	Credit hour
CE 2121	Structure I: Mechanics	Theory	2.0	2.0
CE 2221	Structure II: Basic Mechanics of Solid	Theory	2.0	2.0
CE 3121	Structure III: Reinforced Concrete Design	Theory	2.0	2.0
CE 3221	Structure IV: Elements of Building and Large Span Structure	Theory	2.0	2.0
EWC 2231	Building Services I: Plumbing	Theory	2.0	2.0
ME 3141	Building Services II: Mechanical Equipment	Theory	2.0	2.0
EECE 3251	Building Services III: Electrical Equipment	Theory	2.0	2.0
ARCH 3161	Construction Method & Details	Theory	2.0	2.0
ARCH 4161	Cost Estimation & Specification	Theory	2.0	2.0
ARCH 4261	Survey Techniques	Theory	2.0	2.0
<b>Total</b>			<b>20.0</b>	<b>20.0</b>

**f. History, Human Behavior & Environment**

Course Code	Course name	Type of the course	Contact hour	Credit hour
ARCH 1101	Art & Architecture I	Theory	2.0	2.0
ARCH 1201	Art & Architecture II	Theory	2.0	2.0
ARCH 2101	Art & Architecture III	Theory	2.0	2.0
ARCH 2201	Art & Architecture IV	Theory	2.0	2.0
ARCH 3101	Architecture of Bengal	Theory	2.0	2.0
ARCH 3201	Art & Architecture V	Theory	2.0	2.0
ARCH 4101	Music & Film Appreciation	Electives	Theory	2.0
ARCH 4107	Post Modern Art & Architecture			
ARCH 4109	Contemporary Architectural Theories			
<b>Total</b>			<b>14.0</b>	<b>14.0</b>

**g. Practice**

Course Code	Course name	Type of the course	Contact hour	Credit hour
ARCH 4206	Professional Training	Industrial	0.0	0.0
ARCH 5273	Professional Practice	Theory	2.0	2.0
<b>Total</b>			<b>2.0</b>	<b>2.0</b>

**h. Additional Elective Subjects (Open credit)**

ARCH 0000	Architectural Monument and Heritage	Theory	2.0	2.0
ARCH 0000	Dynamic Architecture	Theory	2.0	2.0
ARCH 0000	Medicare Product Design	Theory	2.0	2.0
ARCH 0000	Seminar on Special Problem	Theory	2.0	2.0

ARCH 0000	Fashion Design	Theory	2.0	2.0
ARCH 0000	Book Keeping	Theory	2.0	2.0
ARCH 0000	Marketing	Theory	2.0	2.0
ARCH 0000	Computer Application IV	Studio	3.0	1.5
ARCH 0000	Workshop on Special Topic	Studio	3.0	1.5
Total			<b>20.0</b>	<b>17.0</b>

\*\* Additional elective subjects can be offered from the above list of courses after level 1- term 2. At least 10 students must be registrar for the course.

**2.4 LIST OF BACHELOR COURSES.....**

		<b>L-1, T-1</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 1102: Design Studio I	6	9
	Design Communication Studios	ARCH 1104: Architectural graphics I	3	6
	Total Cr. & Cr. Hr. Sessional		<b>9.0</b>	<b>15</b>
<b>Core Theory</b>	General Education	HUM 1111: English	2	2
		MATH 1111: Mathematics	2	2
	Design Related Theories	ARCH 1103: Design Theory I	2	2
		ARCH 1105: Building and Finish Material	2	2
	Technical System			
	History, Human Behavior & Environment	ARCH 1101: Art and Architecture I	2	2
Practice				
	Total Cr.& Cr. Hr. Core Theory		<b>10</b>	<b>10</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories			
	History, Human Behavior & Environment			
	Total Cr. & Cr. Hr. Elec. Theory		<b>0</b>	<b>0</b>
	Total Cr. & Cr. Hr. each level		<b>19.0</b>	<b>25</b>



		<b>L-1, T-2</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 1202: Design Studio II	6	9
		pre req. ARCH 1102: Design Studio I pre req. ARCH 1104: Architectural Graphics I		
	Design Communication Studios	ARCH 1204: Architectural graphics II	3	6
		pre req. ARCH 1104: Architectural Graphics I ARCH 1230: Computer Application I		
	Total Cr. Hr. Sessional		<b>10.5</b>	<b>18</b>
<b>Core Theory</b>	General Education	HUM 1213: Sociology	2	2
		PHY 1211: Physics	2	2
	Design Related Theories	ARCH 1205: Climate and Design	2	2
		ARCH 1203: Design Theory II	2	2
	Technical System			
	History, Human Behavior & Environment	ARCH 1201: Art and Architecture II	2	2
Practice				
	Total Cr.& Cr. Hr. Core Theory		<b>10</b>	<b>10</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories			
	History, Human Behavior & Environment			
	Total Cr.& Cr. Hr. Elec. Theory		<b>0</b>	<b>0</b>
	Total Cr. & Cr. Hr. each level		<b>20.5</b>	<b>28</b>

		L-2, T-1	Cr.	Hr.
Core Sessional	Design Studios	ARCH 2102: Design Studio III	8	12
		pre req. ARCH 1202: Design Studio II pre req. ARCH 1204: Architectural graphics II		
	Design Communication Studios	ARCH 2104: Graphic Art & Sculpture	1.5	3
		ARCH 2130: Computer Application II	1.5	3
		pre req. ARCH 1230: Computer Application I		
Total Cr.& Cr. Hr. Sessional			<b>11.0</b>	<b>18</b>
Core Theory	General Education			
	Design Related Theories	ARCH 2103: Visual & Sonic Environment	2	2
		ARCH 2105: Basic Planning	2	2
	Technical System	CE 2121: Structure I	2	2
	History, Human Behavior & Environment	ARCH 2101: Art and Architecture III	2	2
	Practice			
Total Cr. & Cr. Hr. Core Theory			<b>8</b>	<b>8</b>
Elective Theory	General Education	HUM 2111: Logic and Philosophy	2	2
		HUM 2113: Psychology and Behavior		
	Technical System			
	Design Related Theories			
	History, Human Behavior & Environment			
Total Cr.& Cr. Hr. Elec. Theory			<b>2</b>	<b>2</b>
Total Cr.& Cr. Hr. each level			<b>21</b>	<b>28</b>

		<b>L-2, T-2</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 2202: Design Studio IV	8	12
		pre req. ARCH 2102: Design Studio III		
	Design Communication Studios	ARCH 2204: Photography and Film	1.5	3
		ARCH 2230: Computer Application II	1.5	3
	Total Cr. & Cr. Hr. Sessional		<b>11.0</b>	<b>18</b>
<b>Core Theory</b>	General Education			
	Design Related Theories	ARCH 2203: Landscape Design	2	2
	Technical System	CE 2221: Structure II	2	2
		EWC 2231: Building Services I: Plumbing	2	2
	History, Human Behavior & Environment	ARCH 2201: Art and Architecture IV	2	2
	Practice			
	Total Cr. & Cr. Hr. Core Theory		<b>8</b>	<b>8</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories	ARCH 2205: Design in the Tropics	2	2
		ARCH 2207: Green & Sustainable Architecture		
		ARCH 2209: Vernacular Architecture		
History, Human Behavior & Environment				
	Total Cr. & Cr. Hr. Elec. Theory		<b>2</b>	<b>2</b>
	Total Cr. & Cr. Hr. each level		<b>21</b>	<b>28</b>

		<b>L-3, T-1</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 3102: Design Studio V	8	12
		pre req. ARCH 2202: Design Studio IV		
	Design Communication Studios	ARCH 3104: Landscape Design Studio	1.5	3
Total Cr. & Cr. Hr. Sessional			<b>9.5</b>	<b>15</b>
<b>Core Theory</b>	General Education			
	Design Related Theories			
	Technical System	CE 3121: Structure III	2	2
		ME 3141: Building Services II: Mechanical Equipment	2	2
		ARCH 3161: Construction Method & Details	2	2
	History, Human Behavior & Environment	ARCH 3101: Architecture of Bengal	2	2
Practice				
Total Cr. & Cr. Hr. Core Theory			<b>8</b>	<b>8</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories	ARCH 3103: Bio-Design and Architecture	2	2
		ARCH 3105: Advanced Construction & Building Technology		
		ARCH 3107: Modular Architecture, Production line & Customization		
History, Human Behavior & Environment				
Total Cr. & Cr. Hr. Elec. Theory			<b>2</b>	<b>2</b>
Total Cr. & Cr. Hr. each level			<b>19.5</b>	<b>25</b>

		<b>L-3, T-2</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 3202: Design Studio VI	8	12
		pre req. ARCH 3102: Design Studio V		
	Design Communication Studios	ARCH 3204: Working Drawing I: Construction Drawing	1.5	3
	Total Cr. & Cr. Hr. Sessional		<b>9.5</b>	<b>15</b>
<b>Core Theory</b>	General Education			
	Design Related Theories	ARCH 3203: Urban Design	2	2
	Technical System	CE 3221: Structure IV	2	2
		EECE 3251: Building Services III: Electrical Equipment	2	2
	History, Human Behavior & Environment	ARCH 3201: Art and Architecture V	2	2
	Practice			
	Total Cr. & Cr. Hr. Core Theory		<b>8</b>	<b>8</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories	ARCH 3205: Advanced Planning	2	2
		ARCH 3207: Rural Planning		
		ARCH 3209: Transportation and Mobility Design		
	History, Human Behavior & Environment			
	Total Cr. & Cr. Hr. Elec. Theory		<b>2</b>	<b>2</b>
	Total Cr. & Cr. Hr. each level		<b>19.5</b>	<b>25</b>

		<b>L-4, T-1</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 4102: Design Studio VII pre req. ARCH 3202: Design Studio VI	8	12
		ARCH 4104: Working Drawing II: Production Drawing	1.5	3
	Design Communication Studios	ARCH 3204: pre req. Working Drawing I		
Total Cr. & Cr. Hr. Sessional			<b>9.5</b>	<b>15</b>
<b>Core Theory</b>	General Education			
	Design Related Theories	ARCH 4103: Interior Design	2	2
		ARCH 4105: Housing	2	2
	Technical System	ARCH 4161: Cost Estimation & Specification	2	2
	History, Human Behavior & Environment			
Practice				
Total Cr. & Cr. Hr. Core Theory			<b>6</b>	<b>6</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories			
	History, Human Behavior & Environment	ARCH 4101: Music and Film Appreciation	2	2
ARCH 4107: Post Modern Art & Architecture				
ARCH 4109: Contemporary Architectural Theories				
Total Cr.& Cr. Hr. Elec. Theory			<b>2</b>	<b>2</b>
Total Cr. & Cr. Hr. each level			<b>17.5</b>	<b>23</b>

		<b>L-4, T-2</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 4202: Design Studio VIII	8	12
		pre req. ARCH 4102: Design Studio VII		
	Design Communication Studios	ARCH 4204: Interior Design Studio	1.5	3
		ARCH 4206: Professional Training	0.0	0
Total Cr. & Cr. Hr. Sessional			<b>9.5</b>	<b>15</b>
<b>Core Theory</b>	General Education	Hum 4211: Economics	2	2
		HUM 4213: Project Management	2	2
	Design Related Theories			
	Technical System	ARCH 4261: Survey Techniques	2	2
	History, Human Behavior & Environment			
	Practice			
Total Cr. & Cr. Hr. Core Theory			<b>6</b>	<b>6</b>
<b>Elective Theory</b>	General Education			
	Technical System	ARCH 4203: Ambient Technology and Building Environment	2	2
	Design Related Theories	ARCH 4205: Architecture in Extreme Environments		
		ARCH 4207: Spaces & Forms in Architecture		
History, Human Behavior & Environment				
Total Cr. & Cr. Hr. Elec. Theory			<b>2</b>	<b>2</b>
Total Cr. & Cr. Hr. each level			<b>17.5</b>	<b>23</b>

		<b>L-5, T-1</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 5102: Design Studio IX	10	15
		pre req. ARCH 4202: Design Studio VII		
	Design Communication Studios	ARCH 5104: Seminar	1.5	3
Total Cr. & Cr. Hr. Sessional			<b>11.5</b>	<b>18</b>
<b>Core Theory</b>	General Education	ARCH5175: Research Methodology	2	2
		Hum 5111: Accounting	2	2
	Design Related Theories			
	Technical System			
	History, Human Behavior & Environment			
	Practice			
Total Cr. & Cr. Hr. Core Theory			<b>4</b>	<b>4</b>
<b>Elective Theory</b>	General Education			
	Technical System			
	Design Related Theories	ARCH 5103: Health Facilities Planning & Design ARCH 5105: Industrial & Commercial Building Design	2	2
		ARCH 5107: Educational, Religious & Recreational Facilities Design		
	History, Human Behavior & Environment			
Total Cr. & Cr. Hr. Elec. Theory			<b>2</b>	<b>2</b>
Total Cr. & Cr. Hr. each level			<b>17.5</b>	<b>24</b>



		<b>L-5, T-2</b>	<b>Cr.</b>	<b>Hr.</b>
<b>Core Sessional</b>	Design Studios	ARCH 5202: Design Studio X / ARCH 5208: Design Studio X (Thesis)	12	18
		pre req. ARCH 5102: Design Studio IX		
	Design Communication Studios			
	Total Cr. Hr. Sessional		<b>12.0</b>	<b>18</b>
<b>Core Theory</b>	General Education			
	Design Related Theories			
	Technical System			
	History, Human Behavior & Environment			
	Practice	ARCH 5273: Professional Practice	2	2
	Total Cr. Hr. Core Theory		<b>2</b>	<b>2</b>
<b>Elective Theory</b>	General Education			
	Technical System	ARCH 5203: Building Safety Design	2	2
		ARCH 5205: Disaster & Post Disaster Responsive Architecture		
	Design Related Theories	ARCH 5207: Architecture for Children and Differently Able People		
		ARCH 5209: Architectural Conservation		
History, Human Behavior & Environment				
	Total Cr. Hr. Elec. Theory		<b>2</b>	<b>2</b>
	Total Cr. Hr. each level		<b>16</b>	<b>22</b>

**CHAPTER 03: DETAILED CONTENTS OF THE COURSES****3.1 GENERAL EDUCATION.....**

<b>HUM 1111</b>	<b>English</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Developing reading and writing skills in English as a means of facilitating learning and higher education in the chosen field.
	Course Details: Effective and efficient reading, writing, listening and speaking skill. Phonetics, places and manners of articulation. Vocabulary, improvement techniques. Practical grammar for daily communication, sentence construction, common errors etc. Academic essays. Academic, commercial and institutional correspondences.
<b>MATH 1111</b>	<b>Mathematics</b>
	2.0 Credits. 2 Hrs/Wk
	Objectives: Developing understanding of some of the important aspects of Calculus and Solid Geometry.
	Course Details: Calculus: Definition of limit, continuity and differentiability, successive and partial differentiation, maxima and minima. Integration by parts, standard integrals, definite integrals, Area under a plane curve in Cartesian co-ordinates. Solid Geometry: System of coordinates, distance between two points. Section formulae. Direction cosines. Equations of planes and straight lines. Shortest distance between two given straight lines. Standard equations of sphere and ellipsoid, Tangent planes.

<b>PHY 1211</b>	<b>Physics</b>
	2.0 Credits. 2Hrs/Wk
	Objectives: Developing understanding of Physics which relate to Architectural problem solving.
	Course Details: Overview of different theories of Sound, Light and Heat. Effects of Sound, Light and Heat on building and building structures as well as buildings environments regarding user, climate, culture, building type, etc. Advantages and disadvantages of Sound, Light and Heat conditions of a building.
<b>HUM 1213</b>	<b>Sociology</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introducing societies and social concerns inherent to the professional obligations of architects; relating Culture, Families, Work and so on to architecture; understanding urbanism and its architectural implications and learning to include sociological considerations in the design process.
	Course Details: Definition, nature and basic scope of sociology. Early civilization and social structure.. Gender, kinship and descent, economics, politics, religion, survival of ethnic groups etc. Basic ideas on socialist movements. Role of government and politics on society in developing countries. Influence of 19 <sup>th</sup> century industrial revolution, industrialization and current digital revolution on employment, family and social structure, culture urbanization and architecture. Influence of family, population, social structure, work, education, religion, culture, politics etc. on built forms

<b>HUM 2111</b>	<b>Logic and Philosophy</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To understand the nature and scope of different Logics and Philosophy and their relationship to other science.
	Course Details: Introduction to Deductive Logic: Definition and scope of deductive logic; terms and predicable; proposition and opposition of propositions; inference and syllogism. Introduction to inductive Logic: Definition and scope of inductive logic; nature, characteristics and bases of scientific induction; methods of scientific induction; nature of hypothesis; inference and analogy. Introduction to Philosophy: Nature and scope of philosophy; relation of philosophy to other sciences, methods of philosophical inquiries, epistemology, metaphysics. Ideas of great philosophers.
<b>HUM 2113</b>	<b>Psychology &amp; Behavior</b>
	2.0 Credits. 2 Hrs/ Wk
	Objectives: To observe, describe and measure human behavior; to explain different forms of behavior; To understand the needs for personal spaces and territories; To understand visual perception of Architectural spaces and their design determinants.
	Course Details: Introduction to psychology: Nature and scope of psychology; maturation and development; biological bases of behavior. Learning: Factors of learning; classical conditioning; instrumental conditioning; perceptual learning. Motivation and emotion: Nature of motive; fulfillment and frustration of motives; constructive and destructive effects of frustration; nature of emotional development; emotion and personality. Sensory processes and vision: auditory processes, eye and visual processes; perceptual organization and color perception. Social influences on behavior. Conflict and adjustment: Nature of conflict; problems of marital adjustment

<b>HUM 4211</b>	<b>Economics</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about economic theories and practices in relation to architectural design and construction.
	Course Details: Basic concepts of economics. Micro economics: supply and demand and their elasticity, price determination, indifferent curve, marginal analysis, market, production and production function, fixed and variable cost. Macroeconomics: investment, savings, national income analysis. Economic and fiscal policies and impact on development. Relation of economic policies, market situation and construction industries.
<b>HUM 4213</b>	<b>Project Management</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To understand the management of a project from design to completion of construction.
	Course Details: Management: its meaning, scope and objectives. Functions and nature of management. Planning: objectives and types of plans, limits of planning, logistics and strategy. Organizing: grouping of activities, delegation of authority and decentralization. Organization structure- line, staff and functional organization, committee, span of supervision. Direction: motivation and co-ordination. Controlling: steps in control, requirements.

<b>HUM 5111</b>	<b>Accounting</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To Learn about accounting practice.
	Course Details: Principles of Accounting; Accounts transactions, Accounting procedures, financial statements, cost accounting, direct and indirect costs; Overhead Costing; Break even analysis; Construction accounting; Budgeting and budgetary control; Capital budgeting.
<b>ARCH 5175</b>	<b>Research Methodology</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To Learn about basic research methodology.
	Course Details: Introduction to research, different types of research approaches, positivism, phenomenism, research design, hypothesis, variables and indicators. Introduction to data collection methods such as interview, questionnaire survey, observation etc. Theoretical study of sampling techniques, random and non-random sampling and their implication. Understanding of interview techniques, formal and informal interview. Understanding of questionnaire survey techniques, different types of questionnaire survey, dealing with non-response. Introduction to quantitative analysis and simple statistical analysis methods such as mean, median, standard deviation, linier regression etc.

**3.2 DESIGN STUDIO.....**

<b>ARCH 1102</b>	<b>Design Studio I</b>
	6.0 Credits. 9 Hrs/Wk
	Objectives: Developing basic design skills through exercises in free hand drawings, two and three dimensional compositions, model making and other handwork.
	Course Details: This course is the introductory design studio for the undergraduate program in architecture. It is aimed at developing awareness, knowledge and the basic design skills needed in the synthesis of building form. It is rooted in an understanding of architectural design as an activity based on observation, inquiry, and communication. The course employs a series of exercises to develop fundamental design skills, critical thinking and representation, design thinking, and an understanding of how to employ natural and formal ordering systems. Understanding forms, space and order in terms of natural elements. Exercises of two dimensional compositions with various media. Basic compositions with points, straight and curved lines and pure geometric shapes. Study of order and balance, proportion, solid-void relationship, symmetry, movement, flexibility, harmony, and Shade and shadow through different composition.
<b>ARCH 1202</b>	<b>Design Studio II</b>
	6.0 Credits. 9 Hrs/Wk Prereq. ARCH 1102
	Objectives: Understanding forms in nature and in architectural design along with architectural spaces and space defining elements.
	Course Details: Understanding nature in terms of different geometrical forms. Three dimensional compositions in various media with different color schemes; planes, cubes and other geometric forms. Study of order and balance, proportion, symmetry, asymmetry, movement, flexibility, harmony, shade and shadow through three dimensional compositions.

<b>ARCH 2102</b>	<b>Design Studio III</b>
	8.00 Credits. 12 Hrs/Wk Prereq. ARCH 1202
	Objectives: Designing simple Unicellular buildings and Developing an understanding of functional as well as aesthetic values in an architectural design solution.
	Course Details: Development of awareness, perception and practice of fundamentals of architecture: scale, proportion and space, man-space relationship, activity space relationship and form-space relationship will be the main aspect of the studio.
<b>ARCH 2202</b>	<b>Design Studio IV</b>
	8.00 Credits. 12 Hrs/Wk Prereq. ARCH 2102
	Objectives: Introduction to architecture-structure relationships; Understanding of the integration of forms, function and structure in an architectural solution; Learning design of building elements such as car porch, stairs, shading devices etc.; Understanding environmental implications of building design.
	Course Details: Perception and practice of function, form and structure through small design projects. Principles of environmental performance of building, site and surrounding. Analysis of site, circulation pattern and built form. Report writing based on literature survey and field studies. Practice of scale, proportion of space, man-space relationship, activity space relationship and form-space relationship through simple functional design of buildings.



<b>ARCH 3102</b>	<b>Design Studio V</b>
	8.00 Credits. 12 Hrs/Wk Prereq. ARCH 2202
	Objectives: To learn about designing simple building.
	Course Details: Function base design exercises on buildings with a chart of simple functional and technical requirements, emphasizing imaginative concepts for expressing form and functional relationship, spatial quality, indoor- outdoor relationship and structural systems with bigger projects like school, mall, etc.
<b>ARCH 3202</b>	<b>Design Studio VI</b>
	8.00 Credits. 12 Hrs/Wk Prereq. ARCH 3102
	Objectives: To learn about designing complex building.
	Course Details: Techniques and expressions of structures through design exercises on complex building problems emphasizing innovative ideas incorporating formal and functional expressions, environmental qualities, circulation and linkages and organization. High rise buildings, complex, small terminal, public facility projects will be introduced.

<b>ARCH 4102</b>	<b>Design Studio VII</b>
	8.00 Credits. 12 Hrs/Wk Prereq. ARCH 3202
	Objectives: To learn about industrial buildings and urban design.
	Course Details: Understanding urban and regional context of buildings, their relationships, transportations, site aspects and planning. Urban design and master planning. Design of building complexes with reference to socio-cultural aspects associated with the use and user. Urban level projects will be introduced and focused on the redevelopment of a given real site urban project.
<b>ARCH 4202</b>	<b>Design Studio VIII</b>
	8.00 Credits. 12 Hrs/Wk Prereq. ARCH 4102
	Objectives: To learn about health facilities and housing design.
	Course Details: Projects focusing on urban renewal-regeneration, conservation, redevelopment and rehabilitation of city blocks. Investigation, analysis and design of housing. Communities with specific themes and their impact on the immediate environment. Architecture of spiritual and emotional content.
<b>ARCH 5102</b>	<b>Design Studio IX</b>
	10.00 Credits. 15 Hrs/Wk Prereq. ARCH 4202
	Objectives: To learn about the design of religious buildings and recreational complexes.
	Course Details: Identifying design tasks to specific realistic problems in an assigned setting. The assignment will include all design phases from formulation of architectural program to preparation of preliminary working drawings. Emphasis will be laid on design quality in terms of formal, functional and structural aspects to attain professional level of achievement, within the giver socio- economic context.

<b>ARCH 5202</b>	<b>Design Studio X</b>
	12.00 Credits. 18Hrs/Wk Prereq. ARCH 5102
	Objectives: To prepare a complex real site project reflecting the skills acquired over a period of ten semesters.
	Course Details: Identification of viable projects of significance as thesis projects. Preparation of complete design solution based on investigation and analysis of the physical and contextual aspects of the problem, and on the understanding of design considerations of material, structure and form. Stress is given on the objective analysis of the related factors and in transforming them into a tangible architectural solution of professionally acceptable quality.
<b>ARCH 5208</b>	<b>Design Studio X (Thesis)</b>
	Alternative to Arch 5202 Design Studio X
	12.00 Credits. 18 Hrs/Wk Prereq. ARCH 5102
	Objectives: To prepare a complex real site project with real research work.
	Course Details: Thesis is the capstone of the B.ARCH's educational program. Thesis joins the goals of general education and cultural contexts with those of professional education and practice, informing architecture and interior architecture. The studio exercise includes an integrative project, synthesizing technical perspectives appropriate to a design-school graduate. Each student forms and develops a thesis and then frames a design project to test or explore that thesis. The studio includes Design exercises of realistic complexities emphasizing professional level of achievement. Formulation of Architectural programs for given projects. Preparation of design solution and development through the various phases.

**3.3 DESIGN RELATED THEORIES.....**

<b>ARCH 1103</b>	<b>Design Theory I</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introduction to Architecture and Architectural Design in terms of their nature, scope, approaches and the end product. The emphasis is given on the fact that the subject is entirely new to the students with respect to their experiences in the S S C and H S C levels of study.
	Course Details: Design Fundamentals: Motivation behind Designing; Design in Nature as a universal source of Inspiration. Emphasis, Continuity, Balance; Rhythm, Hierarchy, Repetition, Variety and Unity; Order in Architecture: Axis, Balance, Datum; Proportion and Scale; Dominance and Subordination, Color: The Dynamics of Color; Light and Shadow; Form, Space, Enclosure; Spatial Impact: Relaxation, Tension, Fright, Gaiety, Spiritual, Contemplation. Study with relevant Examples from composition, architecture and art.
<b>ARCH 1105</b>	<b>Building &amp; Finish Materials</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introduction Building and Finish materials; Developing and understanding of their nature and use.
	Course Details: Knowledge of different types of building and finish materials. Preparation, manufacture, properties, uses and applications of clay and brick, concrete, timber, glass, tile, paint, terrazzo, plaster, etc. Understanding them on regarding building with climatic and environmental value.

<b>ARCH 1203</b>	<b>Design Theory II</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Comprehending Architecture and Architectural Design through case studies of significant architectural works at home and abroad.
	Course Details: The Axioms, Elements of Design: Use of Point, Line, Plane, Volume, Space and Texture; Light and Shadow; Dominance and Subordination; Circulation Elements, The Building Approach, Path Space Relationship; Building Site Interactions. Study with relevant examples from composition, architecture and art.
<b>ARCH 1205</b>	<b>Climate &amp; Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Learning about climate-building relationships; climate elements and their measurements; solar geometry and its effects on building and thermal comfort in buildings.
	Course Details: Climate and weather. External and internal climatic condition of building and its behavior and performance as a climatic modifier. Climate factors site climate, human comfort criteria and ranges. Principles of thermal design and natural ventilation. Thermal comfort and energy saving considerations for design. Global climate concern, climate change adaptation through design.

<b>ARCH 2103</b>	<b>Visual &amp; Sonic Environment (Lighting and Acoustic Design)</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introduction to light, lighting and vision and their relationships with architecture; sound, noise and acoustic environment in architecture.
	Course Details: Lighting design: visual environment, physical nature of the lighting environment, human responses to environmental vision factors. Daylight in buildings, requirements and prediction tools, design for daylight in the tropic. Light as an architectural element. Tools and techniques of supplementary and artificial lighting. Acoustic design: basic concepts and problems related to architectural acoustics. Properties of sound perception, generation and propagation; behavior of sound in enclosed spaces. Acoustical measurements and calculations. Acoustic design of spaces for speech, music and multipurpose use. Noise, noise control and noise control design.
<b>ARCH 2105</b>	<b>Basic Planning</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introduction to the relationship between physical planning and architecture and origin and evolution of human settlements and cities from the ancient to the contemporary times.
	Course Details: Early History of Human Settlements, Origin and evolution of settlements and cities. Society and City planning during Ancient, Classical, Medieval, Neo-classical period. Industrial revolution and changes in the character of cities. New thoughts and ideas in planning after the industrial revolution. The spatial structure of cities: Concentric zone theory, Sector theory, Multiple nuclei theory.

<b>ARCH 2203</b>	<b>Landscape Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about landscape design and its elements.
	Course Details: Principles and elements of landscape design. Theory and models of design process. Historical references to landscape design practice and its association with art, architecture and urbanism. Biosphere and eco- system. Ecological design and sustainability. Simple practical elements, outdoor space, outdoor activities, circulation and linkage, vegetation and gardening, utility services and maintenance etc.
<b>ARCH 2205</b>	<b>Design in The Tropics</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Learning Comprehensive climate design fir the tropics.
	Course Details: Architectural response to the climatic characteristics of tropical region. Understanding of the problem and mechanism of air and moisture movement, surface condensation, rain penetration, solar radiation, temperature etc. Tools and techniques of moisture control and passive cooling. Understanding of alternative solutions and secondary implications of environmental control decisions.

<b>ARCH 2207</b>	<b>Green and Sustainable Architecture</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introduction to the green and sustainable design and their relationship.
	Course Details: Theories and ideas of green architecture and sustainable architecture. Relation between green and sustainable architecture. Means of green architecture, technologies, green living and design. Introduction. The use of the word Green and Sustainability. How and why? History of Green Building. Green Architecture. Green Building: Basic idea of Technology. Why (Building) and How? Rating tools and Standard. What is Sustainable Design? Building an Environmental Ethic, Climate Related Issues, The Basic Principles of Passive Design, Sustainable Materials, Assessing Green Buildings, And Carbon Neutral Design.
<b>Arch 3103</b>	<b>Bio-Design and Architecture</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about the Bio- design and the relationship with Architecture.
	Course Details: Integration of design with biological systems (plant, animal, etc.), often to achieve better ecological performance. In contrast to design that mimics nature or draws on biology for inspiration, Bio-Design incorporates living organisms into design as building blocks, material sources, energy generators, digital storage systems and air purifiers, just to name a few possibilities.



<b>ARCH 3105</b>	<b>Advanced Construction &amp; Building Technology</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Introduction to the various Advanced construction systems practiced throughout the world.
	Course Details: Basic idea of Different Advanced (Automated and prefabricated) Construction Systems used to building construction in developed countries. On site factory, Logistic, Automation & Robotics in construction. Definitions, types, preparation, manufacture, properties, uses, and applications of stone, metal, reconstructed wood, plastic and rubber. Modular coordination. Pre-fabrication Techniques of building components. Construction techniques of special forms: dome, vault, shell, space frame and metal structure. Techniques of construction with indigenous materials.
<b>ARCH 3107</b>	<b>Modular Architecture, Production Line &amp; Customization</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about the design process and different ideas of Modular product and their production line and customization.
	Course Details: Modular product design and construction, production line design, customization and mass customization, prefabricated modules, transportation, quality, modular production in different industries.

<b>ARCH 3203</b>	<b>Urban Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about Urban Planning and Design
	Course Details: Basic concepts, aims, objective and scope of urban design. Principles of design and aesthetics: unity, proportion, scale, balance, uniformity, grain, texture etc. Perception and meaning of urban spaces form, order and time space relationships. Understanding of urban frame, fabric and function in the wider city framework. Classical models of urban design and influences of Jane Jacobs, Lewis Mumford and Le Corbusier. Urban growth and planning, design and environmental sustainability issues. Basic ideas on smart growth.
<b>ARCH 3205</b>	<b>Advanced Planning</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about theories and practice of Advanced Planning.
	Course Details: Professions in Planning, Categories of Planning, Physical Planning, Basic Components of a formal Physical Plan, Goals and Objectives, Types of Planning, Modes of Planning, The Planning Process, Concepts of Planning, Levels and Sectors of Developmental Planning, Development Plan System, Detail Area Plan, Different Strategies and Techniques of Detail Area Planning, Urban Area Characteristics, Development Control, Environmental issues related to Physical Planning.

<b>ARCH 3207</b>	<b>Rural Planning</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about Rural Planning and Design
	Course Details: Formulation of rural development projects: concepts, principles and techniques. Institutions for rural development. The process of planning. Policies and strategies of rural development. Origin and development of social anthropology: ethnography and ethnology. Tools of anthropological research and their applications in architectural studies and analysis. Mutual interaction of people and their built environment. Impact of social stratification. Pluralism in complex societies.
<b>Arch 3209</b>	<b>Transportation and Mobility Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about different types of transportation and mobility planning design.
	Course Details: Rural, urban and sub-urban, regional level transportation planning, underground, over ground and sky transportation planning. Transportation hub, linkage, node, etc. planning. Mobility; single to multipurpose mobility design, mobility for children, disable and aging society, high-tech mobility, etc.
<b>ARCH 4103</b>	<b>Interior Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Understanding the purpose, design, materials and construction of an interior space.
	Course Details: Purpose of interior space and its relation with users and environment. Interior design principles for different types of spaces and elements such as color, Lighting, furniture, upholstery, floor finish, plantation, decors, non-structural materials like false ceiling, wall panels etc.

<b>ARCH 4105</b>	<b>Housing</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about “Housing” and “Housing development” in Bangladesh.
	Course Details: Housing as a process. Role of housing in development. Housing problems in developing countries. Housing design and aspects of sustainability, density, neighborhood environment etc. Housing in the context of Bangladesh, major policies, reforms, legislation, movements, and comparison between traditional and contemporary housing. Mass housing and problems particularly for lower and middle income people. Public housing, supply, demand, beneficiaries, maintenance etc. housing in the private sector, demand, supply, affordability, beneficiaries etc. and overview of informal settlements.
<b>Arch 4203</b>	<b>Ambient Technology and Building Environment</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Understanding the ambient technologies and their application to the building interior and exterior.
	Course Details: Understanding of different ambient technologies that are used in building environment throughout the world. Advantages and disadvantages of ambient technology. Using different sensor system throughout building environment due to user need. Automated alarming system, voice control, artificial intelligence of the building.

<b>ARCH 4205</b>	<b>Architecture in Extreme Environment</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about different Extreme environment and architectural design solutions.
	Course Details: Building design in hostile and extreme environment like desert, under water (sea bed), volcano, arctic zone, mountains and other planet (Moon, Mars). Architectural Solution for Disaster management after flood, T-sunami, cyclone, etc. Building at coastal area, etc.
<b>ARCH 4207</b>	<b>Spaces&amp; Forms in Architecture</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Understanding of spaces in relation to their forms.
	Course Details: Critical appreciation of Spaces and Forms in Architecture and Urban design; Understanding well-articulated forms and spaces through worldwide built examples, Examples from historical monuments to contemporary icons of residential, educational, recreational, specialized office, civic facilities and etc.
<b>ARCH 5103</b>	<b>Health Facilities Planning &amp; Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Learn about the health facilities planning and design.
	Course Details: Approaches to health facilities planning and design. Philosophy, policies and processes within comparative and historical perspective. Fundamentals of programming, planning and design of health care facilities.

<b>ARCH 5105</b>	<b>Industrial &amp; Commercial Building Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Learn about the Industrial & Commercial Building and design.
	Course Details: Historical development and classification of industrial buildings; site development and master planning; environmental impact assessment; working conditions; criteria for overall design; machinery layout; environmental control; services; fire protection; security and safety measures; signs and symbols; legislation and codes. Case studies. Introduction to commercial building as occupancy and building type. Structural system and space articulation. Service, maintenance and fire protection standards. Natural and mechanized ventilation and lighting. Safety and security. Design criteria for commercial buildings. Case studies.
<b>ARCH 5107</b>	<b>Educational, Religious &amp; Recreational Design</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Learn about the Educational, Religious & Recreational Building and design.
	Course Details: Historical development of educational facilities. Elements of education and classification of educational institutions. Socio economic, cultural and environ-mental aspects influencing educational facilities design. Components of institutions; grouping and organization of spaces. Design criteria: forms, modifiers and standards. Furniture design. Case studies.

<b>ARCH 5205</b>	<b>Disaster &amp; Post Disaster Responsive Architecture</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: Understanding and architectural design considerations for disaster and post disaster response.
	Course Details: Disaster managements through architecture like: building, temporary shelter, temporary bridge, tree house, floating house, boat-house for flood effected area, etc. Modular and temporary building product design for after disaster effects.
<b>ARCH 5207</b>	<b>Architecture for Children and Differently able People</b>
	2.00 Credits. 2 Hrs/Wk
	Objectives: To learn about the design considerations and design for Children and Differently able People
	Course Details: Children psychology and their environment; both interior and exterior. How to design spaces for children of different age group. Ergonomics, security education and recreation of children. Space design for Differently able and autistic people. Ramp, walkway, lift way, ADL (Activities of Daily Living) spaces for Differently able persons.
<b>ARCH 5209</b>	<b>Architectural Conservation</b>
	2.0 Credits. 2 Hrs/ Wk
	Objectives: To learn about the conservation of architectural buildings and sites.
	Course Details: Conservation, its meaning, nature, scope and principles, Preservation, restoration, reconstruction, adaptation, area conservation. History of conservation. Conservation laws and practices. Issues of conservation, legislation, finance, regulating bodies, the role of government and public. Conservation of areas and buildings, Planning controls. Case studies.

<b>ARCH 5203</b>	<b>Building Safety Design</b>
	2.0 Credits. 2 Hrs/ Wk
	Objectives: To learn about the Safety and architectural design considerations of buildings and sites.
	Course Details: Advancement of fire-fighting, fire-related legislation and code, fire pattern, capacity and occupant load, fire load, fire resistance criteria, compartmentation, service core, fireman's lift, fire –fighting lift, means of escape, assembly point, refuge cell, fire classification, fire extinguishing agents and tools, etc. Advancement of earthquake resilient building and building design, design considerations, technologies, process, etc.
<b>ARCH 0000</b>	<b>Architectural Monument and Heritage</b>
	2.00 Credits. 2 Hrs/Wk
	Study of different world famous and local Monuments and Heritage regarding time, concept, society, culture, aesthetic, belief, etc. Category of Monuments, scale and proportion. Potentials of Historical monuments to create images of cities, Behavior to heritage and their conservation.
<b>Arch 0000</b>	<b>Dynamic Architecture</b>
	2.00 Credits. 2 Hrs/Wk
	Architecture to Engineering. Dynamic practice of architecture throughout the world in modern times. Moving towers by Dr. David Fisher. Building with AI (Artificial Intelligence), buildings responding different natural forces like air, rain, sun path orientation, etc. Modern theories of designing Dynamic Building.



<b>Arch 0000</b>	<b>Medicare Product Design</b>
	2.00 Credits. 2 Hrs/Wk
	Knowledge of designing different Medicare products, ADL (Activities of Daily Living) products like Medicare Bath system, Personal hygiene, massage unit, Medicare base home furniture, etc. Medicated Environment space of the building (both interior and exterior).
<b>Arch 0000</b>	<b>Fashion Design</b>
	2.00 Credits. 2 Hrs/Wk
	Introduction of Textile and Lather Technology regarding fashion design. Design of various fabrics in relation to climate and environmental factors. Color and texture schemes. Quality judgment, dress design idea.
<b>Arch 0000</b>	<b>Seminar on Special Problem</b>
	2.00 Credits. 2 Hrs/Wk
	Seminar on special problem; problem selection, analysis, data collection , questionnaires, survey, literature, writing and presentation.
<b>Arch 0000</b>	<b>Book Keeping</b>
	2.00 Credits. 2 Hrs/Wk
	Introduction to book keeping, Theories, book management, documentation, referencing, coding, leveling, etc.
<b>Arch 0000</b>	<b>Marketing</b>
	2.00 Credits. 2 Hrs/Wk
	Introduction to marketing, theories, marketing policy and policy making, goal, process, strategy, etc.

<b>Arch 0000</b>	<b>Computer Application IV</b>
	1.5 Credits. 3 Hrs/Wk
	Introduction to special software related to architectural education and practice i.e. BIM, animation, advanced Revit, advanced AutoCAD, etc.

<b>Arch 0000</b>	<b>Workshop on Special Topic</b>
	1.5 Credits. 3 Hrs/Wk
	Workshop organized on special topic or problem.

### 3.4 DESIGN COMMUNICATION STUDIOS.....

<b>Arch 1104</b>	<b>Architectural Graphics I</b>
	3.00 Credits. 6 Hrs/ Wk
	Techniques of mechanical and freehand drawings for architectural presentation. Lettering and graphic presentation symbols. Multi-view drawings for a building such as plan, elevation and section. Single-view drawings such as axonometric and isometric view. One-point perspective.

<b>Arch 1204</b>	<b>Architectural Graphics II</b>
	3.00 Credits. 6 Hrs/ Wk Prereq. Arch 1104
	Mechanical and free hand architectural drawing. Single view drawing: two and three point perspectives. Shade and shadow and reflection in perspective. Presentation drawing in black and white, and color.

<b>Arch 1230</b>	<b>Computer Applications I</b>
	1.5 Credits. 3 Hrs/ Wk
	Introduction to computers and operating systems. Word processing and spreadsheets and other basic computer applications. Detailed learning of Word, Excel, PowerPoint, Outlook, etc. in terms of paper

writing and formatting, calculation in Excel, referencing, hyperlink documents, etc. Introduction to computer aided design (CAD) and drafting.

<b>Arch 2104</b>	<b>Graphic Art&amp; Sculpture</b>
	1.5 Credits. 3Hrs/ Wk
	Basic techniques used in graphic design. Selection of drawing instruments, surface-s, typography. Graphic reproduction techniques and the pros and cons of the differ-ent systems to achieve the most effective presentation. Sketching as an essential technique to record design ideas during conceptualization. Graphic design of posters, products, display, portfolio. Introduction to computer generated presentation.
<b>Arch 2130</b>	<b>Computer Applications II: Graphics</b>
	1.5 Credits. 3 Hrs/ Wk Prereq. Arch 1230
	Computer graphics and its basics. 2-D and 3-D graphics with the help of computers. To understand & to use graphic software (Photoshop, coral Draw, etc.) in architectural presentation and design.
<b>Arch 2230</b>	<b>Computer Applications III: Software</b>
	1.5 Credits. 3 Hrs/ Wk
	To understand & to use graphic and 3D software in architectural presentation and design.
<b>Arch 3104</b>	<b>Landscape Design Studio</b>
	1.5 Credits. 3 Hrs/ Wk
	Analysis of landscape elements through sketches, drawings and reports on outdoor environment, Site analysis. Application of the principles and techniques of landscape design through design exercises of site planning and area development.

<b>Arch 3204</b>	<b>Working Drawing I: Construction Drawing</b>
	1.5 Credits. 3 Hrs/ Wk
	Design and drawings specifying materials and instructions for construction. Understanding construction process and techniques. The construction drawing will include preparation of working and detail drawings of all building components. Details of drainage, damp-proofing and insulation. Bathroom and kitchen layouts. Application of building codes and bylaws.
<b>Arch 4104</b>	<b>Working Drawing II: Production Drawing</b>
	1.5 Credits. 3 Hrs/ Wk Prereq. Arch 3204
	Design and drawings specifying materials and instructions to manufacturers of building elements, components, fittings and fixtures which are industrially produced. Understanding manufacturing process to generate creative design. The production drawing will include designing with variety of materials and manufacturing processes of a range of building components like door, window, fitting and fixture of functional and decorative nature.
<b>Arch 4204</b>	<b>Interior Design Studio</b>
	1.5 Credits. 3 Hrs/ Wk
	Preparation of interior design drawings for different types of spaces such as office, studio, bank, restaurant, club and shop. Detailed specifications of finish materials for floor, ceiling and wall. Natural and artificial lighting and ventilation. Fixed and movable furniture, decorative element, upholstery, drapery, art work, interior plantation, fountain.
<b>Arch 5104</b>	<b>Seminar</b>
	1.5 Credits. 3 Hrs/ Wk
	Overview of current development in research related to art and architecture. Preparation of research papers including literature search, writing skills and referencing. Verbal and written presentation skills and techniques.

**3.5 TECHNICAL SYSTEM.....**

<b>CE 2121</b>	<b>Structure I: Mechanics</b>
	2.0 Credits. 2 Hrs/ Wk
	Force system; resultants and Components; coplanar Con-current forces; moments of coplanar forces; centroid; moment of Inertia of areas; Fundamental concepts of stress and strain; mechanical properties of materials; Steel, Timber and Concrete.
<b>CE 2221</b>	<b>Structure II: Basic Mechanics of Solid</b>
	2.0 Credits. 2 Hrs/ Wk
	Stresses and strains in members subjected to tension, compression, shear and temperature changes; Shear force and bending moment diagrams for statically determinate beams and frames; Flexural and shearing stresses in beams; Deflection in statically determinate beams by Area-Moment method; Truss Analysis.
<b>CE 3121</b>	<b>Structure III: Reinforced Concrete Design</b>
	2.0 Credits. 2 Hrs/ Wk
	Fundamentals of reinforced concrete design; Concrete and its effective preparation; Concepts of WSD and USD methods; Analysis and design of reinforced beams by USD; Design of slabs, one way and two ways; reinforced concrete columns and buckling; Introduction to Shear-walls, earthquake resistant structural systems.
<b>CE 3221</b>	<b>Structure IV: Elements of Building and large span structure</b>
	2.0 Credits. 2 Hrs/ Wk
	Approximate analysis of multistoried buildings for gravity and lateral loads. Simple analysis of Truss Sections; analysis and preliminary design of steel beams and columns; Introduction to various structural forms and systems; Types of Foundations; Concepts of bearing capacity and settlement and Pilling.

<b>EWC 2231</b>	<b>Building Services I: Plumbing</b>
	2.0 Credits. 2 Hrs/ Wk
	Introduction to plumbing, water requirements, water sources; water supply and distribution in buildings. Sewage and sewer system, building plumbing of multi- storied buildings; rural sanitation programs in Bangladesh.
<b>ME 3141</b>	<b>Building Services II: Mechanical Equipment</b>
	2.0 Credits. 2 Hrs/ Wk
	Review of basic concepts and definitions. Application of air-conditioning. Psychometric. Cooling load calculation, air-conditioning systems, air handling and distribution, design of ducts. Air conditioning equipment. Fire hazards, firefighting methods. Vertical transportation: types of elevators, determination of size and quantity of elevators. Incoming and outgoing traffic handling. Escalators, moving ramps.
<b>EECE 3251</b>	<b>Building Services III: Electrical Equipment</b>
	2.0 Credits. 2 Hrs/ Wk
	Electrical units and standards, electrical networks and circuit theorems. Alternating current RLC series and parallel circuits. Introduction to electrical wiring for residential, commercial and industrial installations and buildings. Illumination and different types of lighting.
<b>ARCH 3161</b>	<b>Construction Method &amp; Details</b>
	2.0 Credits. 2 Hrs/ Wk
	Types of structures and their methods and techniques of construction. Foundation, floor, wall and roof systems. Use of different types of modules. Moisture and thermal protection of floor, wall and roof . Doors and windows. Details of kitchen, bathroom and stair. Elevators and escalators.

<b>ARCH 4161</b>	<b>Cost Estimation &amp; Specification</b>
	2.0 Credits. 2 Hrs/ Wk
	Preparation of tender documents, rules, regulations and obligations. Determination of cost of construction. Cost analysis of the various items of construction. Preparation of schedules. Control of cost. Case studies. Written details answering what, where, when, how in relation to drawn details for building construction. Specifying materials and methods of installation and precautions.
<b>ARCH 4261</b>	<b>Survey Technique</b>
	2.0 Credits. 2 Hrs/ Wk
	Introduction to surveying- principles and techniques of physical surveys. Chain survey, traverse survey, plane table survey, levels and leveling, contours and layout surveys. Research and its types. Design and plan of research-purpose and goal, variables and universal, selection of methods. Design of questionnaire, pretest, pilot survey. Collection and filing of data. Data processing.

### 3.6 HISTORY, HUMAN BEHAVIOR & ENVIRONMENT.....

<b>ARCH 1101</b>	<b>Art &amp; Architecture I</b>
	2.0 Credits. 2 Hrs/ Wk
	Objectives: To learn about the development of Architecture in the Old Historical periods.
	Course Details: Introduction to the history of art and architecture as a perceptual process of evolution through the ancient ages. Critical evaluation of ancient architecture and settlement design of Egyptian, Mesopotamian (Sumerian and Assyrian), Persian, Meso-American, Aegean, Etruscan, and Indus Valley Civilizations. Introduction to classical architecture of Greece and Rome; Study of the potentiality of classical architecture in formation of the ordering principles.

<b>ARCH 1201</b>	<b>Art &amp; Architecture II</b>
	2.0 Credits. 2 Hrs/ Wk
	Objectives: To learn about the development of Architecture in the 4th to the 18th century.
	Course Details: Study of European art and architecture from the 4th to the 18th century. Early Christian, Byzantine, Romanesque, Medieval, Gothic, Renaissance, Baroque and Rococo periods with their context and background.
<b>ARCH 2101</b>	<b>Art &amp; Architecture III</b>
	2.0 Credits. 2 Hrs/ Wk
	Study of art and architecture in the Indian sub- continent with special emphasis on the styles of the Vedic, Buddhist and Hindu periods up to the 17th century.
<b>ARCH 2201</b>	<b>Art &amp; Architecture IV</b>
	2.0 Credits. 2 Hrs/ Wk
	Art and Architecture in the Indian sub- continent from the advent of the Muslims in the 13th Century to the end of the colonial era.
<b>ARCH 3101</b>	<b>Architecture of Bengal</b>
	2.0 Credits. 2 Hrs/ Wk
	Study of society, culture and architecture of Bengal through the ages: Mauryan, Gupta, Pala, Sena, Sultanate, Mughal and Colonial periods. Language, custom, art and literature, and their relevance to architecture and planning.



<b>ARCH 3201</b>	<b>Art &amp; Architecture V</b>
	2.0 Credits. 2 Hrs/ Wk
	Overview of the formative strands of Modern Architecture: Neoclassical architecture, The Bauhaus. Cubism and the new conception of space. Critical appreciation of different forms of Art and Architecture in the 19th and 20th centuries. 19th Century Realism. Impressionism, Post-Impressionism, Fauvism, Expressionism, Cubism, Purism, Orphism, Futurism and Vorticism. The New Collectivity: Art and architecture in the Soviet Union. The Ideal Community, Alternatives to the Industrial City. The International Style, Monumentality etc. Modern Architecture in the USA, Europe, Latin America, Australia and Japan. Modernity, Tradition and Identity in the developing World.
<b>ARCH 4101</b>	<b>Music &amp; Film Appreciation</b>
	2.0 Credits. 2 Hrs/ Wk
	Musical forms. Ingredients of music- sound and time. Indian and western music- melody and harmony. Foundation of sub continental music- ragas system: Dhrupad, Kheyal, Tappaand Thumri. Styles and presentation of vocal and instrumental music. The modern period of Bengali music- the five great composers: Rabindranath, Nazrul, Atul Prashad, D. L. Roy and RajaniKanta. Introduction to western classical music and works of some European masters- Bach, Beethoyen, Handel, Mozart, Tchaikovsky. Invention of film and movie, film in different ages, etc.
<b>ARCH 4107</b>	<b>Post Modern Art &amp; Architecture</b>
	2.0 Credits. 2 Hrs/ Wk
	Rise of Post Modern architecture as a response to the Modern Architecture. Propositions of Post Modern Architecture. Work of Ventury, Graves and others in response to crisis of alienation in modern architecture. Late Modern technological exploration of "Hi-tech" by Foster, rogers, Piano and others. Influence of Poststructuralist ideas in the Avant-grade works of Eisenmann, Gehry, Hadid, Libeskind and others. Rise of self-conscious modernism in Indian subcontinent through the works of Tange, Ando, Kerry Hill and Ken Yang.

<b>ARCH 4109</b>	<b>Contemporary Architectural Theories</b>
	2.00 Credits. 2 Hrs/Wk
	Modern style as a point of departure for new theories. Recent developments in the fields of architecture around the world, by the influence of new technology and changes in contemporary social vocabulary. Impact of globalization and open market system in architecture; Study of Architectural identity and regionalism in architecture; Contemporary Architecture of South Asian.

### 3.7 PRACTICE.....

<b>ARCH 4206</b>	<b>Professional Training</b>
	Non Credits. 8 weeks of of Compulsory training (320 working hours). Prereq. Level- 3 sessional courses
	Non- credit compulsory training. The student is required to work in an architectural firm/organization for a minimum of eight weeks to gain practical experience. This training will include working drawings and site supervision.

<b>ARCH 5273</b>	<b>Professional Practice</b>
	2.0 Credits. 2 Hrs/ Wk
	The role of the architect in the building industry and process; duties, responsibilities and obligations of the architect; general conditions of contract; owner –architect relationship; architectural services; the architect and the public; legal responsibilities of the architect; the architect's office; administration of construction; the architect and his consultants; official correspondence; professional organizations: local and international.