

Daffodil Polytechnic Institute, Institute Code: 50238
Lesson Plan – Academic session: February 2026 to July 2026

Subject Teacher : Sharmila Sutradhar (Instructor)
 Subject Name : Climatology
 Subject Code : 26134
 Technology : Architecture Technology
 Semester : 3rd
 BTEB Text Book Name : Climatology (Publisher: Haque Prokashani)
 Reference Book Name : Environmental Design by Md. Rafiqul Islam Mir
 Landscape Planning for Energy Conservation by Robinette
 The Planting Design Handbook by Nick Robinson
 The Architectural Drawing Course by Mo Zell
 Time Saver Standard-Building Type by Joseph D Chiara

Subject Aims:

- Describe Weather and Climate.
- Describe the climate effects on human shelter.
- Describe the biological approach in building design.
- Memorize the aspects of solar energy and wind direction in building design.
- Describe the aspect of topography and contour.
- Describe the effects of prevailing winds on building.
- Describe the basic concept of house planning.
- Describe the effect of climate on building design.
- Describe the relation between environment and building forms.
- Describe the thermal effect of materials.
- Describe the treatment for climate effect on building.

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

Class Timing Distribution	
Particulars	Time
Greeting with students	05 Minutes
Previous Class Review	05 Minutes
Present Class Topic Discussion and Lecture Delivery	30 Minutes
Present Class Topics Review	05 Minutes

Mark Distribution (for 150 Marks)			
Theory Marks		Practical Marks	
Midterm	20	PC	0
Class test	20	PF	0
Quiz test	10	-	-
Final	50	-	-
Total	100	Total	0

Subject Outcome:

Climatology in architecture is a study related to the climate and the built environment. Buildings do not exist in isolation; they exist in a specific geographic environment. As a specific discipline, architecture strives to ensure the harmony and unity of architecture and the surrounding geographic environment. A climate rationale provides the specific underpinning for evidence-based climate decision making. It ensures that the linkages between climate impacts, climate action and societal benefits is fully grounded in the best available climate data and science. Climate plays a very important role in architecture and building forms. The composition of climatic data and the requirements for thermal comfort provides the basis for the selection of building form and building elements appropriate for the climate so as to create necessary internal comfort. One of the main factors contributing to climate change is architecture. The sector is accountable for about 50% of the greenhouse emissions in the country due to construction as well as the energy needed to keep buildings operational.

Date	Lecture	Chapter/ Exam / Industrial Visit	Learning Area	Learning Outcome	Class/Lab Supporting Equipment's
	01 (Theory class)	Chapter-01 WEATHER AND CLIMATE	1.1 Define Weather. 1.2 Define Climate. 1.3 State the elements of Weather and Climate.	After the Class, Students will be able to: ● Understand the difference between weather and climate.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/15ZUzv9vajlYsaHzGxaXEWqcji-F0ag1q/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=vH298zSCQzY
	02 (Theory class)	Chapter-01 WEATHER AND CLIMATE	1.4 Discuss Macro and Micro Climate. 1.5 Explain the necessity of climatology in architecture. .	After the Class, Students will be able to: ● Know about the Macro and Micro climate.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/11UCfIDapnuDWT7TdGQc2sF7FA6axTcrN/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=PzWhnudclhA

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	03 (Theory class)	Chapter-02 CLIMATE EFFECTS ON HUMAN SHELTER	2.1 Discuss the regional character of climate. 2.2 Explain climate data of Bangladesh.	After the Class, Students will be able to: ● Know about the characteristics of climate.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1ZCjfMOkObt6iVLhggA9vcze0tv4C885C/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=Rb1XRuuPEFc
	04 (Theory class)	Chapter-02 CLIMATE EFFECTS ON HUMAN SHELTER	2.3 Mention the general effects of climate on the choice of human shelter. 2.4 Mention the adjustment of life in different climate condition on earth.	After the Class, Students will be able to: ● . Know about the human shelter and life conditions in different climate.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/10r4PyJY3gckaj35XcdprrHVpUPJnP_5s/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=muWXkE_t150
	05 (Theory class))	Chapter-03 BIOLOGICAL APPROACH IN BUILDING DESIGN	3.1 Describe the effects of climate on man. 3.2 State comfort level in reluctant climate. 3.3 Explain region-wise climatic evaluation.	After the Class, Students will be able to: ● Know about effects of climate.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1cKhT-7MZkitfZPaagpg2qHNm_Yu_fDb/view?usp=share_link

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					Lecture Video: https://www.youtube.com/watch?v=7yiqkOH1GTQ
	06	Class Test -1	Chapter 1 and 2 (Theory Based)	After the exam, Students will be able to: Self-examine the depth of knowledge about the chapter related topics.	1) Basic Class Materials
	07 (Theory class)	Chapter-03 BIOLOGICAL APPROACH IN BUILDING DESIGN	3.4 Mention the climate condition in warm, winter and rainy seasons. 3.5 Explain thermal comfort, solar, wind and humidity analysis.	After the Class, Students will be able to: Know about the climate conditions.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1On78u_6Lqmda5juWuD05h-EdLKO24Wgf/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=3a9YLn6_WHI
	08 (Theory class)	Chapter-04 SOLAR ENERGY AND WIND DIRECTION IN BUILDING DESIGN	4.1 List the principle of solar control in building. 4.2 Discuss the sitting in relation to general design. 4.3 Mention the function of roof, walls and opening, grooved treatments, Louver, ventilators, skylight, rain and sunshading devices.	After the Class, Students will be able to: Know about the principles of solar energy in design.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1CQ-l6-dCuxbbn2YkhIM7LvVE7RpMK-4g/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=xInGNX9Lpwo

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	09 (Theory class)	Chapter-04 SOLAR ENERGY AND WIND DIRECTION IN BUILDING DESIGN	4.4 Explain the shading effect of trees and vegetations. 4.5 Discuss the effect of green Building. 4.6 Explain the effect of water body near building.	After the Class, Students will be able to: Know about the effects of shading by natural resources.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1ikt8EkX3iMO12UkvxP_aytwhbxREllmhX/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=HuyjFZU8PEA
	10	Quiz Test - 1	Chapter 3 and 4 (Theory Based)	After the Test, Students will be able to: Able to justify himself\herself on the basis of chapter topics.	1) Basic Class Materials
	11 (Theory class)	Chapter-05 TOPOGRAPHY AND CONTOUR	5.1 Explain the effect of topography. 5.2 Select the essential points of plot plan. 5.3 Mention the method of deciding a plot plan from given data.	After the class Students will be able to: Know about the effects of topography on design.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1kWDpWyGuLNalR633gDYpnCspNQ6VJim/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=O8O_CyhZ2qg
	12 (Theory class)	Chapter-05 TOPOGRAPHY AND CONTOUR	5.4 Define contour. 5.5 State the necessity of contour of a site.	After the class Students will be able to: Know about the contour of a site.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1xbdTf5Pdudf6GDg6Ao

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					Kvh52XHKFf64n2H/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=uxj5jqNte3g
	13 (Theory class)	Class Test -2	Chapter 5 (Theory Based)	After the exam, Students will be able to: Self-examine the depth of knowledge about the chapter related topics.	1) Basic Class Materials
	14 (Theory class)	Chapter-06 PREVAILING WINDS ON BUILDING	6.1 Define prevailing winds and wind rose. 6.2 Mention the time and direction of prevailing winds. 6.3 Mention the essential points of cross ventilation.	After the class Students will be able to: Know about the winds and its directions.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1tlyPW-trYH9TR6M-tdMvLPGBpghNM2wG/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=i8yfC_sIQig
	15 (Theory class)	Chapter-06 PREVAILING WINDS ON BUILDING	6.4 Discuss the cross ventilation in different room. 6.5 Describe the flow diagram of air inside rooms.	After the class Students will be able to:	1) Basic Class Materials Lecture Slide:

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			6.6 Describe the stack effect on building.	Know about the ventilations in different rooms.	https://drive.google.com/file/d/10kLWTOVJecHILGcsxFit6f_KNU3rA--/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=vo_p9FICO9w
	16	Quiz Test -2	Chapter 6 (Theory Based)	After the exam, Students will be able to: Able to justify himself\herself on the basis of chapter topics.	1) Basic Class Materials
	17 (Theory class)	Review Class	Chapter 1 to Chapter 6 (Regarding students' problem)	After the Class, Students will be able to: Solve the problems.	1) Basic Class Materials
	Mid Term			After the exam, Self-examine the depth of knowledge about chapter related all topics.	1) Exam Paper
		Architectural site visit.	It will help the student to develop their design consideration.		

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	18 (Theory class)	Chapter-07 HOUSE PLANNING	7.1 Explain the effect of sunlight in building. 7.2 Define altitude and azimuth. 7.3 Discuss the positioning of house in relation with sun, altitude and azimuth. 7.4 Mention sun-path shadow angle.	After the Class, Students will be able to: Know about the effects of sunlight and its positioning.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/196m36CEHtcHHMR7z1O3CGwmE_iLDQzqa/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=IJVEubm9Ja8
	19 (Theory class)	Chapter-7 HOUSE PLANNING	7.5 State building orientation according to sun path diagram. 7.6 Describe active and passive solar system. 7.7 Discuss Daylight factor.	After the class Students will be able to: Know about the sun path diagram and solar system.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1h4RzKRQ46euDv5yAGWFTC7nLBkLdQacb/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=dLz_ccknQ2A
	20 (Theory class)	Chapter-8 CLIMATE ON BUILDING DESIGN	8.1 Differentiate between ancient & modern building. 8.2 Explain the orientation of windows. 8.3 Explain the orientation courtyards.	After the class Students will be able to: Know about the difference between modern and ancient building designs.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1NNS5QIN6RL5z2j-4YhOhnseolWkohoH6/view?usp=share_link Lecture Video:

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					https://www.youtube.com/watch?v=YPrUGfUWB6k
	21	Class Test -3	Chapter 7 (Theory Based)	After the exam: Self-examine the depth of knowledge about the chapter related topics.	1) Basic Class Materials
	22 (Theory class)	Chapter-8 CLIMATE ON BUILDING DESIGN	8.4 Discuss the artificial control of climate. 8.5 Define external force. 8.6 Discuss wind load, cyclone, tornado, flood and snow effect on building.	After the class Students will be able to: Know about the artificial control system of climate.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1IA_58rdCAWXXc4VT4_tyY_0dW5KQnRpP/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=eh5gAtcWvaU
	23 (Theory class)	Quiz Test-3 & Chapter-9 ENVIRONMENT AND BUILDING FORMS	Chapter 8 (Quiz Test) 9.1 Mention the morphology in nature. 9.2 State the impact of external thermal effect on building. 9.3 Mention the criteria of optimum shape of building.	After the Class, Students will be able to: Know about the morphology in nature and about the thermal impacts.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1Yo4-QOXuN2mjDT0YEzS9P2ojbkH8tEga/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=pqMqUEkQhuQ

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	24 (Theory class)	Chapter-9 ENVIRONMENT AND BUILDING FORMS	9.4 Mention the basic forms of building in different regions. 9.5 Explain the moisture effect on building.	After the Class, Students will be able to: Know about the forms of buildings in different regions.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/136JOauuyXV7Mv-Pm9gSf9Od87CAJcR3P/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=56NrLMnyOkY
	25 (Theory class)	Class Test -4 & Chapter-10 THERMAL EFFECT AND TREATMENT OF MATERIALS	Chapter 9 (Class Test) 10.1 Define Cavity wall 10.2 Describe the uses of cavity wall in different condition. 10.3 Describe the application of opaque materials and environmentally friendly for indoor temperature balance.	After the Class, Students will be able to: Know about the cavity wall and the uses in different conditions.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1YZw9otnHJtkNOVYCy4Ns9jYkpgPEI9CZ/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=a5i3dgcJO_I

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	26 (Theory class)	Chapter-10 THERMAL EFFECT AND TREATMENT OF MATERIALS	10.4 Explain the uses of color for thermal and moisture effect on building. 10.5 Describe the position of core for thermal effect. 10.6 Discuss the building maintenance process for thermal & moisture Effect on building.	After the Class, Students will be able to: Know about the uses of color for thermal and moisture effects.	1) Basic Class Materials Lecture Slide: https://drive.google.com/file/d/1zIApwkv9G7qVNoy7e4NNRle4UUnp-QAF/view?usp=share_link Lecture Video: https://www.youtube.com/watch?v=ADkyRkKeZg8
	27	Quiz Test-4	Chapter 10	After the Test, Students will be able to: Able to justify himself\herself on the basis of chapter topics.	1) Basic Class Materials

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	28 (Theory class)	Review Class	Chapter 1 to Chapter 10 (Regarding students' problem).	After the Class, Students will be able to: • Solve the problems.	1) Basic Class Materials
	29	presentation	Slide presentation on the Architectural site visit.	After the Class, Students will be able to: • Make the students believe that they can be a great professional in their field and give them confidence.	PC, Projector, Mobile with, Sound System.
FINAL EXAM					