

**LEVEL - 1 / TERM - I****Core Sessional**

Starting to create designers' own opinion in the field of design through critical thinking. Emphases on developing confidence to accept, reject, or suspend a claim. Focus will be placed on the process of design. Studio projects will pose a problem and students will reach one solution among many through active involvement in the process of inquiry. Student will study human senses (Visual, auditory, olfactory, and tactile) in order to learn their relationship to design. Students will observe nature to understand the basic principles of design.

Mechanical and free hand architectural presentation drawings. Lettering and graphic presentation symbols. Multiview drawings such as plan, section, and elevation. Single-view drawings such as axonometric, one, two and three point perspective.

**Core Theory**

Sound : Simple Harmonic Motion: Differential Equation of Simple Harmonic Oscillation, Energy of Simple Harmonic Oscillator, Damped and Forced Oscillation, Properties of Mechanical Waves, Stationary Wave, Traveling wave, Equations of motion of Traveling waves, Beats, Physical properties of Sound, Reflection, Transmission and Absorption of Sound waves, Intensity of sound wave, Variation of sound intensity with distance, Units of Sound Intensity, Decibel, Doppler Effect.

Light : Illumination and Photometry, Luminous Intensity, Measurements of Luminous intensity and its Units, Phosphorescence and Fluorescence, Discharge Lamps, Theories of Light, Interference of Light, Young's Double-Slit Experiment, Determination of Thickness of a film, Diffraction of Light, Diffraction due to a Single Slit, Polarization of Light, Different methods of Polarization, Intensity of Polarized Light.

**COURSE CONTENT****3.3**

**ARCH 102**  
**Design Studio I**  
6.00 Credits. 9 Hrs/Wk

**ARCH 112**  
**Architectural Graphics I**  
3.00 Credits. 6 Hrs/Wk

**PHY 115**  
**Physics**  
3.00 Credits. 3 Hrs/Wk



**ARCH 131**  
**Architecture of Ancient Civilizations**  
2.00 Credits. 2 Hrs/Wk

**ARCH 133**  
**Design Theory**  
2.00 Credits. 2 Hrs/Wk

**MATH 111**  
**Mathematics**  
2.00 Credits. 2 Hrs/Wk

Heat : Concept of Heat, Transmission of Heat, Conduction, Radiation, Laws of Radiation, Black body radiation, Convection, Free and Forced Convection, Rectilinear flow of Heat, Determination of Thermal Conductivity of Good and Bad conductors, Conduction of heat through Compound Walls, Humidity, Vapor pressure, Ventilation, Solar Radiation, Domestic and Industrial applications.

Origin of Architecture in prehistoric times. History of architecture as a perceptual process of evolution through the ancient ages. Critical evaluation of ancient architecture from economic, social, political, cultural and religious viewpoints with reference to Egyptian, Mesopotamian (Sumerian and Assyrian), Persian, Meso-American, Aegean, Chinese, Japanese and Indian civilizations.

Understanding design as an activity collectively addressing function and aesthetics. Introduction to the elements and the principles of organizing elements of visual field in the realm of aesthetics. Basic theories of architectural form, space, scale, proportion, articulation, organization etc. Comparative study of traditional and contemporary design methods. Theories explaining the complex cerebral activity involved in design process.

Calculus: Definition of limit, continuity and differentiability, successive and partial differentiation, maxima and minima. Integration by parts, standard integrals, definite integrals, Area under a plane curve in Cartesian co-ordinates. Solid Geometry : system of co-ordinates, distance between two points. Section formulae. Direction cosines. Equations of planes and straight lines; Shortest distance between two given straight lines. Standard equations of sphere and ellipsoid, Tangent planes.



**Core Sessional**

Understanding relationship of form and space with emphasis on three dimensions. Exercises to learn how form and space interact and shape each other. Introduction to the process of form making. Exposure to the domain of architecture through projects with simple function.

**ARCH 104  
Design Studio II**  
6.00 Credits. 9 Hrs/Wk  
(Pre req ARCH 102)

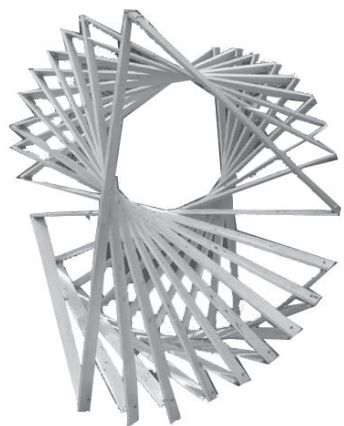
**Optional Sessional**

Understanding of the technique and tools of freehand drawing. Use and scope of different media of freehand drawing such as Pencil, Charcoal, Pen and Ink, Brush and Ink, Pastel, etc. to express manmade and natural elements. Use of different techniques to articulate geometric and free form.

**ARCH 122  
Free Hand Drawing**  
1.50 Credits. 3 Hrs/Wk

Introduction to photography. Parts and operations of camera, types of camera, lenses, films. Understanding exposure. Importance of photography in architectural study and documentation. Architectural photography: typical exercises starting with bracketing, depth of field, etc. and continuing into photography of buildings, panorama.

**ARCH 124  
Photography**  
1.50 Credits. 3 Hrs/Wk

**Core Theory**

**ARCH 155  
Climate and Design**  
2.00 Credits. 2 Hrs/Wk

Study of external and internal climatic condition of built forms. Behavior and performance of built forms and its components as a climatic modifier to provide comfort and energy savings through climate and architectural design. Factors of climate, site climate, human comfort criteria and ranges. Thermal design criteria, principles of thermal design and natural ventilation and its application in architectural design.

**ARCH 165  
Building and Finish Materials**  
2.00 Credits. 2 Hrs/Wk

Classification of different types to building and finish materials. Manufacturing, properties, application methods and uses of earth as a building material, brick, concrete, timber, bamboo, steel, glass, tile, stone, paint, terrazzo, and plaster.

**ARCH 175  
Art History**  
2.00 Credits. 2 Hrs/Wk

The study of the changing meaning, intent, content, concept and context of Art across time. The general convention and bases of classifying art: western and non-western. Brief introduction to Art in the Ancient times, Middle ages, Renaissance, Modern and Contemporary period including Art History of Bangladesh.

**HUM 147  
Introduction to Sociology**  
2.00 Credits. 2 Hrs/Wk

Nature, scope and perspectives of sociology; Culture and civilization; Socialization; Mass media and personality development; Globalization; Social organization and social problem; Social stratification; Economic system and society; Gender and development; Environment and human society; Climate change and global risk; Population and human society; Urban ecology and city development; Social change and technology; Stages of social research and research methods.

