Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR-301**	**Title of the Course**	**SURVEYING**	**L**	**T**	**P**	**C**
Year	II	**Semester**	III	**3**	**1**	**0**	**-**
Pre-Requisite		**Co-requisite**	NA				
Course Objectives	1. The course focuses on the principles and techniques of land surveying, including chain and compass surveys, leveling, theodolite use, plane table methods, and error corrections, with an emphasis on accurate field measurements, area computations, and the interpretation of survey data for practical applications.						

Course Outcomes	
CO1	Handle various survey instruments for a particular survey work.
CO2	Carryout various Civil Engineering survey works.
CO3	Collect and analyses survey data for preparing drawings and maps.
CO4	Apply checks for errors elimination.
CO5	To understand the principles, equipment, and methods of plane table surveying etc.

UnitNo.	Title of the Unit		Contact Hrs.	Mapped CO
UNIT-I	**Chain Survey**	Different kinds of chains, Principles of chain survey, Equipment and instruments. the field book, method of keeping the field book. Obstacles in chain survey, Correction of length and areas due to error in chain length from standard length. Computation of areas of regular figures. Computation of areas of irregular figures by means of formulas, Mean ordinate method, Trapezoidal rule, Simpson's rule, Area by means of planimeter.	8	CO-1
UNIT-II	**Compass Survey**	Prismatic compass, its use, whole circle bearings and reduced bearing. Magnetic variation, Local attraction and its elimination. Compass Traversing, Plotting, Closing error and its adjustment by graphical and other methods.	8	CO-2
UNIT-III	**Levelling**	Purpose of levelling, concept of a level surface, horizontal surface, vertical surface, datum, reduced level and benchmarks. Principle and construction of dumpy, I.O.P. (tilting)levels. Concepts of line of collimation, axis of the bubble tube, axis of the telescope and vertical axis. Levelling staff (i) single piece (ii) folding Temporary adjustment: setting up and levelling, adjusting for parallax of Dumpy and I.O.P. level. Differential levelling, concept of back sight, fore sight, intermediate sight, station, change point, height of instrument. Level book and reduction of levels by (a) Height of collimation method and (b) Rise and fall method. Arithmetical checks. Problem on reduction of levels. Fly levelling, check levelling and profile levelling (L-section and X-section) Errors in levelling, and precautions to minimize them and permissible limits. Reciprocal levelling. Difficulties in levelling.	12	CO-3
UNIT-IV	**Theodolite and Auto Level**	The use of theodolite in taking horizontal and vertical angles. Interpretation of plans from architectural point of view. Working and application of Auto level from architectural point of view.	6	CO-4
UNIT-V	**Plane Table Survey**	Purpose of plane table surveying, Equipment used in plane table survey, centering, levelling and orientation of plane table. Methods of plane table surveying - Radiation, Intersection, Traversing, Resection, Two-point problem and three-point problems	6	CO-5

References Books:

1. Surveying Vol:1 & 2: S.K. DUGGAL

e-Learning Source:

1.https://www.youtube.com/watch?v=Kp-2F0vLvAM&list=PLjtQ3BMex7hsqmg6WiEjzFacSpZ4YJBVL

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	2	2	-	-	-	1	-	-	1	-	-	-	-	2		-	-	-	1
CO2	1	-	2	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-
CO3	1	2	-	-	-	-	1	-	-	1	-	-	-	-	-	2	-	-	-	-
CO4	1	2	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2	-	-
CO5	1	2	2	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2	-	-

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD

Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR-302**	**Title of the Course**	**BUILDING SERVICES-I**	**L**	**T**	**P**	**C**
Year	II	**Semester**	III	**3**	**1**	**-**	**-**
Pre-Requisite	-	**Co-requisite**	-				
Course Objectives	Introduction to elementary building services of water supply and Sanitation.						

Course Outcomes	
CO1	Familiarity with the sources, treatment methods, and distribution of water.
CO2	Understanding of pipes, fittings, and water supply systems.
CO3	understanding of sanitation, sanitary fittings, fixtures and joints.
CO4	Students will also be aware of simple drainage systems for small buildings, the incorporation of Electrical and Lighting Services in building design.
CO5	Implementation of building services water supply & sanitation in design.

Unit No.	Title of the Unit		Contact Hrs.	Mapped CO
1	**Water supply & Water quality, purification and treatment**	Water supply Hot and cold-water supply system, types and sizes; water supply fitting to bathrooms, Water closet, sinks, bathtubs, washbasins, bidets, showers, urinals etc. Surface and ground water sources, quality/quantity, nature of impurities, treatments, water supply systems, sedimentation, water supply project. Sand filtration, sand filters, rapid sand filters, pressure filters, sterilization and disinfection.	7	2
2	**Drainage**	Principles of drainage, material for drains, traps – their types, function and uses. Shapes and sizes of pipes for drainage system, sanitary fixture- W.C., Wash basins, bathtubs, sinks – their types, sizes, Septic tank – types, sizes etc. Simple exercises on preparation of layout plans for toilet, kitchen (both public and residential)	7	3
3	**Sewage**	Internal and external sewage, Basic principles of sanitation and disposals of waste matter from the building. Plumbing of buildings. Different system of plumbing of toilets in buildings. To prepare sanitary and water disposal schemes for waste water and surface drainage. Planning of bathrooms and lavatory block in domestic, buildings, standard type of sanitary fittings and fixtures, Joints, Traps, Flushing cisterns, Manholes and septic tank, Intercepting Chambers/Inspection chambers and their location, Ventilation of sewers.	9	5
4	**Lighting**	Different system of lighting-both natural and artificial, preparing and planning of electrical layout for different areas along with various communication equipment by symbolic representation selection of matching fittings for different work areas, matching light with site such as drawing room, bedroom, study: bath, kitchen etc., and public places like offices including basic knowledge of materials, finishes & maintenance, units for measuring lights.	9	4
5	**Electrical Services**	House wiring, L & F points, Electrical and Mechanical Fixtures, Simple electrical layouts showing panels, Distribution boards, Consumer units, Circuit breakers, High Resistance Circuit (HRC) various types of switches, sockets, conduits. with detailed knowledge of various sizes and materials of wires.	8	1

References Books:

Modern Geotechnical Engg. By Alam Singh

Engineering Materials by R.K. Rajput

e-Learning Source:

https://youtu.be/2N2nITDSxFE?si=5kp1LMeoAXZPtMdx

https://youtu.be/zFUp3WvGvuM?si=wSilYu0I6JZndqDS

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PSO1	PSO2	PSO3	PSO4
CO1	-	-	-	3	2	-	2	-	1	1	-	1	2	-	2	1	-
CO2	-	-	-	3	3	-	2	-	2	-	-	-	2	3	2	-	-
CO3	-	2	-	-	-	3	2	-	-	2	-	1	-	-	2	3	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	-

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR 303**	**Title of the Course**	**DESIGN WITH CLIMATE**	**L**	**T**	**P**	**C**
Year	2ND YEAR	**Semester**	3RD SEM	**3**	**1**	**0**	**-**
Pre-Requisite		**Co-requisite**					
Course Objectives	• This subject area also known by the term building science in earlier times enlightens the students to the processes by which building and entire habitats can be designed to respond to nature, with climate as the basic parameter of design. • Introduction to elementary principles of bioclimatic studies with respect to buildings and human comfort. • Introduce principle of thermal comfort and its implication in design. • Enable student to understand design strategies for different climatic regions. • 4. Familiarizing students with modern techniques to analyze climatic parameters and design buildings accordingly.						

Course Outcomes	
CO1	This subject enlightens the students to the processes by which building and entire habitats can be designed to respond to nature, with climate as the basic parameter of design.
CO2	Enable students to understand design strategies for different climatic regions.
CO3	Also Familiarizing students with modern techniques to analyze climatic parameters and design buildings accordingly.
CO4	Introduction to elementary principles of bioclimatic studies with respect to buildings and human comfort.
CO5	Introduction to Application of climatic principles for design of buildings in different climates.

Unit No.	Title of the Unit		Contact Hrs.	Mapped CO
1.	**Climate**	Climate, Geographical and Physical factors, temperatures, rainfall, wind, sky, ground, study of body heat temperature.	10	CO1
2.	**Indian climate**	Different types of climates in India, Micro Climate.	8	CO2
3.	**Sun**	Movement of the sun, Sun charts and use of climate data, shading devices	7	CO3
4.	**Devices**	Macro climate, vegetation, season, Horizontal and vertical louvers, Sun protection devices	6	CO4
5.	**Designing**	Application of climatic principles for design of buildings in different climates in India. Effective temperature and its use, ventilation and air movement in the buildings	9	CO5

References Books:

Man, climate and architecture by baruch givoni

Building Construction by W.B. Mackay Vol. I, II, III and IV

e-Learning Source:

https://youtu.be/VKBvoepdPRY?feature=shared

https://youtu.be/6BeP37WY8bA?si=Lz3gIXffAET5a8fW

PO-PSO	PO													PSO			
CO	**POI**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PSO1**	**PSO2**	**PSO3**	**PSO4**
CO1	**1**	**-**	**-**	**-**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**1**	**3**	**-**
CO2	**-**	**-**	**-**	**-**	**3**	**-**	**2**	**-**	**-**	**-**	**-**	**-**	**3**	**-**	**2**	**3**	**-**
CO3	**-**	**-**	**-**	**-**	**3**	**-**	**2**	**-**	**-**	**1**	**-**	**-**	**2**	**-**	**2**	**3**	**-**
CO4	**-**	**-**	**-**	**2**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3**	**-**	**1**	**3**	**-**
CO5	**-**	**2**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**3**	**-**

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: -2016-2017							
Course Code	**DAR-304**	**Title of the Course**	**ARCHITECTURE GRAPHICS-I**	**L**	**T**	**P/ST**	**C**
Year	II	**Semester**	III	02	00	03	-
Pre-Requisite	NONE	**Co-requisite**	NONE				
Course Objectives	● Architectural Graphics focuses on the techniques, methodologies, and graphic tools used in visualizing, creating and conveying architectural ideas and concepts. ● The subject focuses on to develop perception and presentation of architectural forms and buildings.						

Course Outcomes	
CO1	Architectural Graphics focuses on the techniques, methodologies, and graphic tools used in visualizing, creating and conveying architectural ideas.
CO2	Explains the different basic fundamentals like elements, principle and etc. that builds the very foundation of an Architecture design.
CO3	It focuses on to develop the perception and presentation of architectural forms and buildings.
CO4	Introduces the concept and skills of presentation of any Architecture design.
CO5	It develops students' ability in freehand sketching as a fundamental skill for quick visualization and communication of architectural ideas.

Unit No.	**Title of the Unit**		**Contact Hrs.**	**Mapped CO**
1	**Basic design**	General design principles evolving out of objects of daily use, Utility, structural stability and beauty requirements of various industrial and utilitarian objects. Basic concepts of preparing architectural drawing involving house hold furniture's for Drawing, Dining & Bed rooms, studio stools, tables.	12	1
2	**Drawing Techniques**	Drawing a line. Different types, characteristics of lines. Application of all types of lines in architectural drawings. Presentation using other presentation techniques (water colours, crayons, Pastels etc.)	07	3
3	**Rendering**	Rendering techniques in colour & ink in order to develop the skills of presentation and to visualize forms in space. (a) The drawing of sketch which is supplied to be rendered in colour, pencil and ink with emphasis on shades and shadows in same size or after enlarging/reducing. (b) Arrangement of geometrical forms within the given space area and finishes in colours or colour tints. (c) Stippling in ink to create effects of 3 dimensions and shadows etc. (Geometrical forms which is to be involved are square, rectangle, circle and triangle.)	09	2
4	**Perspective Drawing**	Principles of perspective drawing and understanding of all relevant terms, drawing perspective views by one point and two-point perspective methods, Perspective by measuring point method, Perspective views of interior designs by projection / measuring point method.	06	4
5	**Free Hand Sketching**	Importance of free hand sketching in architectural drawings, Introduction of various mediums used for presentations.	06	5

References Books:

Ching, Francis D. K., Architectural Graphics.

Gill, Robert W., Rendering with Pen & Ink.

e-Learning Source:

Fundamentals of Architectural Drawing and Sketching (https://youtu.be/wg7yT3mmCNk?si=c-mjUW3wT-nekwCr)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PSO1	PSO2	PSO3
CO1	-	2	-	-	-	3	-	-	-	-	-	-	-	-	2	-
CO2	-	3	-	1	-	3	-	-	-	-	-	-	-	-	2	-
CO3	-	-	-	-	-	3	-	-	-	-	-	-	-	-	2	-
CO4	-	-	-	-	-	3	-	-	-	-	-	-	-	-	3	-
CO5	-	1	-	-	-	3	-	-	-	-	-	-	-	-	1	-

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR-305**	**Title of the Course**	**STRENGTH OF MATERIAL**	**L**	**T**	**P**	**C**
Year	II	**Semester**	III	**03**	**01**	**00**	
Pre-Requisite	None	**Co-requisite**	NA				
Course Objectives	The objective of the present course is to make the students acquainted with the concept of load resultant, consequences and how different kinds of loadings can be withstood by different kinds of members with some specific materials.						

Course Outcomes	
CO1	Analyze indeterminate structures like fixed and continuous beams of simple structures.
CO2	Analyze shear force and bending moments for different types of beams.
CO3	Study of different types of stresses and their variation along the length of beam.
CO4	To analyze and understand principal stresses due to the combination of two-dimensional stresses on an element and failure mechanisms in materials.
CO5	To evaluate the behavior of torsional members, columns and struts.

Unit No.	Title of the Unit		Contact Hrs.	Mapped CO
1	**Principal Stress and Principal Planes. Bending Moment and Shear Force**	Principal stress and principal plane under direct and shear stress. Graphical determination by Mohr's circle method. Concept of a beam, and supports (Hinged, Roller and Fixed). Types of Beams: Simply supported, cantilever, fixed, overhang and continuous beams. Types of loads (distributed, point and varying). Concept of Bending Moment & Shear Force. Sign conventions. Bending moment and shear force diagrams for cantilever, simply supported and overhanging beams subjected to uniformly distributed, concentrated and uniformly varying loads. Relationship between load, shear force and bending moment. Point of maximum B.M. and contraflexure, concept of fixed and continuous beams.	10	CO1
2	**Bending and Shear Stresses Combined Direct & Bending Stresses:**	Assumption of theory of simple bending. Derivation of the equation. M/I=F/Y=E/R. Concept of centroid and second moment of area, Radius of gyration, Theorems of parallel and perpendicular axes, Second Moment of area for sections: rectangle, triangle, circle, trapezium, angle, Tee, I, Channel and compound sections. Moment of resistance, section modulus and permissible bending stresses, Bending stresses in circular rectangular, I, T and L section. Comparison of strength of the above sections. Concept of shear stresses in beams, Shear stress distribution in rectangular, I and T section. Concentric and eccentric loads, eccentricity, effect of eccentric load on the section, middle third rule; Stresses due to eccentric loads. Examples in the case of short columns, chimneys and dams.	10	CO2
3	**Torsion**	Definition of torque and angle of twist. Derivation of torsion equation. Polar moment of inertia. Strength of hollow and solid shaft, advantage of a hollow shaft over a solid shaft. Comparison of weights of solid and hollow shafts for same strength. Horsepower transmitted. Calculation of shaft diameter for a given Horsepower.	8	CO3
4	**Fixed and Continuous Beam**	Fixed and Continuous Beam: Effect of fixing and continuity, fixed beams with point loads and U.D. Load. Continuous beam of uniform section covering three spans with free ends (supports being at the same level) B.M. & S.F. Diagram. Points of Contraflexure of fixed and continuous beams.	8	CO4
5	**Column and struts**	Columns & Struts: Definition of long column, short column and strut, slenderness ratio, equivalent length, critical load, collapse load, End conditions of column. Application of Euler's and Rankine's formula (no derivation), simple numerical problems based on Euler's and Rankine's formulae.	6	CO5

References Books:

1. "Strength of Materials – R.K. Rajput
2. "Strength of Materials –Dr. R.K. Bansal

e-Learning Source:

1. **https://archive.nptel.ac.in/courses/105/105/105105108/**

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	-	3	-	-	-	-	-	2	1	3	3	1
CO2	3	2	2	-	-	-	-	-	-	2	-	3	3	1
CO3	3	3	2	-	-	-	-	-	-	2	-	2	3	1
CO4	2	2	2	-	-	-	-	-	-	4	-	3	3	2
CO5	3	1	-	-	-	-	-	-	-	3	1	3	3	1

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR 306**	**Title of the Course**	**ARCHITECTURE DESIGN-I**	**L**	**T**	**P/ST**	**C**
Year	2ND YEAR	**Semester**	3RD SEM	**1**	**0**	**05**	**-**
Pre-Requisite		**Co-requisite**					
Course Objectives	1.The course aims at developing the requisite level of proficiency in Drawing, which is seen as a primary communication tool in the practice of architecture just like language. 2.Familiarization with drafting tools and accessories. 3.Implication of knowledge of design fundamentals and knowledge gained in other subjects to develop better design solutions.						

Course Outcomes	
CO1	The subject focuses on the basic design and basic understanding of form, order and space in Architecture.
CO2	Enable students to learn about the human activities and space required for activities and also Understanding design as function.
CO3	They will learn about the differences between 2D&3Dobjects.
CO4	The students will learn about the tools & materials.
CO5	They will learn about the Study of a given space through elementary measured drawings.

Unit No.	Title of the Unit		Contact Hrs.	Mapped CO
1.	**Design parameter**	Exercises to understand the Parameters of design: Anthropometrics, human activity and the use of spaces.	10	CO1
2.	**Design**	Workshop course designed to train the students to visualize in space and to develop his sensitivity to form structure, spaces, texture and colour, Development of manual dexterity with construction experiments employing different materials, Design of small simple structures like bus stop, shop fronts, gate etc. use of natural elements (air,water etc.) in a given space.	8	CO2
3.	**Elements & concept**	Problems related to the understanding of the elements of architectural design, concepts of space and form and their perception.	7	CO3
4.	**Model**	Block models to explain 3-D-effects be got prepared from the students for which the tools & materials etc. will be supplied from the institution.	6	CO4
5.	**Drawings**	Study of a given space through elementary measured drawings, sketching and Photography.	9	CO5

References Books:

Robert W.Gill Rendering with Pen and Ink

e-Learning Source:

https://youtu.be/CpmEqB0BY2g?si=3xLWJYnfSY1I8u48

https://youtu.be/n1W0JMublaE?si=7JyoVF7tDj4TCfi8

PO-PSO	PO													PSO			
CO	**POI**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PSO1**	**PSO2**	**PSO3**	**PSO4**
CO1	-	3	-	-	-	-	1	-	-	-	-	-	-	1	2	3	-
CO2	-	2	-	-	2	-	1	-	-	-	-	-	-	1	1	3	-
CO3	-	3	-	-	-	3	-	-	-	-	-	-	-	3	2	3	-
CO4	-	2	-	1	-	-	1	-	-	-	-	-	-	3	-	3	-
CO5	-	-	3	-	3	-	2	-	-	-	-	-	-	1	2	3	-

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR-351**	**Title of the Course**	**Survey Lab**	**L**	**T**	**P**	**C**
Year	II	**Semester**	III	**0**	**0**	**3**	**-**
Pre-Requisite	-	**Co-requisite**	NA				
Course Objectives	The objective of the Survey Lab is to equip students with practical skills and knowledge in the use of modern surveying instruments and techniques.						

Course Outcomes	
CO1	Identify the different instruments for linear measurement.
CO2	Identify the different instruments for angular measurement.
CO3	Identify the different instruments for levelling.
CO4	Record and observing necessary observation with the survey instruments.

Unit No.	Title of the Unit		Contact Hrs.	Mapped CO
1	Experiment No.1	**Chain Surveying** (a) Ranging a line. (b Chaining a line and recording in the field book. (c) Testing and adjustment of chain.	3	CO1
2	Experiment No.2	(a) Chaining of a line involving reciprocal ranging. (b) Taking offsets and setting out right angles with cross staff and Indian optical square.	3	CO1
3	Experiment No.3	**(**a) Chain survey of a small area. Plate I.(b) Chaining a line involving obstacles in ranging.	3	CO1
4	Experiment No.4	**Compass Survey** (a) Setting the compass and taking observations. (b) Measuring angles between the lines meeting at a point by prismatic compass.	3	CO2
5	Experiment No.5	Traversing with the prismatic compass and chain of a closed traverse. (recording and plotting by included angles)	3	CO2
6	Experiment No.6	Determination of local attraction at a station by taking fore and back bearing.	3	CO3
7	Experiment No.7	To find true bearing of a line at a place.	3	CO3
8	Experiment No.8	**Levelling:** To find the difference of level between two distant points by taking staff readings on different stations from the single setting.	3	CO3
9	Experiment No.9	To find the difference of level between two points by taking at least four change points.	3	CO4
10	Experiment No.10	Longitudinal sectioning of a road.	3	CO4

References Books:

1. Lab Manual

e-Learning Source:

1.

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PSO1	PSO2	PSO3
CO1				3		2				3		2				
CO2				3		2				3		2		1		2
CO3				3		2				3		2			2	
CO4				3		2				3		2		2		3

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	Sign & Seal of HoD

Integral University, Lucknow

Effective from Session: 2016-2017							
Course Code	**DAR-356**	**Title of the Course**	**MODEL WORKSHOP**	**L**	**T**	**ST/P**	**C**
Year	II	**Semester**	III	**0**	**0**	**3**	**-**
Pre-Requisite		**Co-requisite**	NA				
Course Objectives	• To introduce students to the fundamentals of model making, including the use of various materials, tools, and equipment. • To develop skills in creating basic geometric and architectural forms with appropriate scale and dimensions. • To encourage the practical application of model-making skills by constructing a complete built structure model.						

Course Outcomes	
CO1	Student will be able to handle various material, adhesives for model making.
CO2	They will also be able to learn use of different types of colors.
CO3	They will learn to differentiate between different types of models like site models, block models and finished presentation models.
CO4	Students will be able to select and apply appropriate scales for different types of models, ensuring accurate representation of architectural designs.
CO5	Students will design and construct a complete built structure model, showcasing their understanding of materials, techniques, and presentation skills.

Unit No.	**Title of the Unit**		**Contact Hrs.**	**Mapped CO**
1	**Introduction to various materials used for model making**:	Experiments with various materials and equipment in terms of preparation of basic forms / geometrical forms with appropriate scale and dimensions.	3	CO1
2	**Use of instruments and adhesives required for model making**:	Use of various instruments required for model making. Use of various adhesives and joining techniques.	3	CO1
3	**Use of colors in model making**:	Appropriate use of colors in model making, its importance and methods of coloring the models.	3	CO2
4	**Types of models**:	Introduction to various types of models such as site model, study model, block model and finished presentation models. Importance of various types of models to appropriate stages of Architectural Design.	3	CO3
5	**Scales in model making**:	Use of appropriate scales, suitable to various types of models.	3	CO4
6	**Model of a built structure**:	Study and preparation of model of a complete built structure.	3	CO5

References Books:

1. Lab Manual

e-Learning Source:

1.

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PSO1	PSO2	PSO3
CO1	2	-	-	-	-	3	-	-	-	-	-	-	-	-	-	1
CO2	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
CO3	-	3	-	-	-	2	-	1	-	-	-	-	-	-	1	2
CO4	1	3	-	-	-	3	-	2	-	-	-	-	-	-	2	3
	-	3	-	-	-	3	-	2	-	-	-	-	-	-	-	3

1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator	**Sign & Seal of HoD**