

Subject Teacher : Shanta Islam, Instructor
 Subject Name : Architectural Design - 4
 Subject Code : 26151
 Technology : Architecture Technology
 Semester : 5th
 BTEB Text Book Name : Architectural Design - 4 (Publisher: Haque Prokashani)
 Reference Book Name : Time saver standards for building types by Joseph de Chiara, John Han Cock Callender

Subject Aims:

- Understand how to consider the impact of the built environment while designing different types of public building.
- Main focus of the course is to enable students to get into the decision-making process considering aspects of more center functional layouts.
- Major emphasis of the course includes program, design development and structural solutions.
- Students will understand office building and shopping related structures in the context of Bangladesh considering the culture, climate and context along with formal expression of the structures.
- Importance should be given to building materials and technology and being able to design innovative ideas that respond to the needs of the society.

Subject Outcome:

1. Describe General conception of Health center.
2. Discuss Planning consideration of Health center.
3. Explain Consultants' rooms.
4. Discuss Emergency department.
5. Interpret school building design.
6. Describe secondary school design.
7. State Site Design and the safety & security of school.
8. Describe Parking.

Practical Outcome

1. Perform Site visit and case study.
2. Prepare process flow chart of a Healthcare center.
3. Prepare the Preliminary Design of a health center.

Marks	Grade Point	Letter Grade	Marks	Grade Point	Letter Grade
80>	4.00	A+	55-59	2.75	B-
75-79	3.75	A	50-54	2.50	C+
70-74	3.50	A-	45-49	2.25	C
65-69	3.25	B+	40-44	2.00	D
60-64	3.00	B	0-39	0.00	F

Mark Distribution (for 150 Marks)			
Theory Marks		Practical Marks	
Midterm	20	PC	25
Class test	10	PF	25
Quiz test	10	-	-
Final	60	-	-
Total	100	Total	50

Class Timing Distribution	
Particulars	Time
Greeting with students	05 Minutes
Previous Class Review	10 Minutes
Present Class Topic Discussion and Lecture Delivery	60 Minutes
Present Class Topics Review	10 Minutes
Next Class Topic	5 Minutes

4. Design the health center.
5. Design emergency patient room.
6. Design of a school.
7. Prepare the detail plan of a class room.
8. Prepare the detail plan of teachers' room & library.
9. Prepare additional drawing of school.

Date	Lecture	Chapter/Exam/Industrial Visit	Learning Area	Learning Outcome	Class/Lab Supporting Equipment's
	01	Chapter 01 – BASIC CONCEPT OF HEALTH CENTER (Practical Class)	1) Visit a site for HEALTH CENTER building and make a presentation based on the visit.	After the Class, Students will be able to: Gain detail knowledge about the HEALTH CENTER building design.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection
	02	Chapter 01 – BASIC CONCEPT OF HEALTH CENTER (Theory Class)	1) State the Hospital and Health care service. 2) Define different types of Health center. 3) List the program and components for Health center. 4) Describe the feasibility of project location. 5) Interpret basic building code.	After the Class, Students will be able to: Understand the design procedure of HEALTH CENTER.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection

					Lecture Video: https://www.youtube.com/watch?v=YIIQsv1psNM
	03	Chapter 02 – PLANNING CONSIDERATION OF HEALTH CENTER. (Practical Class)	1) Draw HEALTH CENTER floor plan with detail dimensions.	After the Class, Students will be able to: • Can draw the HEALTH CENTER floor plan.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=_Sqlf80jrxc
	04	Class Test - 1	Examination Topic: Chapter 01 – BASIC CONCEPT OF HEALTH CENTER. (Theory Based) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils

	05	Chapter 02 – PLANNING CONSIDERATION OF HEALTH CENTER. (Theory Class)	1) Describe the consideration of physical structure design. 2) Calculate the capacity of health center facilities based on population. 3) Define Indoor and outdoor patient department. 4) Define diagnosis department, OT, ICU, HDU, CCU, Post operative room, waste management, kitchen, pantry and pharmacy.	After the Class, Students will be able to: • Understand the capacity of health center facilities based on population.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=rQtv75kjhLk
	06	Chapter 02 – PLANNING CONSIDERATION OF HEALTH CENTER. (Theory Class)	1) Discuss air-conditioning, fire safety, and means of escape with location, parking, stair, lift, vehicular ramp and ramp for specially able people.	After the Class, Students will be able to: • Can draw Indoor and outdoor patient departments.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=_Sqlf80jrx
	07	Chapter 03 – PLANNING CONSIDERATION OF	1) State the consultants' rooms. 2) State the size and basic ergonomics of consultants' rooms.	After the Class, Students will be able to:	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve

		CONSULTANTS' ROOMS. (Practical Class)	3) Describe the Furniture, Space allocation and medical fixture based on type of consultants' and room size.	Can draw the size and basic ergonomics of consultants' rooms.	2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=SqIf80jrxcc
	08	Quiz Test - 1	Examination Topic: Chapter 02 - PLANNING CONSIDERATION OF HEALTH CENTER. (Practical Based) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils
	09	Chapter 03 – PLANNING CONSIDERATION OF CONSULTANTS' ROOMS. (Theory Class)	4) Explain Doors & windows of the consultants' rooms. 5) Describe the Lighting facilities, electrical requirements & Medical gas system for the consultants' rooms.	After the Class, Students will be able to: Can draw the size and basic ergonomics of consultants' rooms.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=n84wXPjWjrY
	10	Chapter 04 –	1) State the general concept of emergency department.	After the Class, Students will be able to:	1) Drafting Board, Set Square, Triangular

		PLANNING CONSIDERATION OF EMERGENCY DEPARTMENT. (Theory Class)	2) Discuss the design requirements of emergency department. 3) Describe location and entry of emergency department. 4) Describe the furniture, medical fixture, bed, space allocation of the emergency department based on room size and types of doctors'.	Can draw the design requirements of emergency department plan.	Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=-UJNNtKvgH4
	11	Chapter 04 – PLANNING CONSIDERATION OF EMERGENCY DEPARTMENT. (Theory Class)	5) Describe the furniture, medical fixture, bed, space allocation of Emergency department nurse station based on room size. 6) Describe the lighting facilities, electrical requirements, air-conditioning, fire safety & medical gas system for the emergency department.	After the Class, Students will be able to: Design principle requirements of emergency department.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=bEc0X_3nfgw
	12	Class Test - 2	Examination Topic: Chapter 03 – PLANNING CONSIDERATION OF CONSULTANTS' ROOMS. (Practical Based) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils

	13	Chapter 05 – SCHOOL BUILDING PLANNING. (Theory Class)	1) Discuss types of school. 2) Define central and regional school, community school, daycare, elementary school, international school and kindergarten.	After the Class, Students will be able to: Can draw central and regional school, community school, daycare, elementary school, international school and kindergarten.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=rQtv75kjhLk
	14	Chapter 05 – SCHOOL BUILDING PLANNING. (Practical Class)	1) Discuss the pupil capacity of school. 2) Explain the working space relationships. 3) Discuss the building lay-out of school. 4) Explain formal expression of school design.	After the Class, Students will be able to: central and regional school, community school, daycare, elementary school, international school and kindergarten.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=1a55pRkjFZ8
	15	Quiz Test - 2	Examination Topic: Chapter 04 – PLANNING CONSIDERATION OF EMERGENCY DEPARTMENT. (Practical Based) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve

					2) Geometry Box with necessary grade pencils
	16	Chapter 06 – SECONDARY SCHOOL DESIGN (Practical Class)	1) State the basic concepts of teaching/administration. 2) Discuss plan and orientation. 3) Discuss the class room planning.	After the Class, Students will be able to: • Can draw class room planning.	3) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 4) Geometry Box with necessary grade pencils 5) PC with Internet Connection and Sound System 6) Projector 7) Mobile with Internet Connection Lecture Slide: https://www.youtube.com/watch?v=ClE1YjetzQg
	17	Chapter 06 – SECONDARY SCHOOL DESIGN (Theory Class)	4) Explain ventilation and lighting, electrical system and air-conditioning for school. 5) Explain the doors, acoustic and visual control of a class room.	After the Class, Students will be able to: • Can draw class room planning.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=mYSQmryLUug

	18	Chapter 06 – SECONDARY SCHOOL DESIGN (Theory Class)	6) Explain the furniture for a class room. 7) Discuss the lab facilities of secondary school. 8) Discuss the library for a school.	After the Class, Students will be able to: Understand the library for a school.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=EWM0-W2SFyE
	19	Chapter 01 – 06 (Theory)	Review Class Lecture 02, 05, 11, 14, 17, 18	After the Class, Students will be able to: Regarding students' problem –resolve their problems.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection
	20	Chapter 01 – 06 (Theory)	Review Class Lecture 02, 05, 11, 14, 17, 18	After the Class, Students will be able to: Regarding students' problem –resolve their problems.	6) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 7) Geometry Box with necessary grade pencils

					8) PC with Internet Connection and Sound System 9) Projector 10) Mobile with Internet Connection
		Chapter 01 – 06	Mid Term	Self-examine the depth of knowledge about drawing instrument, color and print media.	
	21	Chapter 07 – SITE, SAFETY & SECURITY OF SCHOOL DESIGN. (Practical Class)	1) State the site selection criteria and space allocation of a school. 2) Describe the recreational facility. 3) Relate playground with school building.	After the Class, Students will be able to: The site selection criteria and space allocation of a school.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=VZmNkNH62rl
	22	Chapter 07 – SITE, SAFETY & SECURITY OF SCHOOL DESIGN. (Theory Class)	4) Explain building materials & drainage facility for school. 5) State landscaping and lighting consideration of school. 6) Describe school exits, stair ways, corridors, doors, school entry and toilet facilities.	After the Class, Students will be able to: Understand the design procedure of office building.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector

					5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=YIIQsv1psNM
	23		Architectural Site Visit	After the Class, Students will be able to: • Learn the historical influence of previous architectural styles.	
	24	Class Test - 3	Examination Topic: Chapter 08 – Office Furniture (Practical Based) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils
	25	Chapter 02 – CORE LOCATION OF AN OFFICE BUILDING (Theory Class)	1) Define core area. 2) Describe the services a vertical duct. 3) Describe main stair and fire escape. 4) Mention the function of main stair and fire escape.	After the Class, Students will be able to: • Understand the core area duct and staircase rules.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=rQtv75kjhLk
	26	Chapter 09 – DESIGN WORKSTATION	1) Draw a plan of a basic workstation with visitor seating.	After the Class, Students will be able to:	3) Drafting Board, Set Square, Triangular

		AND CONFERENCE ROOM OF AN OFFICE. (Practical Class)		Design false ceiling for office building.	Scale, Steel Scale, French Curve 4) Geometry Box with necessary grade pencils 5) PC with Internet Connection and Sound System 6) Projector 7) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=VZmNkNH62rl
	27	Chapter 10 – PREPARE MODEL AND PRESENTATION FOR THE OFFICE PROJECT. (Practical Class)	1) Make a model for the office building.	After the Class, Students will be able to: Can make a model for the office building.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=6pYo6hafWtU
	28	Chapter 03 – GENERAL PRINCIPLE OF AN OFFICE BUILDING. (Theory Class)	1) Mention the work flow of an office building. 2) Describe the necessity of internal circulation of an office. 3) Define management, financial, sales, general, technical and 4) production.	After the Class, Students will be able to: Design principle of an office building.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils

			5) Describe the types of space in an office.		3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=bEc0X_3nfqw
	29	Chapter 11 – DESIGN A SHOPPING CENTER (MULTI STORIED - 15 SHOPS PER FLOOR). (Practical Class)	1) Draw the flow diagram of a shopping center (multi storied - 15 shops per floor).	After the Class, Students will be able to: Can draw the flow diagram of a shopping center.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=DlxpBDx4csA
	30	Quiz Test - 3	Examination Topic: Chapter 08 – Office Furniture (Practical Class) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils
	31	Chapter 04 – DISCUSS STUDIO OFFICE (Theory Class)	1) Define studio office. 2) Mention basic area of a studio office. 3) Describe function of basic area of a studio office.	After the Class, Students will be able to: Familiar with studio office.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve

			4) List the necessary furniture for different area of a studio office.		2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=1a55pRkjFZ8
	32	Chapter 12 – DESIGN CORE AREA OF A SHOPPING CENTRE. (Practical Class)	1) Draw a plan of a staircase used in shopping Centre.	After the Class, Students will be able to: Can draw a plan of a staircase used in shopping Centre.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=vJCQEShrgis
	33	Class Test - 4	Examination Topic: Chapter 09 – Understand the floor of an office (Theory Class) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils
	34	Chapter 13 –	1) Draw a typical plan of the departmental store.	After the Class, Students will be able to:	1) Drafting Board, Set Square, Triangular

		DESIGN A DEPARTMENTAL STORE. (Practical Class)		Can draw a typical plan of the departmental store.	Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection Lecture Video: https://www.youtube.com/watch?v=mYSQmryLUug
	35	Quiz Test -4	Examination Topic: Chapter 10 – Conference room design (Practical Class) Examination mark: 10 Passing Mark: 04		1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils
	36	Presentation	Slide presentation on the architectural site visit.		1. PC with Internet Connection and Sound System 2. Projector 3. Mobile with Internet Connection
	37	Chapter 05 – 06 (Theory)	Review Class Lecture	After the Class, Students will be able to: Regarding students' problem –resolve their problems.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector

					5) Mobile with Internet Connection
	38	Chapter 01 – 06 (Theory)	Review Class Lecture	After the Class, Students will be able to: Regarding students' problem –resolve their problems.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection
	39	Chapter 01 – 06 (Theory)	Review Class Lecture	After the Class, Students will be able to: Regarding students' problem –resolve their problems.	1) Drafting Board, Set Square, Triangular Scale, Steel Scale, French Curve 2) Geometry Box with necessary grade pencils 3) PC with Internet Connection and Sound System 4) Projector 5) Mobile with Internet Connection
	40	Chapter 01 – 06	Model Test	After the Class, Students will be able to: Prepare themselves for the final exam.	