SUBJECT NO-AR13302, SUBJECT NAME- BASIC DESIGN 2

LTP- 1-0-5,CRD- 4

SYLLABUS :-

Course Overview: This course introduces students to the process of architectural design, from conception to representation. Through practical exercises, the course explores spatial and visual grammar and how it relates to tangible aspects of form and space, and intangible aspects like use, behaviour, and perception. The assignments gradually build up in complexity, starting from abstract form generation and moving through single spatial units, multiple attached units, and organisation of multiple disjointed units. The course also helps students to acquire and hone skills for architectural representations and communication through both 2D and 3D media. Learning Objectives: 1. Understand, explore and apply the various methods of form generation 2. Acquire skills to represent architectural plans, elevations, and sections of buildings through orthographic projections, with appropriate details at various scales 3. Acquire skills to represent views of architectural spaces through oblique projections 4. Generate functional spaces for various activities based on anthropometric studies 5. Understand, explore and apply various types of spatial organisations 6. Understand, explore and apply pragmatic and analogical approaches for design conception 7. Acquire skills to represent architectural designs through physical models Course Curriculum: Module 1 : Measured drawings Representation of existing architectural spaces through pen-and-ink measured drawings, with appropriate detailing at various scales Module 2 : From generation Additive form generation: clay modelling, cardboard modelling; form generation through moulding and subtraction: plaster of Paris sculpting; form generation through distortion/ folding/ fragmentation: paper folding and origami techniques Module 3 : Anthropometrics-based design - 17 - 12 | Department of Architecture and Regional Planning, IIT Kharagpur Generating primary anthropometric data and relating them to spatial requirements for activities and ergonomics; generating design of single spatial units based of anthropometric requirements, also considering behavioural/ perceptual aspects; representing the designed space through drawings using orthographic and oblique projections Module 4 : Spatial organisation Generating floor plans and layouts with multiple spatial units, employing various kinds of spatial organisations; exploring solid-void relationships though block models Module 5 : Pragmatic design Generating architectural designs conceived through a pragmatic approach: considering the intrinsic properties, potentials, and constraints of materials and structural systems; representing the design through architectural drawings and physical models Module 6 : Analogical design Generating architectural designs conceived through an analogical approach: the application of analogies based on form, morphology, function, structure, semantics, etc.; representing the design through architectural drawings and physical models Reading List: 1. Braodbent, G. (1973). Design in architecture: Architecture and the human sciences. John Wiley and Sons. 2. Ching, F. D. K. (1996). Architecture: Form, space and order. Van Nostrand Reinhold. 3. Di Mari, A., and Yoo, N. (2017). Operative design: A

catalogue of spatial verbs. BIS Publishers. 4. Engel, H. (1997). Structure systems. Hatje Cantz Verlag. 5. Gill, R. W. (1984). Rendering with Pen and Ink. Thames and Hudson. 6. Jackson, P. (2011). Folding techniques for designers: From sheet to form. Laurence King Publishing. 7. Hannah, G. G. (2002). Elements of design: Rowena Reed Kostellow and the structure of visual relationships. Princeton Architectural Press. 8. Sandaker, B. N., and Eggen, A. P. (1992). The structural basis of architecture. (trans. S. Kirwin). Whitney Library of Design 9. Snyder, J. C., and Catanese, A. J. (1979). Introduction to architecture. McGraw-Hill