

DEPARTMENT OF ARCHITECTURE SONARGAON UNIVERSITY [SU], DHAKA

Faculty: Science and Engineering

PROGRAM: Bachelor of Architecture (B. Arch.)

PROPOSED REVISED SYLLABUS

By Departmental Syllabus Committee and recommended by 20th Academic Council (dated: 08-06-2021) for the approval of UGC

Duration (minimum): 5-Year (10 Semesters)

Maximum Period of Completion of the Program: 8 (Eight) Years

Admission Requirements: SU-rules or as suggested by UGC

Academic Calendar:

The academic year shall be divided into two regular Semesters (1st/Spring and 2nd/Fall Semesters), each ordinarily having duration of not less than 14 (fourteen) weeks of classes. There shall be a Mid-Semester Examination at about middle of each Semester and a Semester Final Examination at the end of each Semester. The examination will be conducted as per Academic regulations.

Guide line for Classes and Examinations in a Semester:

Total Class in a Semester	: 14 weeks
Recess before Mid-Semester and Semester Final Exams.	: 02 weeks
Time for Mid-Semester and Semester Final Exams.	: about 04 weeks
Publication of Results + Inter-Semester Recess	: 02 weeks

Minimum Requirements for the Degree:

- (i) Completion of 196.00 credits.
- (ii) Minimum credit to be earned from core courses: 155.5 credits
- (iii) Minimum credit to be earned from optional courses: 40.5 credits
- (iv) Passing all courses individually and maintaining a minimum CGPA of 2.25 out of 4.00

Evaluation System:	Continuous Assessment	= 30%
	Mid-Semester Exam.	= 30%
	Semester Final Exam.	= 40%

Continuous Assessment = Class Tests + Assignments/Quiz + Attendance and Class Performance.

Grading System:

Numerical grade	Letter Grade	Grade point
80% or above	A+ (A plus)	4.00
75% to less than 80%	A	3.75
70% to less than 75%	A- (A minus)	3.50
65% to less than 70%	B+ (B plus)	3.25
60% to less than 65%	B	3.00
55% to less than 60%	B- (B minus)	2.75
50% to less than 55%	C+ (C plus)	2.50
45% to less than 50%	C	2.25
40% to less than 45 %	D	2.00
Less than 40%	F	0.00
For Internship	S = Satisfactory or U = Unsatisfactory	

Course Designation and Course Code Numbering Systems:

Each course is designated by a two to four letter code (e.g. Arch, CE, EEE, ME, CSE, NAME, LAW, Hum, Math, Chem, Phy, Ban, etc.) identifying the course offering department or course related department followed by a four digit numbers with the following criteria:

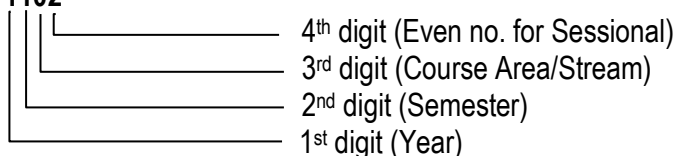
- (i) Arch defines the department of Architecture.
- (ii) The first digit will correspond to the Year (e.g. 1 for 1st year, 2 for 2nd year, 3 for 3rd year, etc.) in which the students normally take the course.
- (iii) The second digit will correspond to the Semester (1 for 1st semester and 2 for 2nd semester) in which the course is normally taken by the students.
- (iv) The third digit will correspond the departmental course of any area/stream.
- (v) The fourth (or last) digit designates the course type (odd digit for theory, even digit for sessional)
- (vi) There is a blank space between departmental code (such as Arch, CE, CSE, Math, Hum) and first digit (viz. Arch 1102, Math 1101).

Example:

For a Typical Sessional Course Code numbering:

Course Title: Design Studio I, Course Code: Arch 1102

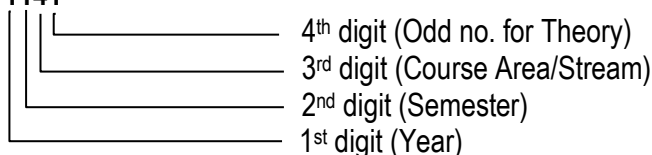
Arch 1102



For a Typical Theory Course Code numbering:

Course Title: Art & Architecture I, Course Code: Arch 1141

Arch 1141



N.B.:

- (1) Teaching for the courses is reckoned in credits and the credits allotted to various courses will be determined by the ACUG (Academic Committee of Undergraduate) with the following guidelines:

Type of Course	Contact Hour	No. of Credit
1. Design Studio	: 1.5 hours/week	1.00
2. Design Support and Elective Studios	: 2 hours/week	1.00
3. Theory	: 1 hour/week	1.00
4. Internship***	: As per approved by UGC	0.00 (Non Credit)

*** refers to Internship of non-credit which will be 40.00 contact hours in 7.5 weeks, will start only after successful completion of 4th Year 1st Semester and be completed before graduation under a full IAB member or one recognized by the international architectural professional body in a foreign nation.

- (2) A course titled Internship (***) is required to be satisfactorily completed by each student through a comprehensive viva-voce on submission of internship portfolio.

- (3) Optional Courses are offered in sets- students are to opt for one from each set according to his / her aptitude.

(4) Course Structure:

Under graduate professional Architecture program (B. Arch.) emphasizes on learning by doing, as such the

laboratory / sessional courses are more than theory courses. In SU's 5 years B. Arch. program 196 credits are to be earned by a student to claim the B. Arch. degree, of which 155.5 credit is assigned to core courses and 40.5 credits are assigned to Optional courses. Main Design courses (Design + Design Communication studios) are 40.82%; Design Support (Core) courses are 2.30%, Elective Studio 10.46%, Internship course is 0.00%, History, Human behavior & Environment 8.16%, Technical System 12.24%, General Education 7.65%, Taught / Seminar (Core) 5.10%, Elective (Taught/Seminar) for GED courses 5.10% & Elective (Taught/Seminar) for Professional courses 5.10%, Practice 3.10%.

There is a flexibility of about 20. 66% to allow the students to choose courses from alternatives depending on their interest and aptitude.

- (5) Students are required to pass the core design studios to be registered for the successive semester.
- (6) Students are required to register to the designated design studio for the specific semester and will not be allowed to take any previous backlogged design studio course at that semester.
- (7) Any optional courses, once registered, must be completed to earn B. Arch. degree.
- (8) All courses offered in first year must be registered.

Comparative Study of Contact hours and Credits between UGC & SU

Courses	Recommended by UGC		Proposed by SU	
Categories	Contact Hours	Credits	Contact hours	Credits
Design + Design Communication Studio	120.0	60.00	120.0	80.00
Design Support (Core)	Not defined	Not defined	09.0	04.50
Electives (Studio)	40.0	20.00	41.0	20.50
Internship	40.0 hours in 7.5 weeks	Non- credit	40.0 hours in 7.5 weeks	Non-credit
History, Human Behavior and Environment (H.H.E)	16.0	16.00	16.0	16.00
Technical Systems	24.0	24.00	24.0	24.00
General Education	14.0	14.00	15.0	15.00
Taught / Seminar (Core)	Not defined	Not defined	10.0	10.00
Electives (Taught / Seminar)	20.0	20.00	20.0	20.00
Practice	06.0	06.00	06.0	06.00
Total	240.0	160.00	261.0 + (***)	196.00

SUMMARY OF UNDERGRADUATE COURSE PLAN

Year/ Semester	Theory Courses			Sessional Courses			Total No. of Courses	Total Credits	Total Contact hours
	No. of Courses	Credits	Contact hours	No. of Courses	Credits	Contact hours			
1-1	05	10.00	10.0	02	07.50	12.0	07	17.50	22.0
1-2	04	09.00	09.0	04	10.50	18.0	08	19.50	27.0
2-1	05	10.00	10.0	03	11.00	18.0	08	21.00	28.0
2-2	05	10.00	10.0	03	11.00	18.0	08	21.00	28.0
3-1	05	10.00	10.0	03	11.00	18.0	08	21.00	28.0
3-2	05	10.00	10.0	03	11.00	18.0	08	21.00	28.0
4-1	06	12.00	12.0	02	09.50	15.0	08	21.50	27.0
4-2	04	08.00	08.0	03	09.50	15.0+***	07	17.50	23.0+***
5-1	03	07.00	07.0	02	12.50	20.0	05	19.50	27.0
5-2	02	05.00	05.0	02	11.50	18.0	04	16.50	23.0
Total	44	91.00	91.0	27	105.00	170.0+***	71	196.00	261.0+***

N.B.: *** refers to Internship of non-credit which will be 40.00 contact hours in 7.5 weeks.

SYLLABUS OF UNDERGRUATE COURSES FOR B. Arch.

Basic Structure of B. Arch. Program

Categories of Courses	Required Credits
A. Design + Design Communication Studios	80.00
B. Design Support (Core)	04.50
C. Electives (Studio)	20.50
D. Internship (***)	Non-credit
E. History, Human Behavior and Environment (H.H.E)	16.00
F. Technical Systems	24.00
G. General Education	15.00
H. Taught / Seminar (Core)	10.00
I. Electives (Taught / Seminar)	20.00
J. Practice	06.00
Total	196.00

SEMESTER-WISE SUMMARY OF COURSES TO BE OFFERED

1st Year 1st Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 1102	Design Studio I	--	--	09.0	6.00	6.00
	02	Arch 1112	Architectural Graphics I	--	--	03.0	1.50	1.50
	03	Arch 1141	Art & Architecture I	02.0	02.00	--	--	2.00
	04	Hum 1161	Fundamentals of English	02.0	02.00	--	--	2.00
	05	Hum 1163	Sociology	02.0	02.00	--	--	2.00
	06	Phy 1161	Physics for Architects	02.0	02.00	--	--	2.00
	07	Arch 1171	Aesthetics & Design I	02.0	02.00	--	--	2.00
Total Core				10.0	10.00	12.0	7.50	17.50
Total Elective				--	--	--	--	--
Total (Core + Elective)				10.0	10.00	12.0	7.50	17.50

Total Contact hrs.: 10.0 (T) + 12.0 (S) = 22.0 hrs./ week

Total Credits : 17.50

No. of Theory Courses :05

No. of Sessional Courses :02

1st Year 2nd Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total Credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 1202	Design Studio II (Preq.: Arch 1102)	--	--	09.0	06.00	06.00
	02	Arch 1212	Architectural Graphics II	--	--	03.0	01.50	01.50
	03	Arch 1241	Environment & Design I: Climate & Design	02.0	02.00	--	--	02.00
	04	Math 1261	Mathematics	02.0	02.00	--	--	02.00
	05	Hum 1261	History of the emergence of Bangladesh	03.0	03.00	--	--	03.00
Total Core				07.0	07.00	12.0	07.50	14.50
Elective Courses	06	Arch 1222	Computer Graphics & Application I	Select any one course		03.0	01.50	01.50
		Arch 1224	Product Design					
	07	Arch 1226	Free Hand Drawing	Select any one course		03.0	01.50	01.50
		Arch 1228	Graphic Reproduction					
	08	Arch 1281	Art Appreciation	02.0	02.00	Select any one course		02.00
		Arch 1283	Music Appreciation					
Total Elective				02.0	02.00	06.0	03.00	05.00
Total (Core + Elective)				09.0	09.00	18.0	10.50	19.50

Total Contact hours: 09.0 (T) + 18.0 (S) = 27.0 hrs./ week

Total Credits : 19.50

No. of Theory Courses :04

No. of Sessional Courses :04

2nd Year 1st Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 2102	Design Studio III (Preq.: Arch 1202)	--	--	12.0	08.00	08.00
	02	Arch 2141	Art & Architecture II	02.0	02.00	--	--	02.00
	03	Arch 2151	Building & Finish Materials	02.0	02.00	--	--	02.00
	04	CE 2151	Structure I	02.0	02.00	--	--	02.00
	05	Arch 2171	Aesthetics & Design II	02.0	02.00	--	--	02.00
Total Core				08.0	08.00	12.0	08.00	16.00
Elective Courses	06	Arch 2122	Computer Graphics & Application II	Select any one course		03.0	01.50	01.50
		Arch 2124	Computational Design					
	07	Arch 2126	Graphic Art	Select any one course		03.0	01.50	01.50
		Arch 2128	Architectural Graphics III					
	08	Arch 2181	Ecology & Ecosystem	02.0	02.00	Select any one course		02.00
		Arch 2183	Tropical Architecture					
Total Elective				02.0	02.00	06.0	03.00	05.00
Total (Core + Elective)				10.0	10.00	18.0	11.00	21.00

Total Contact hrs.: 10.0 (T) + 18.0 (S) = 28.00 hrs./ week

Total Credits : 21.00

No. of Theory Courses :05

No. of Sessional Courses :03

2nd Year 2nd Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total Credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 2202	Design Studio IV (Preq.: Arch 2102)	--	--	12.0	08.00	08.00
	02	Arch 2241	Environment and Design II: Visual & Sonic Environment	02.0	02.00	--	--	02.00
	03	Arch 2243	Art & Architecture III	02.0	02.00	--	--	02.00
	04	CE 2251	Structure II	02.0	02.00	--	--	02.00
	05	Ban 2261	বাংলা ভাষা ও সাহিত্য (Bengali Literature and Language)	02.0	02.00	--	--	02.00
Total Core				08.0	08.00	12.0	08.00	16.00
Elective Courses	06	Arch 2222	Computer Technology & Simulation	Select any one course		03.0	01.50	01.50
		Arch 2224	Architectural Model Making					
	07	Arch 2226	Photography	Select any one course		03.0	01.50	01.50
		Arch 2228	Digital Presentation					
	08	Arch 2281	Building Technology	02.0	02.00	Select any one course		02.00
		URP 2281	Urban Anthropology					
Total Elective				02.0	02.00	06.0	03.00	05.00
Total (Core + Elective)				10.0	10.00	18.0	11.00	21.00

Total Contact hours: 10.0 (T) + 18.0 (S) = 28.0 hrs./ week

Total Credits : 21.00

No. of Theory Courses :05

No. of Sessional Courses :03

3rd Year 1st Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 3102	Design Studio V (Preq.: Arch 2202)	--	--	12.0	08.00	08.00
	02	Arch 3112	Working Drawing I: Construction Drawing	--	--	03.0	01.50	01.50
	03	Arch 3141	Art & Architecture IV	02.0	02.00	--	--	02.00
	04	ME 3151	Building Services I: Mechanical Equipment	02.0	02.00	--	--	02.00
	05	CE 3151	Structure III	02.0	02.00	--	--	02.00
	06	URP 3171	Theory & Practice of Planning	02.0	02.00	--	--	02.00
Total Core				08.0	08.00	15.0	09.50	17.50
Elective Courses	07	Arch 3122	Sculpture	Select any one course		03.0	01.50	01.50
		Arch 3124	Architectural Documentation & Portfolio					
	08	Arch 3181	Architecture & Society of Bengal	02.0	02.00	Select any one course		02.00
		Arch 3183	Vernacular Architecture & Settlement					
Total Elective				02.0	02.00	03.0	01.50	03.50
Total (Core + Elective)				10.0	10.00	18.0	11.00	21.00

Total Contact hrs.: 10.0 (T) + 18.0 (S) = 28.0 hrs./ week

Total Credits : 21.00

No. of Theory Courses :05

No. of Sessional Courses :03

3rd Year 2nd Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total Credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 3202	Design Studio VI (Preq.: Arch 3102)	--	--	12.0	08.00	08.00
	02	Arch 3241	Art & Architecture V	02.0	02.00	--	--	02.00
	03	CE 3251	Building Services II: Plumbing	02.0	02.00	--	--	02.00
	04	CE 3253	Structure IV	02.0	02.00	--	--	02.00
	05	Arch 3271	Urban design I	02.0	02.00	--	--	02.00
Total Core				08.0	08.00	12.0	08.00	16.00
Elective Courses	06	Arch 3222	Working Drawing II: Production Drawing	Select any one course		03.0	01.50	01.50
		Arch 3224	Construction Methods & Details					
	07	Arch 3226	Cost Estimation	Select any one course		03.0	01.50	01.50
		Arch 3228	Construction Workshop					
	08	Arch 3281	Interior Design	02.0	02.00	Select any one course		02.00
		Arch 3283	Industrial Building Design					
Total Elective				02.0	02.00	06.0	03.00	05.00
Total (Core + Elective)				10.0	10.00	18.0	11.00	21.00

Total Contact hours: 10.0 (T) + 18.0 (S) = 28.0 hrs./ week

Total Credits : 21.00

No. of Theory Courses :05

No. of Sessional Courses :03

4th Year 1st Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 4102	Design Studio VII (Preq.: Arch 3202)	--	--	12.0	08.00	08.00
	02	Arch 4141	Landscape Design	02.0	02.00	--	--	02.00
	03	EEE 4151	Building Services III: Electrical Equipment	02.0	02.00	--	--	02.00
	04	CE 4151	Structure V	02.0	02.00	--	--	02.00
	05	Arch 4171	Housing	02.0	02.00	--	--	02.00
Total Core				08.0	08.00	12.0	08.00	16.00
Elective Courses	06	Arch 4122	Interior Design Studio	Select any one course		03.0	01.50	01.50
		Arch 4124	Engineering Survey and Mapping					
	07	Hum 4181	Project Economics	02.0	02.00	Select any one course		02.00
		BA 4181	Statistics					
	08	Arch 4181	Urban Design- II	02.0	02.00	Select any one course		02.00
		Arch 4183	Architectural Theory					
Total Elective				04.0	04.00	03.0	01.50	05.50
Total (Core + Elective)				12.0	12.00	15.0	09.50	21.50

Total Contact hrs.: 12.0 (T) + 15.0 (S)= 27.0 hrs./ week

Total Credits : 21.50

No. of Theory Courses :06

No. of Sessional Courses :02

4th Year 2nd Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total Credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 4202	Design Studio VIII (Preq.: Arch 4102)	--	--	12.0	08.00	08.00
	02	Arch 4232	Internship***	--	--	***	00.00	00.00
	03	Arch 4251	Research Methodology & Survey Technique	02.0	02.00	--	--	02.00
	04	Arch 4253	Architectural Conservation	02.0	02.00	--	--	02.00
Total Core				04.0	04.00	12.0+ ***	08.00	12.00
Elective Courses	05	Arch 4222	Landscape Design Studio	Select any one course		03.0	01.50	01.50
		Arch 4224	Design Appreciation					
	06	Hum 4281	Logic & Philosophy	02.0	02.00	Select any one course		02.00
		Hum 4283	Human Psychology & Environment					
	07	Arch 4281	Health Facilities Planning & Design	02.0	02.00	Select any one course		02.00
		Arch 4283	Educational Facilities Planning & Design					
Total Elective				04.0	04.00	03.0	01.50	05.50
Total (Core + Elective)				08.0	08.00	15.0+ ***	09.50	17.50

Total Contact hours: 08.0 (T) + 15.0+ *** (S) = 23.0+ *** hrs./ week

Total Credits : 17.50

Note: (***) refers 40 hours in 7.5 weeks

No. of Theory Courses :04

No. of Sessional Courses :03

5th Year 1st Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 5102	Design Studio IX (Preq.: Arch 4202)	--	--	15.0	10.00	10.00
	02	Arch 5151	Specification	02.0	02.00	--	--	02.00
	03	Arch 5191	Construction Management	03.0	03.00	--	--	03.00
Total Core				05.0	05.00	15.0	10.00	15.00
Elective Courses	04	Arch 5122	Seminar (based on Thesis)	Select any one course		05.0	02.50	02.50
		Hum 5122	Technical Writing & Verbal Communication					
	05	Arch 5181	Green & Sustainable Architecture	02.0	02.00	Select any one course		02.00
		Arch 5183	Disaster Resistant Buildings & Settlements					
Total Elective				02.0	02.00	05.0	02.50	04.50
Total (Core + Elective)				07.0	07.00	20.0	12.50	19.50

Total Contact hrs.: 07.0 (T) + 20.0 (S)= 27.0 hrs./ week

Total Credits : 19.50

No. of Theory Courses :03

No. of Sessional Courses :02

5th Year 2nd Semester

Course Type	Sl.	Course Code	Course Title	Theory (T)		Sessional (S)		Total Credits
				Contact hrs./ week	Credits	Contact hrs./ week	Credits	
Core Courses	01	Arch 5202	Design Studio X (Thesis) (Preq.: Arch 5102)	--	--	15.0	10.00	10.00
	02	Hum 5261	Accounting	02.0	02.00	--	--	02.00
	03	Arch 5291	Professional Practice	03.0	03.00	--	--	03.00
Total Core				05.0	05.00	15.0	10.00	15.00
Elective Courses	04	Arch 5222	Dissertation	Select any one course		03.0	01.50	01.50
		Arch 5224	Construction Document					
Total Elective				--	--	03.0	01.50	01.50
Total (Core + Elective)				05.0	05.00	18.0	11.50	16.50

Total Contact hrs.: 05.0 (T) + 18.0 (S)= 23.0 hrs./ week

Total Credits : 16.50

No. of Theory Courses :02

No. of Sessional Courses :02

DETAILED OUTLINE OF UNDERGRADUATE COURSES for B. Arch. Program

1st Year 1st Semester

Arch 1102: Design Studio I

Credits: 6.00

Contact hours: 9.0 hrs./ week

Study of human senses and their relationship to design. Exercises in two-dimensional basic composition with points, straight and curved lines and pure geometric shapes. Study of scale, order, balance, proportion, rhythm, axis, solid-void relationship, symmetry, movement, flexibility, harmony, hierarchy, datum etc. in various media. Introduction of colour schemes. Understanding of forms in nature; study of nature to understand the basic principles of design.

Arch 1112: Architectural Graphics I

Credits: 1.50

Contact hours: 3.0 hrs./ week

Line drawing quality; study of scale; lettering; execution of plan, elevation and section. Introduction to shades, shadows, and reflections.

Arch 1141: Art and Architecture I

Credits: 2.00

Contact hours: 2.0 hrs./ week

(Ancient Civilizations)

Overview of the perceptual process of evolution in the art and architecture of ancient civilizations. Critical evaluation of ancient architecture and settlement design of Egyptian, Mesopotamian (Sumerian and Assyrian), Persian, Mesoamerican, Aegean, Etruscan, Chinese, Japanese and Indus valley civilizations. Introduction to classical architecture of Greece and Rome; critical evaluation of the classical architecture of Greece and Rome from political, social and philosophical point of view. Study of the potentiality of classical architecture in formation of the ordering principles. Critical evaluation of architecture of Vedic and Buddhist civilizations political, social and philosophical point of view.

Reference Books:

1. A History of Architecture by Sir Banister Fletcher
2. Arts and Ideas by W. Fleming
3. A World History of Architecture by M. Moffett, M. Fazio, and L. Wodehouse
4. Ten Books on Architecture by V. Pollio
5. Architecture of the Western world by M. Raeburn

Hum 1161: Fundamentals of English

Credits: 2.00

Contact hours: 2.0 hrs./ week

Developing effective and efficient reading, writing, listening and speaking strategies and techniques. Increasing student's repertoire of vocabulary, reading with speed and understanding, writing standard, well-informed academic essays and enhancing spoken fluency.

Reference Books:

1. Applied English Grammar and Composition by Wren and Martin
2. New Headway Intermediate Student Book (4th Edition) by Liz and John Soars.
3. Grammar Builder Book 6
4. A guide to patterns and usage of English by A. S. Hornby
5. Contextualized Vocabulary by L. A. Hill
6. A practical English grammar, 4th edition by A. J. Thomson and A.V. Martinet
7. A Manual of Advanced English for Foreign Students by B. Blackstone
8. Understanding technical English by K. Method and D. D. Water

Hum 1163: Sociology**Credits: 2.00****Contact hours: 2.0 hrs./ week**

Introduction to sociology; definition, nature and theoretical perspectives of sociology. Relation between sociology and architecture. Basic concepts of sociology and society. Community; association; institutions groups; customs; culture and civilization; socialization; process and formation of personality; factors influencing social life; marriage and family. Social structure; theories of social stratification, social structure, social stratification, social control and property, religion and state. Art & architecture as an agency of social control, social structure and social change in Bangladesh. Industrialization and urbanization in Bangladesh.

Reference Books:

1. Study Guide [to Accompany] Sociology, 3rd edition by B. B. Hess, E. W. Markson, and P. J. Stein
2. Sociology, 6th edition by P.B. Horton, B. J. Cohen, and C. L. Hunt
3. Introduction to sociology by E. W. Stewart, & J. A. Glynn
4. Samaj Biggan Parichiti by M. H. Rahman

Phy 1161: Physics for Architects**Credits: 2.00****Contact hours: 2.0 hrs./ week**

Heat: temperature, temperature related vapour and humidity, heat transmission; thermal conductivity of solid and liquids, heat flow through different medium, convection, conduction, radiation, ventilation, laws of radiation, short and long-wave radiations. Introduction to modern physics. Light: photometry and illumination, measurements and units; theories of light and its characteristics, lamps, diffraction and polarization; defects of images. Sound: simple harmonic motion; combination simple harmonic motion; wave motion; transmission and intensity of sound waves, reflection, refraction and absorption of sound; units of sound intensity, building acoustics.

Reference Books:

1. Physics - I & II, 4th edition by D. Halliday and R. Resnick
2. A Textbook of Sound by M. Ghosh
3. Heat & Thermo-Dynamics by B. Lal and N. Subrahmanyam
4. Fundamental of Physics by David Halliday, Robert Resnick and Jearl Walker
5. College Physics by Sears, Zambansky and Young
6. Optics by B. Lal and N. Subrahmanyam

Arch 1171: Aesthetic & Design I**Credits: 2.00****Contact hours: 2.0 hrs./ week**

Introduction to the subject matter and purpose of aesthetics; the relationship of aesthetics with the architects and the public. Design fundamentals, motivation behind designing, its diversified purposes and design methodologies. Various design disciplines and designs in nature as a universal source of inspiration. Critical analysis of design as a non-verbal language structured in a basic design grammar. Traditional and contemporary design methods, Definition of designing and the role of design in the changing perspective of the society. Basic philosophy of design as a vehicle to transmit the values and attainments of cultures through the ages. Basic theories of architecture related to use of point, line, plane, form, volume and Space.

Reference Books:

1. Design: Science: Method by R. Jacques and J. Powell, (eds.)
2. Order in Space: A Design Source Book by K. Critchlow
3. Architecture: Form, Space & Order by Francis D.K. Ching
4. Art in everyday life, 3rd edition by H. Goldstein and V. Goldstein
5. Aesthetics by B. Yuri
6. The Aesthetics of Architecture, illustrated edition by R. Scurton
7. Design Fundamentals by Robert G. Scott
8. Design Methods by J. Christopher Jones
9. Method in Architecture by H. Tom
10. Intention in Architecture by N. Shultz
11. Arts and Ideas by W. Fleming

1st Year 2nd Semester

Arch 1202: Design Studio II

Credits: 6.00

Contact hours: 9.0 hrs./ week

Relationship of Form and Space in three dimensions. Basic composition with colour schemes; Lines, planes, primary forms, and other geometric forms. Introduction to the process of form making. Interaction of Form and Space. Exposure to the domain of architecture with simple functions. Study of a simple Architectural space.

Arch 1212: Architecture Graphics II

Credits: 1.50

Contact hours: 3.0 hrs./ week

Execution of oblique, isometric and diametric drawing; Execution of single view drawings such as axonometric drawings, mechanical perspectives.

Arch 1241: Environment & Design I: Climate and Design

Credits: 2.00

Contact hours: 2.0 hrs./ week

Introduction to design with climate; man and his response to climate; elements of climate and their influence on the built form; built-environment design in various climatic zones; tropical climate; site climate. Principles of thermal design and means of thermal control.

Relationships between built form and sun, wind, precipitation etc.; design methods and procedures of passive climatic control. Influence of climatic factors on architectural design, passive means of climatic control in hot- dry, warm- humid, composite and other tropical region. Relationship to the environment and response to climate. Geo-physical forces and built form; Passive climatic control.

Reference Books:

1. Manual of tropical housing and building part-1: climatic design by O. H. Koenigsberger
2. Man climate and architecture by B. Givoni
3. Housing, climate and comfort by M. Evans
4. Concepts in thermal comfort by M. D. Egan
5. Tropical architecture by C.P Kukreja

Math 1261: Mathematics

Credits: 2.00

Contact hours: 2.0 hrs./ week

Calculus, definition of limit, continuity and differentiability, successive and partial differentiation, maxima and minima. Integration by parts, standard integrals, definite integrals. Solid geometry, system of coordinates. Distance between two points. Coordinate Transformation. Straight lines, sphere and ellipsoid.

Reference Books:

1. A Text Book on Integral Calculus & Differential Equation by Mohammad, Bhattacharjee
2. Differential Calculus by B. C. Das, and B. N. Mukherjee
3. Integral Calculus: Including Differential Equations by B. C. Das, and B. N. Mukherjee
4. Differential calculus, 10th edition by A .F. M. Rahman, and P. K. Bhattacharjee
5. Integral calculus by A .F. M. Rahman, and P. K. Bhattacharjee
6. Integral Calculus S. G. Williamson
7. Differential Calculus by J. Edwards

Hum 1261: বাংলাদেশের অভ্যুদয়ের ইতিহাস (History of the Emergence of Bangladesh)

Credits: 3.00

Contact hours: 3.0 hrs./ week

***Arch 1222: Computer Graphics and Application I**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction to software. Images and color, resolution, vector and raster. Illustration and formatting, using Corel Draw and Adobe Illustrator. Printing. Scanning. Image editing: using Adobe Photoshop. File import export. Image manipulation and effects.

Arch 1224: Product Design*Credits: 1.50****Contact hours: 3.0 hrs./ week**

A brief introduction to product designing – various elements – history of product design – definition of product design, understanding of product design - purpose of product design – role of product designers. Definition of human factors, application of human factors data. Human activities, their nature, and effects. Man-machine system and physical environment. Human performance and system reliability. Information input and processing. Human control systems. Applied anthropometry – human response to climate. Aspects of product design - visual, auditory, tactual, olfactory human mechanisms, physical space, and arrangement. Visual display, process of seeing, visual discrimination, quantitative and qualitative visual display, alphanumeric and related displays, visual codes, and symbols. Product design - form, color, symbols, user specific criteria, material, technology and recyclability, packaging. Multiple utility-oriented approach to product design.

Arch 1226: Free Hand Drawing*Credits: 1.50****Contact hours: 3.0 hrs./ week**

Drawing as a form of visual art in which a person uses various drawing instruments to mark paper or another two-dimensional medium. instruments include graphite pencils, pen and ink, inked brushes, wax colored pencils, crayons, charcoal, chalk, pastels, various kinds of erasers, markers, styluses, various metals (such as silverpoint) and electronic drawing. introduction to the most common support for drawing materials, such as paper, cardboard, plastic, leather, canvas, and board.

Arch 1228: Graphic Reproduction*Credits: 1.50****Contact hours: 3.0 hrs./ week**

Fundamentals of graphical representation; art of taking graphic shots; development and printing of different media. Introduction to various media of graphic reproduction. Principle of composing elements of building and interiors; communication through graphics, application and exploration of various media of graphic reproduction.

Arch 1281: Art Appreciation*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Concept, development, and evolution of art in different ages, from cave painting to modern period with references to important works of art and contributions by great masters. Art as imitation, expression and abstraction to be practiced in studio. Various kinds of technique of art application.

Reference Books:

1. Gothic Art by Victoria Charles, Klaus H. Carl
2. Pop Art A Critical History by Steven Henry Madoff

Arch 1283: Music Appreciation*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Musical forms, ingredients of music-sound and time. Indian and western music melody and harmony. Foundation of sub continental music raga system: Dhrupad, Kheal, Tappa and Thumri. Styles and presentation of vocal and instrumental music. The modern period of Bengali music the five great composers: Rabindranath, Nazrul, Atul Rashad, D.L.Roy, Rajani Kanta. Introduction to western classical music and works of some European masters-Bach, Beethoven, Handel, Mozart, Tchaikovsky.

Reference Books:

1. The Music of South Asia: An Institutionally Appropriate Approach to the Classical Music of India, Bangladesh, and Pakistan by David R. Courtney, Chandrakantha N. Courtney
2. Taal Prasangey by Dulal Bhattacharjee
3. Music by the Masters by Russell E. Lanning

Note: Here, * indicates elective courses.

2nd Year 1st Semester

Arch 2102: Design Studio III

Credits: 8.00

Contact hours: 12.0 hrs./ week

Consideration of human being as the basis of architectural design; study of anthropometry and ergonomics; study of relationship between man – space – form – function. Introduction to scale and proportion in architecture; understanding of environmental features interacting in shaping the architecture. Environment and form exercises.

Arch 2141: Art and Architecture II

Credits: 2.00

Contact hours: 2.0 hrs./ week

(Medieval Period)

A critical evaluation of the architecture of Western civilization. Its roots in Etruscan and Roman architecture which developed through the ages of Early Christian, Byzantine and Romanesque periods resulting in the Gothic style. Revival of classical thoughts in the Renaissance period. Climatic, geographical, religious and social influences on the architecture of the various regions of Europe in these periods. Structural innovations and construction systems adopted in different periods. Comparative study of the development of architectural styles in different periods to understand their development and changes

Reference Books:

1. A History of Architecture by Sir Banister Fletcher
2. An outline of European Architecture by N. Pevsner
3. Arts and Ideas by W. Fleming
4. A World History of Architecture by M. Moffett, M. Fazio, and L. Wodehouse
5. World Architecture by Donat, J., Edited
6. Architecture of the Western world by M. Raeburn

Arch 2151: Building & Finish Materials

Credits: 2.00

Contact hours: 2.0 hrs./ week

Types of foundations, their methods and techniques of construction. Classification of different types to building materials. Preparation, manufacturing, use and application of brick, cement, sand, concrete, steel, timber, etc. Classification of different types to finish materials. Stairs of different materials and construction technique. Carpentry joints, door-window and their classification. Preparation, use and application of glass, plastic, tiles, paint, roofing insulation, etc. Detail sketches.

Reference Books:

1. Engineering Materials by Aziz. M. A
2. Material of construction by Smith, R. C
3. Manufactures manuals and brochures by Andres, C. K

CE 2151: Structure I

Credits: 2.00

Contact hours: 2.0 hrs./ week

Force, equilibrium, free body diagrams, resultants and components, coplanar concurrent forces, moments and parallel coplanar forces, centroid, moment of inertia of areas, maximum and minimum forces, friction, flexible chord, calculation of bar forces for simple trusses.

Reference Books:

1. Analytical Mechanics by V. M. Faires, S. D. Chambers and J. H. Caddess
2. Analytic Mechanics by S. D. Chambers and V. M. Faires
3. Analysis of Structures by V. N. Vazirani and M. M. Ratwani

Arch 2171: Aesthetic & Design II

Credits: 2.00

Contact hours: 2.0 hrs./ week

Context; the ideology of planning and design; evolution of design (analysis, form, process); influence of geo-climatic factors in design; analysis and synthesis – aesthetics, structure and analogy. The properties of space, meaning, form etc. Overview of theories and application of architectural proportion, scale and composition. Principles of spatial and formal organization. The source, generation and transformation of architectural elements, forms and spaces.

Reference Books:

1. Design: Science: Method by R. Jacques and J. Powell, (eds.)
2. Order in Space: A Design Source Book by K. Critchlow
3. Architecture: Form, Space & Order by Francis D.K. Ching
4. Art in everyday life, 3rd edition by H. Goldstein and V. Goldstein
5. Aesthetics by B. Yuri
6. The Aesthetics of Architecture, illustrated edition by R. Scurton
7. Design Fundamentals by Robert G. Scott
8. Design Methods by J. Christopher Jones
9. Method in Architecture by H. Tom
10. Intention in Architecture by N. Shultz
11. Arts and Ideas by W. Fleming

Arch 2122: Computer Graphics and Application II*Credits: 1.50****Contact hours: 3.0 hrs./ week**

The aim of this course is to introduce students the basic concepts and the use of architectural drawings and renderings for presentation. The students acquaint with the basic knowledge and skills in architectural drawings and the capability to read and interpret blueprints for manufacturing. The students can also develop an understanding of 2D and 3D computer aided drafting with the requirements of good presentation. To understand and to use graphic software in architectural presentation and design by using of AutoCAD 2D and 3D, Sketchup etc.

Arch 2124: Computational Design*Credits: 1.50****Contact hours: 3.0 hrs./ week**

Introduction to Computational Design- introduction of design as a computational enterprise in which rules are developed to compose and construct architectural and other designs. Understanding of application of shape grammars in creative design. Projects related to: shapes, shape arithmetic, symmetry, spatial relations, shape computations, and shape grammars. Learning computer modelling, rendering and digital fabrication. Investigating the design process, principles and building production methods of selected Architects. Practice of Ryanosaurus and Grasshopper in the computer laboratory.

Arch 2126: Graphic Art*Credits: 1.50****Contact hours: 3.0 hrs./ week**

Basic techniques used in graphic art. Selection of drawing instruments, surfaces, typography. Graphic design techniques and the pros and cons of the different 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. Exercises based on the use of different types of materials.

Arch 2128: Architectural Graphics III*Credits: 1.50****Contact hours: 3.0 hrs./ week**

Complex perspective drawings. Sectional perspective. Exploded axonometric drawing. Presentation techniques in various media. Use of tools and materials in presentation with color pencil, pastel, water color-wash and gouache, ink, charcoal, airbrush and marker.

Arch 2181: Ecology and Ecosystem*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Definition; habitat, bio-geographical distribution and abundance; evolution and adaptation; inter specific interactions; tropic levels and energy flow. Human and their environment; biological conservation; environmental pollution.

Reference Books:

1. Ecology by E. P. Odum
2. Fundamentals of Ecology, 5th edition by E. P. Odum and G. W. Barrett
3. Principles of ecology by R. Brewer
4. Elements of Tropical Ecology by J. Y. Ewusie
5. Basic Principles and Concepts of Ecology by P.D. Sharma

6. Environment: resources, pollution and society, 2nd edition by W. W. Murdoch, editor.
7. Poribeshbidussan by S. Alam,
8. Bipanna Paribash by A. Abdullah
9. Prasanga – Paribash by R. Mohit, (Ed)

***Arch 2183: Tropical Architecture**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Study of the relationships between architecture and the climatic characteristics of tropical regions. Investigation of the problem and understanding the mechanism of air and moisture movement, surface condensation, rain penetration. Means of wetness control and passive cooling in buildings. Comparison of alternative solutions and understanding the secondary implications of environmental control decisions.

Reference Books:

1. Tropical Architecture: Sustainable and Humane Building in Africa, Latin America and South-East Asia by Wolfgang Lauber, Peter Cheret, Klaus Ferstl, Eckhart Ribbeck
2. Salmon Architectural Design Tropical by Cleveland Salmon
3. Tropical Architecture for the 21st Century Volume 1 by Toby Guggenheimer

Note: Here, * indicates elective courses.

2nd Year 2nd Semester

Arch 2202: Design Studio IV

Credits: 8.00

Contact hours: 12.0 hrs./ week

Case studies to comprehend the underlying relationship among function, form, space and technology in architecture. Analysis of function in order to formulate architectural program to generate site specific architectural form in three dimensions. Understanding of basic concepts of architectural forms and identification of spaces in term of exterior-interior; served-service; activity-circulation etc. Report writing based on literature survey and field studies. Design of buildings with simple functions.

Arch 2241: Environment & Design II: Visual & Sonic Environment

Credits: 2.00

Contact hours: 2.0 hrs./ week

Introduction to architectural lighting; effects of luminous environment on human being; design criteria and designing for natural and artificial lighting. The physiology of sound; perception, generation and propagation of sound; behavior of sound in closed spaces; auditorium acoustics; noise measurements and control in spaces

Reference Books:

1. Architectural Acoustics by Marshall Long
2. Environmental Noise Barriers: A Guide to Their Acoustic and Visual Design by Benz Kotzen
3. Architectural Lighting, 2nd edition by M. D. Egan and V. Olgyay
4. Handbook of electrical of mechanical systems of building by H.E. Movay
5. Manual of Tropical Housing & Building by O. H. Koenigsberger
6. Architectural Acoustics by M. D. Egan
7. Day lighting; design and analysis by C. L. Robbessis
8. Designing with Light by J. M. Gillette

Arch 2243: Art and Architecture III

Credits: 2.00

Contact hours: 2.0 hrs./ week

(South Asian)

The course will include the basic essence of south Asian Architecture associating chronological development in the early age. Study of art and Architecture in the South Asia with special emphasis on the styles of the Vedic, Buddhist and Hindu periods up to the 17th century Indian sub-continental architecture: introduction to Gupta period; evolution of temples; Dravidian style; Northern Indo-Aryan style. The emphasis will be laid on the medieval developments in continuation to its earlier roots. Indian sub-continental architecture: Indus civilization; Vedic civilization; Early Mauryan dynasty; Buddhist period; Rock-cut architecture; Hynayana phase, Mahayana phase.

Reference Books:

1. The architecture of India: Buddhist and Hindu, Volume- 2 by S. Grover
2. History of Indian Architecture (Part – 1, 2nd edition) by P. Brown
3. Indian art & Architecture by D. P. Ashcroft,
4. The History of Architecture in India by C. Taddell
5. The Art and Architecture of India - Buddhist, Hindu, Jain by Benjamin Rowland

CE 2251: Structure II

Credits: 2.00

Contact hours: 2.0 hrs./ week

Basic mechanics of solids. Fundamental concepts of stress and strain. Mechanical properties of materials. Stresses and strains in members subject to tension, compression, shear and temperature changes. Joints welded and riveted. Shear force and bending moment diagrams and implications in design of statically determinate beams and frames.

Reference Books:

1. Structural design in architecture, 2nd edition by M. Salvadori and M. Levy
2. Strength of Materials by S. P. Timoshenko
3. Strength of Materials, 2nd edition by W. Nash

প্রথম খণ্ড-ভাষা

- ১□ বাংলা ধ্বনি/ বাগ ধ্বনি (Phone/Speech Sound); বর্ণ (Letter); অক্ষর (Syllable)
- ২□ বাংলা ধ্বনির উচ্চারণ স্থান ও রীতি (Point of Articulation and Manner of Articulation)
- ৩□ বাংলা উচ্চারণ -প্রমিত (Standard); আঞ্চলিক (Dialectal); বৈচিত্র (Variation)
- ৪□ অপিনিহিত, অভিশ্রুতি, স্বরসঙ্গতি, শ্বাসাঘাত (Stress Accent) স্বরভঙ্গি/ স্বরতরঙ্গ (Intonation)
- ৫□ বাংলা ও ইংরেজির তুলনা
- ৬□ বাংলা লিখন দক্ষতা; সাধু/চলিত রীতি; বিরাম চিহ্ন প্রয়োগ□ প্রমিত বাংলা বানানের নিয়ম (বাংলা একাডেমি)
- ৭□ ব্যবহারিক বাংলা সংক্ষিপ্ত আলোচনা একুশে ফেব্রুয়ারি, মুক্তিযুদ্ধ, বাংলাভাষা, বিশ্বায়ন বাংলায় উৎসব, ষড়ঋতু, বাংলা নববর্ষ, আধুনিক তথ্য-প্রযুক্তি, বাংলার লোক সংস্কৃতি, মানবতা ও নৈতিকতা□

দ্বিতীয় খণ্ড-সাহিত্য

কবিতা

- ১□ আবদুল হাকিম-নূরনামা
- ২□ মাইকেল মধুসূদন দত্ত – বঙ্গভাষা
- ৩□ লালন সাই – খাঁচার ভেতর অচিন পাখি
- ৪□ রবীন্দ্রনাথ ঠাকুর- নির্বাকের স্বপ্নভঙ্গ
- ৫□ কাজী নজরুল ইসলাম- আজ সৃষ্টি সুখের উল্লাসে
- ৬□ জীবনানন্দ দাশ- রূপসী বাংলা
- ৭□ হাসান হাফিজুর রহমান – অমর একুশে
- ৮□ আলাউদ্দিন আল আজাদ – স্মৃতি স্তম্ভ
- ৯□ শামসুর রাহমান- তোমাকে পাওয়ার জন্য হে স্বাধীনতা
- ১০□ সৈয়দ শামসুল হক- পরিচয়

প্রবন্ধ

- ১□ বঙ্কিম চন্দ্র চট্টোপাধ্যায়- বাঙ্গালা ভাষা
- ২□ রবীন্দ্রনাথ ঠাকুর- সভ্যতার সংকট
- ৩□ হরপ্রসাদ শাস্ত্রী- তৈল
- ৪□ প্রমথ চৌধুরী- যৌবনে দাও রাজটিকা
- ৫□ কাজী নজরুল ইসলাম- বর্তমান বিশ্বসাহিত্য
- ৬□ মুহম্মদ আবদুল হাই – আমাদের বাংলা উচ্চারণ
- ৭□ কবীর চৌধুরী – আমাদের আত্মপরিচয়

ছোটগল্প/অন্যান্য রচনা

- ১□ রবীন্দ্রনাথ ঠাকুর- পোস্ট মাস্টার
- ২□ রোকেয়া সাখাওয়াত হোসেন – অবরোধ বাসিনী
- ৩□ বিভূতিভূষণ বন্দোপাধ্যায় – পুঁইমাচা
- ৪□ সৈয়দ ওয়ালীউল্লাহ- নয়নচারা
- ৫□ জাহানারা ইমাম- একাত্তরের দিনগুলি
- ৬□ হাসান আজিজুল হক – ঘরগেরস্থি
- ৭□ আখতারুজ্জামান ইলিয়াস- অপঘাত

নাটক

***Arch 2222: Computer Technology and Simulation**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction of simulation as a computational enterprise in which rules are developed to compose to simulate the actual environmental and structural context. Understanding of application of simulation software in architectural design process. Simulation to analyse wind flow, shades and shadows, heats, light and ventilation as well as structural analysis will be practiced in the computer laboratory. Different simulation software as Ectotect, Autodesk Vasari, Etabs, Sketchup etc would be introduced to the students to assist in their design studio.

***Arch 2224: Architectural Model Making**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction to architectural model making. Graphics and drawings for model making. Techniques and tools of model making; Characteristics and methods of model making materials i.e. earth/cement, metal, timber, plaster of paris, acrylic/plastic, glass, styrofoam, paper-board. Lesser and digital techniques of model making. Practical applications.

***Arch 2226: Photography**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction to photography- photography as a representation art and as an independent art media, basic conception of image, importance of photography in architectural study and documentation. Operations of camera, types of camera, lenses, films, pixel. Understanding exposure, depth of field. Photography projects: typical exercises starting with under-over-optimum exposure, depth of field, etc. and continuing with landscape- panorama, micro, night-time, profile-portrayal, modelling, theme photography; photography of architecture (interior-exterior) and its mock-up models. Dark room techniques in black and white, basic instructions about computer manipulated photo prints.

***Arch 2228: Digital Presentation**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction to different software used for multimedia presentation. Computer generated animation using widely used 3-d animation software to explore forms, architecture, and spaces. Exploring the video as a tool to analysis, survey, evaluation, and research. Exercise on digital portfolio making and communication technique. Introduction to computer aided design presentation and delineation. Short multimedia presentations i.e. project exercises on videography using tools like video and still digital camera, sound recording and input device, video input device, video and sound editing software, and output device

***Arch 2281: Building Technology**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Definitions, types, preparation, manufacture, properties, uses, and applications of stone, metal, reconstructed wood, plastic and rubber. Modular co-ordination. Prefabrication. Techniques of building components. Construction Techniques of special forms: dome, vault, shell, space frame and metal structure. Techniques of construction with indigenous materials.

Reference Books:

1. Space Grid Structures by John Chilton
2. An introduction to shell structures by Michele G. Melaragno
3. Material of Construction by Smith, R.C
4. Engineering Materials by M. A. Aziz
5. Manufactures Manual and Brochures by Andres, C.K

***URP 2281: Urban Anthropology**

Credits: 2.00

Contact hours: 2.0 hrs./ week

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.

Reference Books:

1. Introducing Urban Anthropology by Rivke Jaffe and Anouk De Koning
2. A Companion to Urban Anthropology by Donald M. Nonini

Note: Here, * indicates elective courses.

3rd Year 1st Semester

Arch 3102: Design Studio V**Credits: 8.00****Contact hours: 12.0 hrs./ week**

The principles and process behind generating architectural forms. Understanding the relationship of form and space to accentuate experiential qualities in architecture. Introduction of the basic relationship between structural logic and formal expression. Influence of technology in function, form and space.

Arch 3112: Working Drawing I: Construction Drawing**Credits: 1.50****Contact hours: 3.0 hrs./ week**

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 by-laws.

Arch 3141: Art and Architecture IV

Credits: 2.00

Contact hours: 2.0 hrs./ week

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. Critical evaluation of the art and architecture under the Muslim rule in South Asia. The course will conclude with Sources of Muslim Architecture in South Asia Region; Imperial style; Sur or Pathan period; Mughal period.

Reference Books:

1. The architecture of India: Islamic by S. Grover
2. History of Indian Architecture (Part – 2) by P. Brown
3. Indian art & Architecture by D. P. Ashcroft,
4. The History of Architecture in India by C. Tadgell

ME 3151: Building Services I: Mechanical Equipment

Credits: 2.00

Contact hours: 2.0 hrs./ week

Mechanical Equipment – heating, cooling, ventilation, vertical transportation. Simple calculations to assess the need. Special requirements and systems for multi-storied buildings. Water supply and sanitation system in buildings, introduction to water supply systems in high rise buildings, rain water harvesting and recharge. Drainage and sewage disposal, introduction to drainage systems and fire safety in high-rise building. Special requirements and systems for multi-storied buildings.

Reference Books:

1. Mechanical and electrical systems for construction by, R. Shuttleworth & K. Verma
2. Hand book of Electrical and Mechanical systems of Buildings by H. E. Moray
3. A Text Book of Water supply Engineering by M. A. Aziz
4. Building Engineering and System Design by F. S. Merit
5. National Plumbing Codes Handbook by R. D Woodson

CE 3151: Structure III

Credits: 2.00

Contact hours: 2.0 hrs./ week

Flexural and shearing stresses in beams, principal stresses, direct integration and area moment methods for finding slopes and deflections in statically determinate beams. Indeterminate beam analyses, buckling of columns.

Reference Books:

1. Structural design in architecture, 2nd edition by, M. Salvadori and M. Levy
2. Strength of Materials by S. P. Timoshenko
3. Design of concrete structures by G. Winter & A. H. Nilson

URP 3171: Theory and Practice of Planning

Credits: 2.00

Contact hours: 2.0 hrs./ week

Origin and evolution of settlements and cities. City planning during ancient, classical medieval, neo-classical and modern periods. Industrial revolution and changes in the character of cities. New thoughts and ideas in planning after the industrial revolution. Planning approaches and Planning theories, the spatial structure of cities: concentric zone theory, sector theory, multiple nuclei theory, Chris taller theory of size, spacing and distribution of central places. Rank-size rule. Structure plan, Master plan, Detail area Plans etc. and its implementation. Development control, planning standards, zoning, buildings by- laws, set- back rules, FAR, Planning practice in Bangladesh: Dhaka master plan 1959, DMDP (1995- 2015)

Reference Books:

1. Principles and practice of town and country planning by L. B. Keeble
2. Planning theory by A. Faludi
3. An introduction to town and country planning by J. Ratcliffe
4. Urban land use planning by F. S. Chapin
5. Origin and Growth of Towns by A. K. S. Anal
6. The Urban pattern: City planning and design by A. B. Gallion & Eisner
7. Cities design and evolution by S. Marshall
8. The social life of small urban spaces by W. H. Whyte
9. Planning Asian Cities by S. Hamnett and D. Forbes

***Arch 3122: Sculpture**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Learning the basic grammar of sculpture. Study and analysis of three dimensional aspects of different volumetric forms. Exercises based on the use of different types of materials. Study and analysis of Sculpture, its basic technique of installation, procedure of making and system of different kinds sculpture.

***Arch 3124: Architectural Documentation & Portfolio**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction to videography and digital documentation- practical instruction in the fundamentals of analogue and digital SLR and video camera operation, digital animation, process of content creation through videography and digital media. Understanding and development of technical skills and experimental animation techniques, personal artistic exploration to be focused on architectural presentation. Work in progress would be continuously presented and discussed in a critical forum. Lectures, readings, visiting professionals, group discussions, and site visits encourage aesthetic appreciation of the medium and a deeper understanding of our semester theme, as well as a critical analysis of how spaces in our culture are produced and constructed.

***Arch 3181: Architecture and Society of Bengal**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Study of society, culture and architecture of Bengal through the ages: Mauryan, Pala, Sena, Sultanate and Mughal periods. Language, custom, art and literature, and their relevance to architecture and planning. Indigenous architecture of Bengal as a response to socio-cultural and geo-climatic forces. Study of society, culture and Architecture of Bengal through the ages: Colonial and post-colonial Bengal. Contemporary architecture of Bangladesh – analysing the roots and global forces.

Reference Books:

1. History of the Bengali people: ancient period, Ancient Period by N. Ray
2. Ancient Bangladesh: A study of the archaeological sources by D. K. Chakrabarti
3. Discover the monuments of Bangladesh by N. Ahmad & J. Sanday
4. Buildings of the British Raj in Bangladesh by N. Ahmad
5. Sultanate mosques and continuity in Bengal architecture by P. Hasan
6. Glimpses of Muslim art and architecture by S. M. Hasan
7. Sultans and mosques: The early Muslim architecture of Bangladesh by P. Hasan
8. Mosque architecture of pre-Mughal Bengal by S. M. Hasan
9. Architecture by Asiatic Society of Bangladesh

***Arch 3183: Vernacular Architecture and Settlement**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Fundamentals, concepts, definitions and approaches to the study and analysis of vernacular architecture and settlement. Typologies of vernacular architecture and settlement. Relationship to the environment and response to geo-climatic context, socio-cultural setting and building materials. Use of building materials, utilization of natural and other resources and local construction skills. Study of indigenous communities and their settlement pattern. Symbolism and cultural expression generating vernacular architecture and settlement form and texture. Self-help and community-based approaches.

Reference Books:

1. Sustainable Vernacular Architecture by Ali Sayigh
2. Habitat: Vernacular Architecture for a Changing Planet by Sandra Piesik

Note: Here, * indicates elective courses.

3rd Year 2nd Semester

Arch 3202: Design Studio VI

Credits: 8.00

Contact hours: 12.0 hrs./ week

Comprehensive design exercise to understand the underlying complexity of building forms by exploring the characteristics of materials, structural systems, construction methods, building services and environmental requirements in relation to their creative formal expression. Creative / innovative response to site and surrounding landscape and built forms.

Arch 3241: Art and Architecture V

Credits: 2.00

Contact hours: 2.0 hrs./ week

(Modern & Contemporary)

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 Ideal Community, Alternatives to the Industrial City. The International Style. Monumentality. Modern Architecture in the USA, Europe, Latin America, Australia and Japan. Modernity, Tradition and Identity in the developing World .Pluralism in the 1970's. Crisis of Modernism in the society and in the field of literature, art and architecture; High modernism; Postmodernism as a reaction to Modernism. Theories and Manifestos of architecture, Deconstruction; Architecture and Disjunction, Ecotech and hi-tech. Recent developments in the fields of architecture around the world, with special reference to South Asian region, 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.

Reference Books:

1. Modern Architecture: A Critical history by Keneth Frampton
2. History of Modern Architecture by J. D. Jurgens
3. Architecture in the Twentieth century by Taseun
4. Modern Movement in Architecture by J. Charles
5. The language of Post Modern Architecture, 9th edition by C. Jencks
6. A Modern Movement in Architecture, 2nd edition by C. Jencks
7. Contemporary Architecture of Bangladesh, IAB publication.
8. Art Today by Edward Lucie-Smith

CE 3251: Building Services II: Plumbing

Credits: 2.00

Contact hours: 2.0 hrs./ week

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 and fire safety in high-rise building.

Reference Books:

1. A Text Book of Water supply Engineering by M. A. Aziz
2. Building Engineering and System Design by F. S. Merit
3. National Plumbing Codes Handbook by R. D. Woodson

CE 3253: Structure IV

Credits: 2.00

Contact hours: 2.0 hrs./ week

Introduction: allowable stresses, different types of trusses, wind and static load analysis of trusses, design of truss sections, design of steel beams, columns, timber structures.

Reference Books:

1. Design of Building Trusses by James Ambrose
2. Structural Mechanics: Modelling and Analysis of Frames and Trusses by Karl-Gunnar Olsson and Ola Dahlblom
3. Simplified Truss Design by Michele Melaragno
4. Principles of Structural Design: Wood, Steel, and Concrete, Second Edition by R. S. Gupta

Arch 3271: Urban Design- I

Credits: 2.00

Contact hours: 2.0 hrs./ week

Principles of design- unity and space, proportion and scale, balance, uniformity and contrast and their application in urban design. Urban aesthetics - grain and texture. Urban frame, fabric and function.

Perception and meaning of urban spaces form, order and time space relationships. Definition of urban design, its aims and objective. City planning according to artistic principles. Urban design approaches and levels of analysis.

Reference Books:

1. Urban design by P. D. Spreiregen
2. Urban Design: The Architecture of Towns and Cities by D. S. Paul
3. Urban Design Process by S. Hamid
4. The image of the city (Vol. 11) by K. Lynch
5. City sense and city design: writings and projects of Kevin Lynch by K. Lynch
6. The City Image and its Elements by K. Lynch
7. Place and Placelessness by E. C. Relph
8. Public Places - Urban Spaces_ the Dimensions of Urban Design by Matthew Carmona, Tim Heath, Taner Oc, Steve Tiesdell
9. Urban Design_ Method and Techniques by Cliff Moughtin
10. Good city form by K. Lynch
11. Time-Saver standards for urban design by D. Watson, A. Plattus and R. Shibley

***Arch 3222: Working Drawing II: Production Drawing**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Design and drawing specifying materials and instructions to manufacturers of building elements, components which are industrially produced. Understanding manufacturing process to generate creative design. The production drawing include designing with variety of materials and manufacturing process of a range of building component like door, window, fitting and fixture of functional and decorative nature.

***Arch 3224: Construction Methods & Details**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Technique adaptation of masonry works, different types of brick bond and their procedure, partition walls and cavity walls. Construction technique of lintels and arches. Method of damp proofing and its treatment. Types of floor and their construction system. Classification and construction technique of roof. Plastering system. Application of paint, varnishes and other finishes.

***Arch 3226: Cost Estimation**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Class exercises on determination of cost of construction. Analysis of rates and cost analysis of various items of construction. Preparation of schedules. Cost control. Preparation of tender documents, rules, regulations, and obligations. Bidding.

***Arch 3228: Construction Workshops**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Practical recognition of different building materials; simple tests for building materials and ingredients; site visits to acquaint with construction techniques and site supervision.

Submission of a model showing details of any structural system using carpentry/ metal works / R.C.C works / composite works

***Arch 3281: Interior Design**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Definition of interior space and interior design, relation between interior & exterior of a built form, principles of interior design, interior design vocabulary, interior building elements – wall, ceiling, floor, door, window and their construction, articulation, operation. Design of various interior spaces in relation to occupancy and environmental factors. Artificial lighting and acoustics of interior, functional separation of spaces and interior furniture, mechanized ventilation. Finish materials and furniture details.

Reference Books:

1. Time-Saver Standards for Interior Design and Space Planning – by De Chiara, Joseph; Panero, Julius; Zelnik
2. Interior design. Illustrated by Francis D. K. Ching
3. Color, space, and style by Chris Grimley, Mimi Love
4. Interior lighting by Malcolm Innes
5. Professional practice for interior designers by Christine M. Piotrowski

***Arch 3283: Industrial Building Design**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Approaches to Industrial facilities planning and design. Philosophy, policies and processes within comparative and historical perspective. Fundamentals of programming, planning and design of industrial facilities.

Reference Books:

1. Industrial building Planning and Design– by Julian Weyer (Editor), Sergio Baragaño (Editor)
2. Industrial Buildings (Design Manuals) by JÃ Adam
3. Industrial Buildings A Design Manual by Frank Juttner, Jurgen Adam, Katharina Hausmann

Note: Here, * indicates elective courses.

4th Year 1st Semester

Arch 4102: Design Studio VII

Credits: 8.00

Contact hours: 12.0 hrs./ week

Perception of urban context and the emergent forces that shape a city; Understanding urban activities, movement and environmental aspects to attain liveability in cities and quality of life; Understanding urban design process – from program formulation to urban design interventions. Designing spaces between the buildings vis-à-vis urban masses I

response to human needs and scale. Articulation of architecture into the public realm through design of building complexes at urban scale.

Arch 4141: Landscape Design

Credits: 2.00

Contact hours: 2.0 hrs./ week

Introduction to principles and elements of landscape design. Landscape Architecture and its necessity in the built environment. Historical references. Biosphere and eco- system. Organization of various outdoor spaces. Environment and design. Site development. Location and sequence of outdoor activity. Circulation and linkages. Introduction to plant and materials and their uses to enrich the built environment. Planting and gardening. A study of site selection, plane surveying, site development, topography, soils, grading, drainage, site utilities, landscaping, and planting will be used towards the assessment of buildings and site design.

Reference Books:

1. Landscape Architecture, 4th Edition by J. O. Simonds and B. Starke
2. The living Landscape: An Ecological Approach to Landscape Planning, 2nd Edition by F.R. Stealer
3. Fundamental of Landscape & Site planning by Root and B. James
4. Urban Landscape design by G. Eckbo
5. Landscape planning for energy conservation by R. Gary, and C. McClennon,
6. The Landscape Imagination_ Collected Essays of James Corner 1990-2010 by James Corner and Alison Bick Hirsch
7. Fundamentals of Landscape Architecture by Karl B. Lohmann, B.S. and M.L.A.
8. Illustrated History of Landscape Design by Chip Sullivan and Elizabeth Boults
9. Form and Fabric in Landscape Architecture by Catherine Dee

EEE 4151: Building Services III: Electrical Equipment

Credits: 2.00

Contact hours: 2.0 hrs./ week

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

Reference Books:

1. Introduction to Electrical Engineering, 3rd edition by R. P. Ward
2. Mechanical and electrical systems for construction by R. Shuttleworth
3. Building engineering and systems design, 2nd edition by F. S.Merritt, and J. E. Ambrose

CE 4151: Structure V

Credits: 2.00

Contact hours: 2.0 hrs./ week

Analysis and design of reinforced concrete structures by USD method; beams – singly reinforced, doubly reinforced, T- beams, column. Analysis and design of slabs - one way and two way, flat slab, footing, retaining walls.

Reference Books:

1. Analysis of Structures by V. N. Vazirani & M. M Ratwani
2. Design of concrete structure by R. R. Nelson and S. G. Winter
3. Concrete Structures and building design by K. A. Faraz

Arch 4171: Housing

Credits: 2.00

Contact hours: 2.0 hrs./ week

Housing policy and Planning; Housing and Community; their influence on individuals, societies and their environment, Physical, social, economic and technical aspects of housing problems in Bangladesh. Legislations and regulations; Low-cost and low income group housing; Role of private and public sectors in housing; PPP; housing finance, space standards, housing infrastructure and other design requirements. Current housing technologies and market scenario.

Reference Books:

1. Freedom to build: Dweller control of the housing process by J. F. Turner, and R. Fichter
2. Low In-come Rural Housing by D.R. Veona
3. Pattern languages. Center for Environmental Structure- 2 by C. Alexander, S. Ishikawa and M. Silverstein

4. The timeless way of building (Vol. 1) by C. Alexander
5. The Sage Handbook of Housing Studies by D. Clapham, W. A. V. Clark and K. Gibbs
6. An Introduction to Housing Layout: A GLC Study. London by Greater London Council
7. Total Housing: Alternatives to Urban Sprawl by A. Ferre and S. H. Tihamer
8. Site Planning: Environment, Process and Development by R. G. Brooks
9. Manual of Tropical Housing and Building: Climatic design by O. H. Koenigsberger, T. G. Ingersoll, A. Mayhew and S. V. Szokolay

***Arch 4122: Interior Design Studio**

Credits: 1.50

Contact hours: 3.0 hrs./ week

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, automation device.

***Arch 4124: Engineering Survey and Mapping**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction to surveying principles and physical survey. Chain survey, Travers survey levels and levelling contours and layout survey. Plane Table surveying. Theodolite Surveying. Tacheometry Surveying. Basics of levelling with various instruments & methods and concept of contouring. Introduction to Remote sensing & GIS- concept and definition. Different types of levels, their temporary and permanent adjustment. Characteristics of contour lines, direct and indirect methods of contouring and interpolation of contours. Role of elevations and determination of levels at various surface patterns.

***Hum 4181: Project Economics**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Definition of economics' Subject matter, Importance & Limitation of Micro -Macroeconomics; Theory of demand & supply; Theory of Production; Theory of income and employment; Economics of Development; Project Planning; Project Analysis; Project selection and review.

Reference Books:

1. Modern Economic Theory (M.E.) by K. K. Dewett
2. Projects: Planning, Analysis, Selection, Implementation, and Review by P. Chandra
3. The fifth-five year plan by Planning commission Ministry of Planning Bangladesh (1997-98)

***BA 4181: Statistics**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Basic statistical concepts and methods common in business applications. The emphasis is on parametric techniques used to describe and compare samples and populations. The goal is to introduce a new way of thinking about data, and to help gaining an understanding of how to use, communicate, and interpret statistics. This course consists of an introduction to survey statistics including methods of describing, summarizing, graphically presenting, measuring and analysing statistical data. The course also includes elementary forecasting using index number and time series analysis.

Reference Books:

1. Basic Statistics by Blackwell
2. Statistics: The Art and Science of Learning from Data, Instructor's Edition by Agresti, Franklin
3. Elementary Statistical Methods in Psychology and Education by Blommers, Forsyth

***Arch 4181: Urban Design II**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Responsive environment -permeability, variety, legibility, appropriateness, richness and personalization. Form of a city and normative theories. Theory of good city form. Growth and conservation. Urban textures and networks. City models and city design. Urban design process. Urban quality of life.

Reference Books:

1. Urban design by P. D. Spreiregen
2. Urban Design: The Architecture of Towns and Cities by D. S. Paul
3. Urban Design Process by S. Hamid
4. The image of the city (Vol. 11) by K. Lynch
5. City sense and city design: writings and projects of Kevin Lynch by K. Lynch
6. The City Image and its Elements by K. Lynch
7. Public places urban spaces: The dimensions of urban design by M. Carmona, T. Heath, O.C. T. and S. Tiesdell
8. The New Landscape. The Book Society of India by C. Correa

***Arch 4183: Architectural Theory**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Ancient architectural theories in different cultures such as Vastu Shastra, Feng Shui etc. Vitruvius and architectural theory of Romans and Greeks etc. Continuity of Vitruvian traditions in the middle ages and afterwards. Theories of modern and post-modern architecture. Theories of late 20th century.

Reference Books:

1. Ten Books on Architecture by Vitruvius Pollio
2. Architecture: Form, Space, & Order by Francis D.K. Ching
3. 100 Ideas That Changed Architecture by Richard Weston
4. The image of the city by K. Lynch
5. Towards a New Architecture by Le Corbusier
6. Modern Architecture since 1900 by William J.R. Curtis
7. The Eyes of the Skin: Architecture and the Senses by Juhani Pallasmaa
8. Decoding Theory speak: An Illustrated Guide to Architectural Theory by Enn Ots
9. Modern Architecture: A Critical History by Kenneth Frampton

Note: Here, * indicates elective courses.

4th Year 2nd Semester

Arch 4202: Design Studio VIII

Credits: 8.00

Contact hours: 12.0 hrs./ week

Projects focusing on urban renewal -regeneration, conservation, redevelopment and rehabilitation of urban and rural areas. Investigation, analysis and design of housing/ communities with specific themes and their impact on the immediate environment. Architecture of spiritual and emotional content.

Arch 4232: Internship***

Credits: 0.00

Contact hours: 40 hours in 7.5 weeks

Students should do architectural supportive works in total 8 weeks (300 hours) under a full IAB member or one recognized by the national architectural professional body in a foreign nation. Students should have to submit a certificate of completion of internship from their respective firm/ office to the department for passing this course and have to face the viva board to obtain B. Arch. degree.

Arch 4251: Research Methodology & Survey Technique

Credits: 2.00

Contact hours: 2.0 hrs./ week

Analytic Methods and Social survey; Designing the research- purpose and goal, variables and universal, selection of methods. Planning of social survey-test, pilot / reconnaissance survey, population, universe etc. Methods of collecting information. Qualitative, quantitative and experimental research methods in Architecture. Sampling; Questionnaire and interviews; Data processing. Documentation. Planning and conducting case studies. Drafting research-paper based on the study-conducted.

Reference Books:

1. Research Methodology a step-by-step guide for beginners by Ranjib Kumar
2. Qualitative Inquiry & Research Design by John W Creswell, University of Nebraska, Lincoln
3. Scientific social-surveys and research by P. V. Young and Schmid
4. Introduction to the methods of social sciences by Bayle and J. L. L. D.
5. Surveying (Vol. I & II) by B. C. Punmia and A. K. Jain
6. Surveying by Aziz and Shahjahan
7. Surveying and leveling by Kaetkar, and Kulkarni
8. Architectural Research Methods by L. Groat and D. Wang
9. Introduction to mediation, Moderation and Conditional Process Analysis: A Regression-Based Approach by A. F. Hayes
10. Behavioral Research – Tools and Techniques. Fifth Edition by R. Sommer and B. Sommer
11. Inquiry by Design, Tools for Environment-Behavior Research by J. Zeisel

Arch 4253: Architectural Conservation

Credits: 2.00

Contact hours: 2.0 hrs./ week

Conservation, its meaning, nature, scope and principles. Preservation, restoration, reconstruction, adaptation and area conservation. History of conservation. Conservation laws and practices. Issues of conservation, legislation, finance, regulating bodies, the role of government and public. ICOMOS charters. Conservation of areas and buildings, Planning controls. Case studies.

Reference Books:

1. Space, Time and Architecture by S. Giedion
2. Conservation of Historic Buildings by Bernard Feilden
3. Contemporary Theory of Conservation by Salvador Munoz-Vinas

***Arch 4222: Landscape Design Studio**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Combination of lecture sessions, site analysis and design work. Principles of landscape design, elements of landscape design, landscaping with tropical plants. Studio work on site analysis and application of principles and techniques of landscape design. Written report to support design exercise. Application of the principles and technologies of landscape architecture through design exercises.

***Arch 4224: Design Appreciation**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Introduction; definition of design; architectural design; design methods; design in nature; human and design; principles of design; elements of design, architectural form, space, scale and proportioning system in relation to human perception and experiences. Context; the ideology of planning and design; evolution of design (analysis, form, process); influence of geo-climatic factors in design; analysis and synthesis – aesthetics, structure and analogy. The properties of space, meaning, form etc. Ideology and its reflection in form & space. The basic methodologies of architectural criticism.

Hum 4281: Logic and Philosophy*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Definition; introduction to inductive and deductive logic; thoughts and propositions; logic and critical thinking in architecture. Syllogisms; fallacies; cause; hypothesis & analogy; application in architecture nature of philosophical enquiry; relationship of philosophy to science, history, politics, religion and especially to architecture.

Reference Books:

1. Introduction to Logic by M. T. Carlsen-Jones
2. The elements of logic by S. F. Barker
3. Logic: A first course by A. E. Blumberg
4. Philosophy for Architects (Architecture Briefs) by Mitrovic Branko
5. The Nicomachean Ethics by Aristotle
6. Natural Law and Natural Rights by John Finnis

Hum 4283: Human Psychology and Environment*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Introduction to psychology; social and biological motivation; human behavior perception and its categories; sensory perception, attention; form and visual depth perception; consistency; movement plasticity; individual difference in perception, social influence and relationships; learning, thinking and memory. Nature and scope of environmental psychology; sense of place and identity; environmental cognition; environment-behavior relationship; environmental attitudes, assessments and preferences; social processes (privacy, personal space, territoriality, crowding); sustainable environment behavior; environmental psychology and design for different settings.

Reference Books:

1. Introduction to Psychology by C. T. Morgan & R. A. King
2. Macmillan dictionary of psychology by S. Sutherland
3. Experimental psychology by R. S. Woodworth & H. Schlosberg
4. Social psychology: An introduction to the study of human relations by S. S. Sargent & R. C. Williamson

Arch 4281: Health Facilities Planning and Design*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Approaches to health facilities planning and design. Philosophy, policies and processes within contemporary and historical perspective. Fundamentals of programming, planning and design of health care facilities.

Reference Books:

1. Planning and Designing Healthcare Facilities: A Lean, Innovative and Evidence-Based Approach by V. K. Singh
2. Healthcare Facility Planning: Thinking Strategically 1st Edition by Cynthia Hayward

Arch 4283: Educational Facilities Planning and Design*Credits: 2.00****Contact hours: 2.0 hrs./ week**

Approaches to educational facilities planning and design. Philosophy, policies and processes within contemporary and historical perspective. Fundamentals of programming, planning and design of educational facilities.

Reference Books:

1. Educational Facilities Planning: Leadership, Architecture, and Management by C. Kenneth Tanner
2. Design Guidelines for School Facilities Norms and Standards by Ministry Of Education, Science and Technology of Kosovo

Note: Here, * indicates elective courses.

5th Year 1st Semester

Arch 5102: Design Studio IX

Credits: 10.00

Contact hours: 15.0 hrs./ week

Exercise on professionally comprehensive work including all design phases from formulation of architectural program to preparation of working drawings; identifying design task to specific realistic problems; applying the existing codes and bylaws and concentrating on the most significant contemporary environmental and professional challenges.

Arch 5151: Specification

Credits: 2.00

Contact hours: 2.0 hrs./ week

Written details answering what, where, when, how in relation to drawn details for building construction. Specifying materials and methods of installation and precautions. Practical exercises to be conducted for cost estimations and specification writing for small projects.

Reference Books:

1. Estimating, Costing and Specification by S. C. Rangwala, K. S. Rangwala
2. Estimating & Specification by Namabati and Roushan
3. Estimating by S. Chakravarty
4. PWD Schedule of Rates 2018 for Civil Works
5. Construction Specification Writings: Principles & Procedures by Harold J Rosen
6. Book of Specification and Code of Practice by Public Works Department (PWD)

Arch 5191: Construction Management

Credits: 3.00

Contact hours: 3.0 hrs./ week

Fundamental of Project Management; Construction Management; Overview of Human Resource Management; Planning and Programing; Logic and Strategy for Construction Management; Construction Stage and Operation; Organization Structure; Resource Management and Administration of Construction; Construction Contract Management Technique; Operation Research; Cash Flow; Marketing Analysis; Value Engineering; Manpower and Material Requirements; Project Control; Project Evaluation; Statistical Methods and Linear Programing Concept; Construction Schedule and Networks; (Bar Charts, Critical Path Methods- CPM etc., Programme Evaluation and Review Technique- PERT).

Reference Books:

1. Management: A Global Perspective, (Latest edition) by Heinz Weirich and Harold Koontz
2. Management, (8/e) by Stephen P. Robbins and Mary Coulter
3. Management, (7/e) by R. W. Griffin
4. Project management in construction by S. M. Levy
5. Elements of project management: plan, schedule, and control by M. Spinner and M. Spinner
6. Organization and management by R. D. Agarwal
7. Process of Management by R. Gupta

***Arch 5122: Seminar (based on Thesis)**

Credits: 2.50

Contact hours: 5.0 hrs./ week

SEMINAR: Overview of current development in research related to art and Architecture of dissertation topic. Research and design process; Research design; Preparation of research papers including literature search, writing skills and referencing. Verbal and written presentation skills and techniques.

***Hum 5122: Technical Writing & Verbal Communication**

Credits: 2.50

Contact hours: 5.0 hrs./ week

Reading skill: Skimming, scanning, predicting, inferring; analysis and interpretation of texts; comprehension from literature and non- literature texts.

Writing skill: Current approaches to writing; process and product; different phases in process writing; Techniques of writing; writing paragraph and essay; Report: Types, Structure, preparatory steps to writing report, elements of style, use of illustrations, writing the report.

Listening skill: Listening to record texts, learning to take useful notes and answering questions.

Speaking skill: Dialog in peer work, participation in discussion and debate, extempore speech, narrative events, storytelling. Presentation: Preparing the presentation, performing the presentation.

***Arch 5181: Green & Sustainable Architecture**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Definition of Green Architecture, the concept of RRR, PPP. This course is intended to the Climate change and the positive and negative impact on Bangladesh. The climatic conference all over the world and the decision for future. The definition of Rating System of Building. What is the purpose of rating system and where it's needed. Active and Passive Design method, Rainwater Harvesting system and its application in building design.

Reference Books:

1. Green Building Illustrated by Francis D. K. Ching
2. Ten Shades of Green: Architecture and the Natural World by Peter Buchanan and Kenneth Frampton
3. Frank Lloyd Wright: Natural Design, Organic Architecture by Alan Weintraub and Alan Hess
4. Introduction to Architectural Science: The Basis of Sustainable Design by Steven V. Szokolay
5. Understanding Sustainable Architecture by Terry J. Williamson, Antony Radford and Helen Bennetts
6. Strategies for Sustainable Architecture by P Sassi
7. Building Reuse: Sustainability, Preservation, and the Value of Design by R. A. Young and C. Elefante
8. Sustainable Construction: Green Building Design and Delivery by C. J. Kibert

***Arch 5183: Disaster Resistant Buildings & Settlement**

Credits: 2.00

Contact hours: 2.0 hrs./ week

Understanding the effects of natural calamities such as floods, tropical cyclones, earthquakes, landslides, heat waves, droughts & tsunamis. Climate changes, global sea rise, coastal erosion, environmental degradation, large dams & earth tremors, roads buildings & landslides, urbanization & desertification, cyclone effects on coastal towns. Pre disaster, emergency, transition, and recovery. Disaster management plan. Design guidelines for disaster proof construction at appropriate situations.-Engineering, architectural, landscape & planning solutions for different types of calamities.- Norms, standards and practice procedures for shelter & settlement. Seismic repairs & retrofitting of damaged and undamaged buildings. Case studies of natural disasters in Bangladesh.

Reference Books:

1. Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management 5th Edition by Paul Hopkin
2. Introduction to Disaster Risk Reduction by US Aid
3. Post-disaster settlement planning guidelines by Red Cross and Red Crescent Society

Note: Here, * indicates elective courses.

5th Year 2nd Semester

Arch 5202: Design Studio X (Thesis)

Credits: 10.00

Contact hours: 15.0 hrs./ week

(Thesis/ Project)

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. Design exercises of

realistic complexities emphasizing professional level of competence. Formulation of architectural programs for given projects. Preparation of design solution and development through the various phases.

Hum 5261: Accounting

Credits: 2.00

Contact hours: 2.0 hrs./ week

Basic principles of accounting; different kinds of cheque; cost accounting; elements of cost accounting for direct and indirect costs; inventory control; overhead allocation; cost sheet; break-even analysis; construction accounting; budgeting and budgetary control; standard costs, computation of cost; variances.

Reference Books:

1. Fundamental accounting principles by K. D. Larson and W. W. Pyle
2. Financial accounting by R. F. Meigs, W. B. Meigs and M. A. Meigs

Arch 5291: Professional Practice

Credits: 3.00

Contact hours: 3.0 hrs./ week

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; architects code of conduct. Ethics. The architect's office; administration of construction; competitions; the architect and his consultants; official correspondence; professional organizations: local and international. The regulatory system: planning and design controls, building code and approval process. Management principles and practices for the range of architectural practice.

Reference Books:

1. Principles of professional practice by Dr. Namavati and H. Roshan
2. Code of Ethics & Professional Conduct by Institute of Architects Bangladesh (IAB)

***Arch 5222: Dissertation**

Credits: 1.50

Contact hours: 3.0 hrs./ week

Approach to report writing. Preparation of report to supplement the various aspects of the thesis project of Arch 5204. Design Studio X. The report should reflect the student's research in areas related of the thesis, comparative analysis and case studies. This should lead to the formation of criteria and conceptual approaches, design program and guidelines for design of the thesis.

***Arch 5224: Construction Document**

Credits: 1.50

Contact hours: 3.0 hrs./ week

The final design is supported by a construction document which draws up on the existing body of knowledge and rationalizes the parameters and standards of design and defines the program. The course is linked to course no. Arch-5204. The design will be followed by either submission of a report or submission of a set of construction documents along with project report.

Note: Here, * indicates elective courses.