

**Bloom's Taxonomy Levels:** 1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation

**Programme Name: Bachelor of Architecture (B.Arch.)**


**Programme Specific Outcome(PSO)**

PSO1	<b>Architectural Knowledge:</b> Apply the knowledge of Humanities, Technology, Environment Stream of Subjects and Drawing Skills to creating Architectural Designs.
PSO2	<b>Conduct Field Investigations and arrive at Inferences:</b> Use research based knowledge and research methods such as simple surveys, direct observations and documentation to interpret data and apply them to Architectural Design.
PSO3	<b>Modern Tool Usage:</b> Use appropriate IT tools to draw and communicate Architectural Design.
PSO4	<b>The Architect and Society;</b> Respond to needs of Society such as health, safety, cultural issues etc. and create socially responsible designs.
PSO5	<b>Environment and Sustainability:</b> Understand and address issues of Environment in Architectural Design.

**YEAR 2021-2022**

**B.Arch. Year I, Semester I**

**Syllabus of Courses**

	<b>The Maharaja Sayajirao University of Baroda Faculty Technology and Engineering Department of Architecture</b>	<b>Academic Year</b>	<b>2021-2022</b>
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>			
<b>Year</b>	<b>I</b>	<b>Core /<del>Elective</del>/ Foundation Architectural Design I (ARC-11XX)</b>	<b><del>Credits</del> / Hours per week <b>09 Credits / 09 Hrs per week</b></b>


<b>Semester</b>	<b>I</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021	<b>Maximum Marks / Grade</b>				<b>Studio: 300 Total Marks (200 TW + 100 TW/ Viva)</b>			
<b>Mode of Transaction:</b> Studio			<b>Minimum Passing</b>				<b>135 Marks</b>			
<b>Course Outcome (CO)</b>										
CO1 Formulate a design process for architectural design for one or two users and demonstrate the same in the form of a design proposal.CO2 Sensitivity to space and its qualities.										
CO3 Understanding of the importance of human dimensions and their relation to architectural spaces.										
CO4 Understanding of activities, land and materials-technology, and their synthesis in generating architectural spaces and the built form.										
<b>Unit No.</b>	<b>Topic/Unit</b>		<b>Contact Hours</b> <b>(Total 15 weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/ Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability(ES), Human Values (HV)and Professional Ethics (PE)</b>
1	<b>Human Scale, Anthropometrics, Ergonomics</b>		25	20%	1,2	CO 3	PSO1			
	Exercises on anthropometric studies for postures and single/multiple person activities, design of furniture items like chairs, tables for self/specific people.									
	Anthropometrics: human body as a basis of measurement. Relating space and self. Human scale. Basic ergonomics; measurement and perception of movement, single activity/ function spaces.									

2	Role of Geometry Students will make models, both scaled and full scale, to be used as tools of design. This will be supported with two-dimensional drawing and sketching. Understanding concepts of Hierarchy, Rhythm, Balance etc.	45	25%	1,2,6	CO 2	PSO1	EMP, SD	L, R	HV, ES,PE
3	Elements of Space Making and their Combinations. Massing – solids and voids Nature of space – open, semi-open and closed Scale – human scale, relative scale. Exercises through models to understand the above.	35	30%	1,2,6	CO 2, CO 3	PSO1			
4	Spatial Quality of Spaces Qualities of space – light, colour, material, texture Movement – pause and linkages Simple uni-functional design projects. Design (colours, space and form) for single/multi activity like hostel room, exhibition stall, drinking water fountain, information kiosk, food stall etc.	30	25%	1,2,6	CO 1, CO 4	PSO1			

#### Reference Books

1.	Francis D.K. Ching, Publishers: Wiley, 2007, Form, Space & Order (Third Edition).
2.	Yatin Pandya, Vastu-Shilpa Foundation for Studies and Research in Environmental Design, Publishers: Mapin Publishing, 2007, Elements of Space Making.

#### Syllabus of Courses


		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Architecture</b>	<b>Academic Year</b>	<b>2021-2022</b>
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>				
<b>Year</b>	<b>I</b>	<b>Core / Elective / Foundation</b> <b>Humanities I (ARC-11XX)</b>	<b>Credits / Hours per week</b>	<b>03 credits /</b> <b>Lecture: 03 hrs per</b>

										<b>week</b>	
<b>Semester</b>	<b>I</b>	Year of Introduction: 2021 Year of Syllabus Revision: -	<b>Maximum Marks / Grade</b>					<b>Total Marks: 100 (50 Marks Paper + 50 Marks TWincluding Viva)</b>			
<b>Mode of Transaction:</b> Studio and Lecture			<b>Minimum Passing</b>					<b>45 Marks</b>			
<b>Course Outcome (CO)</b>											
CO1 Comprehend the idea of architecture as identification of place and various design principles.											
CO2 Having introduced the vocabulary, elements and classifications of various cultural aspects and developing understanding of the relation between Culture and the Built Environment.											
CO3 Having introduced the vocabulary, elements and classifications of various socio-political aspects and developing understanding of the relation between them and the built-environment.											
CO4 Having introduced the vocabulary, elements and classifications of various economic aspects and developing understanding of the relation between them and the built-environment.											
<b>Unit No.</b>	<b>Topic/Unit</b>		<b>Contact Hours</b> (Total 15 weeks teaching /semester)	<b>Weightag (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of</b> Employability (Emp)/ Entrepreneurship(Ent)/ Skill Development (SD)	<b>Relevance to</b> Local (L)/ National(N)/ Regional(R)/Global (G)  developmental needs	<b>Relation to</b> Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)	
1	<b>Cultural Factors</b>  This is a study of general social, economic and cultural		17	40%	2, 4, 5	CO2	PSO1, PSO3				

	factors which influences architecture. Cultural Factors: The concept of ‘Settlement’ as applicable to differing cultures. Rural/Urban attitudes, attitudes to public and private spaces. Civic institutions and their reflection in architecture.								
2	<p><b>Social Institutions</b> Social Institutions: A study of social institutions and their reflection/influence on architecture</p> <ul style="list-style-type: none"> <li>• The Family: Joint family and nuclear family.</li> <li>• The Neighbourhood –it’s character and needs.</li> <li>• The work-place.</li> <li>• Education.</li> <li>• Religion.</li> <li>• Governance: Corporations, Panchayats, Civic centers.</li> <li>• Security.</li> <li>• Recreation: Parks, Stadium, etc. Culture: art galleries, museums etc.</li> </ul>	8	15%	2, 4, 5	CO3	PSO1, PSO3			
3	<p><b>Economic Factors</b> Economic Factors:Rural/Urban dichotomy. Social, political industrial and economic factors effecting the location, construction, financing and marketing of buildings with emphasis on costing. Slums, LIG, MIG, high-rise building.</p>	8	15%	2, 4, 5	CO4	PSO1, PSO3			
4	<p><b>Architecture as Identification of Place</b> Place, path, pattern and Edge Space and Structure Transition, Hierarchy and center Architectural design - its tools (elements), objectives (experience and expression) and means (principles) - Principles of Design - proportion, scale, order, repetition, rhythm, harmony, balance, emphasis, hierarchy, symmetry, axis, datum etc.</p>	12	30%	1, 2, 4	CO1	PSO1 PSO3			

Reference Books	
1.	Rapoport, A. (2005). <i>Culture, Architecture, and Design</i> . Locke Science Publishing Co., Inc.
2.	Alexander, C. (24 February 2015), <i>A Pattern Language: Towns, Buildings, Construction</i> . Oxford; Illustrated edition.
3.	Glazer, N. and Lilla, M. (Eds.). (2016). <i>The Public Face of Architecture: Civic culture and public spaces</i> . Free Press, Reprint Edition
4.	Boric, Neda, English for Architecture and Urban Planning.

### Syllabus of Courses

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering Department of Architecture</b>	<b>Academic Year</b>	<b>2021-2022</b>
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>				
<b>Year</b>	<b>I</b>	<b>Core / <del>Elective</del> / Foundation</b> <b>Architectural Graphics &amp; Representation</b> <b>(ARC - 11XX)</b>	<b>Credits / Hours per week</b>	<b>04 credits /</b> <b>06 Hrs. per week</b> <b>(2 Lectures + 4 Studios)</b>
<b>Semester</b>	<b>I</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021	<b>Maximum Marks / Grade</b>	<b>Total: 150 Marks</b> <b>(Paper: 50 Marks+</b> <b>TW: 100 Marks)</b>
<b>Mode of Transaction:</b> Lectures and Studio			<b>Minimum Passing</b>	<b>67 Marks</b>
<b>Course Outcome (CO)</b>				
CO1 Understanding for Forms, shapes and their Drawings and Model making				
CO2 Learning of technical representation of Drawings and Models				
CO3 Learning of representation of Architectural elements and buildings				
CO4 Understanding of Perspective drawings and Sciography as a part of Architectural Graphics & Representation				

Unit No.	Topic/Unit	Contact Hours (Total 15 weeks teaching/semester)	Weightage (%)	BT Level	CO	PSO	Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)	Relevance to Local (L)/ National (N)/ Regional(R)/Global (G) developmental needs	Relation to Gender (G), Environment and Sustainability (ES), Human Values(HV)and Professional Ethics (PE)
1	<p>Introduction to Drafting Techniques, Lettering, Annotations and Scales.</p> <p>Introduction to drawing instruments and drawing materials. Basis for architectural drawing; line quality and weight, types of lines such as continuous thin, continuous thick, dotted, dash, etc. application of all line types in architectural drawing.</p> <p>Introduction to architectural lettering, its proportion to scale of drawing. Use of annotations on drawings titles and uses in presentations drawings and composition.</p> <p>Material indications symbolic representation of building materials with colour code as specified Indian Standard.</p> <p>Introduction to scales and their applications.</p>	15	20%	1, 2,3	CO1, CO2	PSO1			

2	<p>Orthographic Projections (Interpenetration and Views of Solids)</p> <p>Understanding various Geometrical Forms, Patterns, Positions and Arrangement of group of Forms.</p> <p>Introduction to various projection systems used in architectural drawing such as orthographic, isometric and axonometric projections etc. to represent 2Dimensional and 3Dimensional shape and forms in different orientations in space. Drawing Sectional Views.</p> <p>Projection drawings of various building elements.</p> <p>Surface development of various Geometrical forms, Shapes and Solids. Insertion of Planes, Solids and Forms.</p>	30	35%	1, 2,3	CO1, CO2, CO3	PSO1 PSO2	SD	L, N & G	PE
3	<p>Perspective Drawings (Solids, Building Exterior &amp; Interior Views)</p> <p>Introduction to basic terms, principles, types and techniques of perspective drawing. One-point, two-point, and three-point perspectives of simple objects.</p> <p>One-point and two-point perspective drawing of solids and complex composition of solids.</p> <p>Drawing one-point and two-point perspective views of the exterior of the building with understanding of the basic human proportion and scale. Introduction to three-point perspective.</p> <p>Construction of one and two-point perspective of different spaces and interiors.</p>	25	25%	1, 2,3	CO1, CO4	PSO1 PSO2			




4	<p>Sciography (Solids, Building Exterior &amp; Interior Views) Introduction to Sciography, principles of shade &amp; shadow, shadows of lines, planes &amp; simple solids due to near &amp; distant sources of light, shadows of architectural elements.</p> <p>Sciography of two-dimensional objects in plan and elevation. Sciography of three-dimensional objects in plan and elevation and views (isometric, axonometric and perspective).</p>	20	20%	1, 2,3,4	CO3, CO4	PSO1 PSO2			
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### Reference Books


1.	Engineering Drawing by N. D. Bhatt, Publisher: Charotar Publishing House (2012)
2.	Architecture: Form, Space, & Order by Frank Ching, Publisher: John Wiley & Sons (September 2010)
3.	Ching Francis D.K., Architecture Graphics
4.	Leslie Martin, Architectural graphics
5.	B. James, Essential of Drafting
6.	Pradeep Jain, AK Gautam, Engineering Graphics and Design
7.	H. Joseph and Morris, Practical Plane and Solid Geometry
8.	Gill Robert, Rendering with Pen and Ink
9.	Dinsmore, Analytical Graphics.
10.	Halse, Architectural Rendering; the Techniques of Contemporary Presentation.
11.	Holmes, Applied Perspective.
12.	Narayana, K. L. and Kannaiah, Engineering Graphics.
13.	Norling, Perspective Drawing.
14.	Robert, Perspective: From Basic to Creative
15.	Edward D. Levinson, Architectural Rendering Fundamentals, Publisher: Glencoe/McGraw-Hill School

### Syllabus of Courses

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Architecture</b>			<b>Academic Year</b>		<b>2021-2022</b>				
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>											
<b>Year</b>	<b>I</b>	<b>Core /<del>Elective</del>/ Foundation</b> <b>Basic Design &amp; Workshop I (ARC-11XX)</b>			<b>Credits / Hours per week</b>			<b>03 Credits / 05 Hrs per week</b> <b>(1 Lecture + 4 Studio)</b>			
<b>Semester</b>	<b>I</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>			<b>Total: 100Marks</b> <b>(50 Marks TW + 50 Marks TW including VIVA)</b>			
<b>Mode of Transaction:</b> Lectures, Presentations, In-class exercises, model making etc. and reviews					<b>Minimum Passing</b>			<b>45 Marks</b>			
<b>Course Outcome (CO)</b> CO1 Have basic understanding of sketching, scale and how to draw proportionate sketches. CO2 Exploration of various medium for sketches, learning various rendering techniques through exploring different mediums. CO3 Understanding of the importance of human dimensions and their relation to architectural spaces. CO4 Understanding of activities, land and materials-technology, and their synthesis in generating architectural spaces and the built form.											
<b>Unit No.</b>	<b>Topic/Unit</b>			<b>Contact Hours</b> <b>(Total 15 weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>B T Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
1	<b>Preliminaries for Sketching</b> Explanation of fundamentals of drawings and its practice. Object drawing, studies in light and shade of			15	20%	1,2,6	CO1, CO3	PSO1, PSO2	EMP, SD	L, R, G	HV, PE


	simple, natural and geometric forms. Study built environment, light and shade pattern, surface texture, scale and proportion.								
2	<b>Drawing and Painting</b> Developing basic skills of drawing and sketching natural forms and man-made objects both on site and in the studio. Use different media such as pencil, ink, colour etc. The processes of seeing, Imagining and Representing - Observations on Line and Shape, Observation on Tone and Texture, Observations on Form and Structure, Observations on Space and Depth, Sketching Exercises related to the contents specified above.	25	30 %	2,6	CO2	PSO1 PSO2			
3	<b>Rendering Techniques</b> Architectural rendering techniques for building exteriors and interiors using pen & ink, colour, values, tones, etc. Architectural representation of trees, foliage, human figures, cars, symbols, etc.	15	20 %	2,6	CO2	PSO1 PSO2			
4	<b>Material Exploration (Workshop)</b> Brick, Paper, pulp, POP, Clay Brick masonry work (different bonds) and plastering techniques Making of Arches from brick Understanding Craft and Technology – Material exploration (Clay / Printing) - to be Explored as Workshop Modules - Print Making / Clay Sculpting / Casting / Sheet Metal etc.	20	30 %	2,3,6	CO4	PSO2			
<b>Reference Books</b>									
1.	Alkin, Urbelleth and Lione, Pencil Techniques in Modern Design								
2.	Caldwell Peter, Pen and Ink Sketching								
3.	Criss. B. Mills, Designing with Models								
4.	Bernald S and Copplence Myers, History of Art								

## Syllabus of Courses

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Architecture</b>			<b>Academic Year</b>			<b>2021-2022</b>			
<b>B. Arch (UG): Regular Programme</b>											
<b>Year</b>	<b>I</b>	<b>Core /Elective/ Foundation</b> <b>Data Analytics in Architecture</b> <b>(ARC-11XX)</b>			<b>Credits / Hours per week</b>			<b>02 Credits / 03 Hrs per week(1 lecture + 2 Studio)</b>			
<b>Semester</b>	<b>I</b>	Year of Introduction: 2021 Year of Syllabus Revision: -			<b>Maximum Marks / Grade</b>			<b>Total: 100</b> <b>(50 Marks TW + 50 MarksTW including VIVA)</b>			
<b>Mode of Transaction:</b> Lectures, Presentations, in-class exercises, etc. and reviews					<b>Minimum Passing</b>			<b>45 Marks</b>			
<b>Course Outcome (CO)</b> CO1: Understand data types and means of collecting data. CO2: Learn how to calculate and apply various location and measures of variability CO3: Learn various graphs, interpretation and its application in excel. CO4: Learn new statistical programming language.											
<b>Unit No.</b>	<b>Topic/Unit</b>			<b>Contact Hours</b> (Total 15 weeks teaching /semester)	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)</b>

<b>1</b>	<b>Introduction to Analytics</b> Commonly used Analytical terms, process and types of data. Introduction to collection of data for survey problems Creating a survey. Discuss the areas for which students want to collect data.	9	10	1,2	CO1	PSO1,	Emp / Ent	L/N/G	PE
<b>2</b>	<b>Understanding of various analytical terms</b> Sample versus Population. Measures of Central Tendency – Mean, Median, Mode. Mean Vector. Measures of Variation in Data - Variance Covariance and Correlation Matrices.	6	20	1,2	CO2	PSO1,			
<b>3</b>	<b>Processes and Presentation techniques</b> Survey Challenges (Assignment and Presentation in the group) Taking up case studies where it is learnt how to present data to clients, higher authorities and other associated stakeholders It would move from simple graphs and presentation to dynamic dashboards using software like excel (pivot tables)	18	40	2, 3, 4,5	CO3	PSO1, PSO2			
<b>4</b>	<b>Analyze Survey</b> How to Analyze and come up to inferences from graphs. Importance of each type of graph and its applicability Analyzing one case study using data analytical software (ex: R studio, Python etc).	12	30	2, 3,4,5	CO3 CO4	PSO1, PSO2			
<b>Reference Books</b>									
1.	Statistics for business and economics, Andreson, Sweeney, Williams, 12 <sup>th</sup> Edition, Cengage learning								
2.	Excel 2016 Bible, john Walkenbach, ISBN: 978-1-119-06751-1								
3.	Online R Studio: <a href="https://rstudio.com/resources/books/">https://rstudio.com/resources/books/</a>								

## Syllabus of Courses

	<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Civil Engineering &amp;</b> <b>Department of Architecture</b>			<b>Academic Year</b>			<b>2021-2022</b>					
	<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>											
Year	I	<b>Core / Elective / Foundation</b> <b>CVL11XX: Building Material and Construction I</b>			<b>Credits / Hours per week</b>			<b>05 Credits / 05Hrs per week Lecture: 03Hrs (2CVL + 1 ARCHI) Studio: 2Hrs (ARCHI) + 1Hrs (CVL)</b>				
Semester	I	Year of Introduction: Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>			<b>Total:150 Marks (combined passing)Paper :100 Marks (80 CVL + 20 ARCHI) TW/ VIVA: 50 Marks (20 CVL + 30 ARCHI)</b>				
<b>Mode of Transaction:</b> Lectures, Presentations, in-class exercises, sheet making, report writing etc. and reviews					<b>Minimum Passing</b>			<b>67 Marks</b>				
<b>Course Outcome (CO)</b> CO1 Development of ability to analyze a design decision, situation and come up with correct material choice and construction specification. CO2 To know properties and advantages, limitations of different types of building materials CO3 Analyze/ Identification of good quality of building materials CO4 To know application (uses) and preservation of different types of building materials												
<b>Unit No.</b>	<b>Topic/Unit</b>				<b>Contact Hours</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional (R)/ Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability(ES), HumanValues (HV)and Professional Ethics (PE)</b>
					<b>(Total 15 weeks teaching /semester)</b>							

1	<p>Fundamentals of Building Material and Construction (To be taught by Arch. Dept.)</p> <ul style="list-style-type: none"> <li>• Overview of basic building materials like brick, stone, wood etc. with respect to their classification, composition and general uses in the construction industry.</li> <li>• Introduction to building materials as described in Indian architectural contexts. Emphasis should be on developing understanding about making the choice of appropriate building materials in a given situation.</li> <li>• Tracing the evolution and development of elementary forms of structure and their classification. Basic components of built form. Introductory lectures on load bearing and framed structures; their potentials and constraints for design. - Elementary construction methods explaining basic principles of load bearing structures.</li> <li>• Overview of types of bricks, bats and closers etc. English and Flemish brick bonds, stopped ends, quoins, piers, junctions, jambs for various thicknesses. Jointing, pointing and copings.</li> <li>• Types of rubble masonry walls like Random Rubble, Coursed Rubble, Ashlar, etc., stone coping, jointing and pointing.</li> <li>• Building walls with natural materials (properties and construction techniques) – mud, thatch, cane, bamboo, timber.</li> </ul>	24	26%	1,2,4	CO1, CO4	PSO1	EMP, SD	L, R	ES
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2	<p>Building Material and Construction Techniques(To be taught by Civil Dept.)</p> <ul style="list-style-type: none"> <li>• Lime: cementing action of lime, classification of lime, tests for lime.</li> <li>• Cement: manufacturing, composition, types of cement, storage and adulteration, sampling and testing.</li> <li>• Sand: Introduction, sources of sand impurities in sand, sand for concrete work, sand for mortars and plasters, sand for filling, tests</li> <li>• Mortar: classification, characteristics of good mortar, ingredients of mortar and their functions, cement mortar, lime mortar, cement-lime mortar, surkhi mortar, mud mortar, special mortar use of block masonry in buildings, testing of blocks.</li> </ul>	17	22%	1,2,6	CO2, CO4	PSO1 PSO4			
3	<p>Building Materials (To be taught by Civil Dept.)</p> <ul style="list-style-type: none"> <li>• Cast iron, Wrought iron and Steel: Classification, Physical properties, Defects in steel, Various market forms of steel.</li> <li>• Reinforced Cement Concrete: Main principle of preparing RCC, Ingredients of RCC, their functions and different proportions, Types of reinforcement, Placement of reinforcement.</li> <li>• Concrete blocks: manufacturing of concrete blocks, dimensions and tolerances, classification of concrete blocks,- Elementary construction methods explaining basic principles of load bearing structures.</li> </ul>	17	24%	1,2,6	CO2, CO4	PSO1 PSO4			




4	<p>Building Materials (To be taught by Civil Dept.)</p> <ul style="list-style-type: none"> <li>• Clay and Clay Products : Building Tiles – Various types with fig., Flooring tiles, wall tiles, drain tiles, glazed earthenware tiles, Specifications of Tiles, Earthenware – Terracota &amp; Porcelain, Stoneware</li> <li>• Artificial timbers – Various Market forms of Timber, Industrial timber – (veneer, plywoods, fiber boards, Impreg and Compreg timbers)</li> <li>• Plastics – Basic raw material used in plastics, Constituents, Properties, Shortcomings, Classification, Uses, Commercial forms, trade names typical applications of some important plastics, Fiber glass reinforced plastic.</li> <li>• Glass: Definition and Introduction, classification of Glass - Flat Glass : Sheet Glass, Plate Glass, (Silvering, Glazing), Safety Glass: Laminated Safety Glass, Toughened Safety Glass, Wired Safety Glass, Heat Insulation Glass: Foam Glass, Glass Fiber, Glass blocks.</li> <li>• Aluminum: Properties, Alloys of Aluminum, Benefits of using Aluminum as building material</li> <li>• Fly Ash : principle constituents, effect of flyash on cement concrete</li> <li>• Water Proofing Materials : properties, various types of water proofing materials</li> </ul>	17	28%	1,2,6	CO2 CO3	PSO1 PSO4			
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**Reference Books**

1.	Engineering Materials by R.K.Rajput, S.Chand and company, New Delhi
2.	Building Materials by S.K.Duggal, new Age International
3.	Engineering Materials by S.C.Rangwala, Charotar Publication
4.	W.B. Mc Kay, Building Construction Volume 1 to 4
5.	Francis Ching D.K , Building construction illustrated
6.	Sushil Kumar, Building Construction
7	S.K. Sharma , Civil Engineering construction Materials
8	R. Barry ,Building Construction Volume 1 to 5

## B.Arch. Year I, Semester II


### Syllabus of Courses

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty of Technology and Engineering</b> <b>Department of English</b>	<b>Academic Year</b>	<b>2021-22</b>
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>				
<b>Year</b>	<b>I</b>	<b>Core / Elective / Foundation</b> <b>ENG12XX: Communication Skills</b>	<b>Credits/Hours per week</b>	<b>Total: 2.5 Credits / 3Hrs per week Lecture: 2 Credits / 2 Hrs per week Practical: 0.5 Credit / 1Hrs per week</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021	<b>Maximum Marks/Grade</b>	<b>50 Marks (Paper) + 50 marks ( Lab) =100 Marks</b>
<b>Mode of Transaction:</b> Lectures and Practicals			<b>Minimum passing</b>	<b>45 Marks</b>
<b>Course Outcome (CO)</b> CO1 To know the process of communication and its components. CO2 To improve the language skills i.e. Listening Skills, Speaking Skills, Reading Skills and Writing Skills (LSRW). CO3 To effectively conduct meetings and conferences CO4 To enhance phonetic competence, comprehension skills, presentation skills, group discussion skills etc. CO5 To build confidence for communicating in English and create interest for the life-long learning of English language.				

Unit No.	Topic	Contact Hours (Total 15 weeks teaching / semester)	Weightage (%)	BT Level	CO	PSO	Elements of Employability (Emp)/ Entrepreneurship (Ent) /Skill Development (SD)	Relevance to Local (L) /National (N) / Regional (R) / Global (G)	Relation to Gender(G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)
1	Communication skills: Process of communication, Flows of Communication in organization, Barriers to communication (Formal Flow–Upward, Downward, lateral and diagonal, Strategies to improve Organizational Communication, Effectiveness in Managerial Communication, and importance of technical communication, Non- verbal communication.	07	15%	1,2,	CO 1	PSO 1	SD	G	ES
2	Listening Ability, Hearing and Listening, Types of Listening, Barriers to Effective Listening, Traits of a Good Listener.	07	15%	1,2,3	CO 2	PSO 1	SD	G	ES
3.	Presentation Skills and Writing skills: Effective Presentation strategies: Purpose, analyzing the audience and locale, organizing the content, Oral presentation, Graphic presentation, Presentation aids, Personality Development.  Newsletters, technical article and business letters. Technical Reports, characteristics, Importance, objectives, categories of report, format structure of reports, types of reports, ,importance of Plagiarism check.	17	40%	1,2,3	CO3 CO4	PSO 1	SD	G	ES
4	Group Discussion and workplace communication: Qualities needed for effective group discussion. Email etiquettes, Telephone Etiquettes, Role and responsibility of architect, Work culture in jobs. Workplace, rights and responsibilities	07	15%	1,2,4	CO4	PSO 1	SD	G	ES

5	Interviews and meetings:  Types of interview, General preparation for interview, Gathering information about the company, knowing about the role/job position, Types of interviewing questions, Non-verbal communication to win the interview.  Meeting and Conferences: Planning a meeting (Agenda and notice), Conducting a meeting, Post meeting actions (Minutes), Planning & Conducting a Conference (anchoring and Report writing), and Video/web conferences	07	15%	1,2,3	CO3 CO4	1	SD	G	ES
<b>T.W./Pr.</b>	Termwork /Practicals shall be based on above syllabus.								
<b>REFERENCES</b>									
1.	G.S.B.K Babu Rao, "Business Communication and Soft Skill", Himalaya Publishing house (1st Edition)								
2.	Raman Sharma, "Technical Communications", Oxford Publication, London, 2004								
3.	R. Sharma, K. Mohan, "Business Correspondence and Report Writing", TMH New Delhi 2002.								
4.	S. Kumar, P. Lata, "Communication Skills", New Delhi, Oxford University Press, 2011								

## Syllabus of Courses

	<b>The Maharaja Sayajirao University of Baroda Faculty Technology and Engineering Department of Architecture</b>		<b>Academic Year</b>		<b>2021-2022</b>
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>					
<b>Year</b>	<b>I</b>	<b>Core / Elective / Foundation Architectural Design II (ARC-12XX)</b>	<b>Credits / Hours per week</b>		<b>09 Credits / 09 Hrs per week</b>
<b>Semester</b>	<b>II</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021	<b>Maximum Marks / Grade</b>		<b>Studio: 300 Marks</b>

<b>Mode of Transaction:</b> Studio		<b>Minimum passing</b>				<b>135 Marks</b>			
<b>Course Outcome (CO)</b>									
CO1 Formulate a design process for architectural design of single activity space for one or two users and demonstrate the same in the form of a design proposal.									
CO2 Develop conceptualizing skills and vocabulary to explain ideas and proposals.									
CO3 The students shall understand the basic functional aspect of designing a simple building type and its relevant spatial organization.									
CO4 The students shall learn to reciprocate and sensitize the design/concept to the environment and the design skill of the project.									
<b>Unit No.</b>	<b>Topic/Unit</b>	<b>Contact Hours (Total 15 weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional (R)/ Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
1	Material & Context Simple and common materials (stone, bamboo, brick and concrete), their design /structural potential and constraints. Projects based on the above that generate several alternatives and which incorporate the understanding of materials and structure. Small multi-functional projects with a given context. Different contexts such as urban-rural, inner city – suburbs. Structure as a maker of space as well as an ordering mechanism.	27	20%	1,2	CO3	PSO1	EMP, SD	L, R	HV, ES, PE
2	Concept of Scale & Proportion Exercises on proportions and form development, proportion								


	systems in Western and Indian architecture. Development process for form and space for multi-activity units like house, dispensary, guesthouse etc. for a given small social group. The student should apply the knowledge and skills gained in the first semester.	33	25%	1,2,6	CO1, CO2	PSO1			
3	Space Planning ( Form& Spaces) Scale and Complexity: projects involving small span, single space, single use spaces with simple movement, predominantly horizontal, as well as simple function public buildings of small scale; passive energy. Aesthetic and psychological experience of form and space in terms of scale, colour, light, texture, etc.	42	30%	1,2,6	CO2, CO3	PSO1, PSO2			
4	Activities and Spatial Development Understanding human activities and interactions of a small group. Understanding the likes/dislikes, lifestyle of individuals and groups and its influence in shaping architecture. Learning to use design tools and techniques like design brief, time-line activity chart, proximity chart, requirements detailing etc. Function and need: user requirements.	33	25%	1,2,6	CO1, CO4	PSO1			

**Note: Study tours shall be part of this course which would help students to get acquainted to the culture and context of a region taken up for study.**

**Reference Books**

1.	Francis D. K. Ching ,Form, Space & Order
2.	Frank Orr , Scale in Architecture
3.	Bruno Zevi , Architecture as Space
4.	Will Jones; Architects Sketchbooks; Thames & Hudson; 2011.
5.	Sam F.Miller, Design Process: A Primer for Architectural and Interior Design, VNR; 1995.

**Syllabus of Courses**


	<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering Department of</b> <b>Architecture</b>	<b>Academic Year</b>	<b>2021-2022</b>
	<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>		

<b>Year</b>	<b>I</b>	<b>Core /Elective/ Foundation</b> <b>Building Material and Construction II</b> (ARC – 12XX)	<b>Credits / Hours per week</b>				<b>05 Credits / 05 Hrs. per week(2 Lectures + 3 Studio)</b>			
<b>Semester</b>	<b>II</b>	Year of Introduction: Year of Syllabus Revision: 2021	<b>Maximum Marks / Grade</b>				<b>Total: 150 Marks (50 Marks Paper + 100 Marks TW)</b>			
<b>Mode of Transaction:</b> Lectures, Presentations, In-class exercises and reviews			<b>Minimum Passing</b>				<b>67 Marks</b>			
<b>Course Outcome (CO):</b> CO1 Students will understand the building as a structural system CO2 Understanding of the various building elements, their functions and their working detail drawings. CO3 Construction techniques and use of different building material with their intrinsic relationship to structural systems and environmental performance										
<b>Unit No.</b>	<b>Topic/Unit</b>		<b>Contact Hours (Total 15 weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional(R)/Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV)and Professional Ethics (PE)</b>
<b>1</b>	<b>Brick Construction</b> Elementary construction methods explaining basic principles of load bearing structures. Types of bricks, bats and closers etc. English and Flemish brick bonds, stopped ends, quoins, piers, junctions, jambs for various thicknesses. Jointing, pointing and copings. Understanding Brick as a Material and its application		15	20%	1,2	CO1	PSO 1			

2	<p><b>Load bearing and Framed structures</b>  Understanding of building as a structure. Different methods construction of load bearing and framed structure.  Understanding different building elements of R.C.C frame structure such as column, beam, lintel etc.;</p> <p>Introduction of sub structure and super structure. Further understanding different building elements, their functionality and construction methods.  Understanding Application of different materials in load bearing and frame structure.</p>	24	30%	1,2	CO2, CO3	PSO 1, PSO 3			
3	<p><b>Wall section, Plinth and external steps construction</b>  Wall section of load bearing and framed structure.  Basic plinth and steps construction for load bearing and framed structure. Study of external steps in different materials for each building typologies. Its documentation through sketches and site visits.  Construction of Plinth and Upper Floors. Proportions and qualities of different materials like sand, cement, sand, gravels etc.</p>	18	25%	1,2,4	CO2, CO3	PSO 1, PSO 3	EMP, SD	L, R, N	ES, PE
4	<p><b>Arches &amp; Corbelling</b>  Concept of span and its application in creating openings in masonry walls with lintels and arches. Structural difference in the behavior of lintel and arches. Elementary principles of arch construction, terminology and types of lintels, corbelling and arches with their materials for construction.</p>	18	25%	1,2,4	CO2, CO3	PSO 1, PSO 3			
<b>Reference Books</b>									
1.	Pearson Education India; Fifth edition (2013), Building Construction: Metric VOL. I & II by McKay								
2.	Charrotar Publishing House Pvt. Ltd ,Building Construction Book By Rangwala								
3.	S. Dass, 1957, A Text Book of Building Construction by N. K. R. Moorthy								
4.	Sushil Kumar, Building Construction								
5.	R. Barry, Building Construction Volume 1 to 5								




## Syllabus of Courses


		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Civil Engineering</b>			<b>Academic Year</b>			<b>2021-22</b>			
<b>B. Arch: Regular Programme</b>											
<b>Year</b>	<b>I</b>	<b>Core / Elective / Foundation</b> <b>CVL 12XX: Surveying &amp; Levelling</b>			<b>Credits / Hours per week</b>			<b>03 Credits / 03 hours per week</b>			
<b>Semester</b>	<b>II</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>			<b>Total: 100 Marks</b>			
<b>Mode of Transaction</b>		<b>Lectures</b>			<b>Minimum passing</b>			<b>45 Marks</b>			
<b>Course Outcome (CO)</b> CO1 Understand the principles of Surveying CO2 Learn operating various surveying instruments.CO3 Learn various analysis methods of surveying CO4 Understand and Learn to prepare drawings, plans using field data											
<b>Unit No.</b>	<b>Topic</b>			<b>Contact Hours (Total 15 weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional (R)/Global (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>
<b>1</b>	<b>Introduction of Surveying:</b> <ul style="list-style-type: none"> <li>Introduction to surveying, its practicality in the profession. Classification of various survey instruments, techniques &amp; equipment.</li> <li>Reading of survey maps, understanding of features and</li> </ul>			04	09	2	CO 1	PSO1 PSO2	Emp	N,G	HV, PE

	undulations of ground. Scaling of survey measurements and errors in surveying.								
2	<b>Measurements :</b> Principles, Methods of Direct measurements, Instruments for linear measurement, Introduction to total station, Ranging, Methods of Ranging, Offset, Types of offset, Examples based on theory	06	13	2,3,5	CO2, CO4	PSO1 PSO2	Emp, SD	L,N,G	PE
3	<b>Basic Surveying Techniques :</b> Plane table surveying (equipment, methods, advantage & disadvantage, errors etc.), Compass Surveying, Types of meridian & Bearing, Types of compass, Magnetic declination, Local attraction, Theodolite Surveying (temporary & permanent adjustment, measuring of magnetic bearings, Measurement of horizontal & vertical angles and Theodolite traverse & balancing closing error). Tacheometric surveying (general instruments, different systems of tacheometric measurements, stadia method).	21	47	2,3,4,5	CO2, CO3	PSO1 PSO2	Emp, SD	L,N,G	PE
4	<b>Levelling Contours and Slope Analysis :</b> <ul style="list-style-type: none"> <li>Terminologies, Instruments for levelling, Methods of levelling, Types of bench marks, Principles and Classification of levelling, Methods for calculations of RL, Curvature and refraction.</li> <li>Contouring methods &amp; equipment, contour intervals, direct &amp; indirect methods of contouring, block contour surveys, profile leveling, longitudinal &amp; transverse cross sections, and gradients.</li> <li>Measurements along sloping landforms, principles, definitions, methods, instruments required for simple &amp; differential leveling.</li> </ul>	14	31	2,3	CO2, CO4	PSO1 PSO2	Emp, SD	L,N,G	PE
<b>Reference Books</b>									
1	Surveying and Levelling: T. P. Kanetkar & S. V. Kulkarni, Pune Vidhyarthi Grih Prakasan								
2	Surveying and Levelling: N. N. Basak, Mc Graw Hill Education Pvt. Ltd.								
3	Surveying: B. C. Punamia, Ashok Jain & Arun Jain, Laxmi Pub.								

4	Surveying & Levelling – S. C. Rangwala, Charotar Pub. House, Anand
5	Surveying : Vol- I, Dr. K. R. Arora, Standard Book House, Delhi-6
6	Surveying: Vol-I, S. K. Duggal, Mc Graw Hill Education Pvt. Ltd

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Civil Engineering</b>			<b>Academic Year</b>		<b>2021-22</b>			
<b>B. Arch: Regular Programme</b>										
<b>Year</b>		<b>I</b>		<b>Core / Elective / Foundation</b> <b>CVL12XX L : Surveying and Levelling - TW &amp; Viva</b>			<b>Credits / Hours per week</b>		<b>01 Credit / 02 Hrs.per week</b>	
<b>Semester</b>		<b>II</b>		Year of Introduction: Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>		<b>50 Marks TW/ Viva</b>	
<b>Mode of Transaction:</b> Termwork and Practicals					<b>Minimum Passing</b>			<b>22 Marks</b>		
<b>No.</b>	<b>Termwork</b>				<b>Contact Hours</b>	<b>Course Code</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	
1	Compass Surveying: Temporary adjustment of compass, Determinations of included angles, Traversing exercise				06		1,2,3,4	1,2	PSO1, PSO2	
2	Plane Table Surveying: Orientation, Methods				04		1,2,3	1,2	PSO1, PSO2	
3	Levelling: Temporary adjustment of level, Levelling exercise				06		1,2,3,4,5	1,2,3	PSO1, PSO2	
4	Sheets: Conventional Signs and Symbol, Scales				04		1,2	4	PSO1, PSO2	
5	Total Station Project				04		1,2,3	1,2,3,4	PSO1, PSO2	
6	Theodolite (height of pole)				06		1,2,3	1,2,3	PSO1, PSO2	


## Syllabus of Courses

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Applied Mechanics and Structural Engineering</b>		<b>Academic Year</b>			<b>2021-2022</b>				
<b>B. Arch (UG): Regular Programme</b>											
<b>Year</b>	<b>I</b>	<b>Core / Elective / Foundation</b> <b>Applied Mechanics</b> <b>(APM-12XX)</b>			<b>Credits / Hours per week</b>			<b>03 Credit / 03 Hrs. per week</b> <b>(lectures)</b>			
<b>Semester</b>	<b>II</b>	Year of Introduction: 2007 Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>			<b>Total: 100 Marks Paper</b>			
<b>Mode of Transaction:</b> Lectures and Tutorials					<b>Minimum Passing</b>			<b>45 Marks</b>			
<b>Course Outcome (CO)</b> CO1 To learn comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. CO2 To get understanding of specialist bodies of knowledge within the engineering discipline. CO3 To apply the concept of equilibrium to systems which can be modeled as particles in 2D, and to rigid bodies in 2D. CO4 To calculate different types of stresses like normal stress, shear stress etc. and corresponding stresses for various loading conditions both for static and dynamic parts of structures or machines.											
<b>Unit No.</b>	<b>Topic/Unit</b>			<b>Contact Hours</b> <b>(Total 15 weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurship (Ent)/ Skill Development (SD)</b>	<b>Relevance to Local (L)/ National (N)/ Regional/Global (G) developmental needs</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human Values (HV) and Professional Ethics (PE)</b>

<b>1</b>	Forces and force system Statics-Basic principles of statics, Forces, Units, Types of force systems, Conditions of equilibrium of force system. Resultant of concurrent forces & Parallel forces, Analytical & Graphical methods, moment of force & Principles of moments, Parallel forces and couples.	12	30%	1,2	CO1 CO3	PSO1 PSO3			
<b>2</b>	Beams and trusses  Beams: Reaction in the beam. Trusses: Introduction and assumptions, Solution of trusses by method of joints, and method of sections.	12	25%	3,4	CO1 CO3	PSO1 PSO3	SD	N	ES
<b>3</b>	Elasticity of materials Elasticity of materials: Stress & Strain, Hooke's law, Stress- strain diagram. Elasticity constants, Working stress and factor of safety, Lateral strain and Poisson's ratio, Relation between elastic constants. Temperature stresses (simple and composite case)	12	30%	1,2, 3	CO1 CO2 CO4	PSO1 PSO3			
<b>4</b>	Introduction to structural systems Basic ideas about structure in design of architecture, various structural system concepts for buildings.	09	15%	1,2	CO1 CO2 CO3	PSO1 PSO3			


#### Reference Books

1.	Applied Mechanics By S. B. Junnarkarand H. J. Shah.
2.	Mechanics of Structures Vol. I by S. B. Junnarkarand H. J. Shah.
3.	Elements of Strength of Materials by S. Timoshenko and D. H. Young
4.	Strength of Materials by R.S.Khurmi.
5.	Strength of Materials by R.C.Patel, T.D.Bhagia&B.M.Patel.
6.	Strength of Materials by Ramamrutham.

		<b>The Maharaja Sayajirao University of Baroda Faculty Technology and Engineering</b> <b>Department of Applied Mechanics and Structural Engineering</b>			<b>Academic Year</b>		<b>2021-2022</b>		
<b>B. Arch (UG): Regular Programme</b>									
<b>Year</b>	<b>I</b>	<b>Core / Elective / Foundation</b> <b>Applied Mechanics-TW &amp; Viva (APM- 12XXL)</b>			<b>Credits / Hours per week</b>		<b>01 Credit / 02 Hrs. per week</b>		
<b>Semester</b>	<b>II</b>	Year of Introduction: 2007 Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>		<b>50 Marks TW/ Viva</b>		
<b>Mode of Transaction :</b> Laboratory Experiments, discussion and viva					<b>Minimum passing</b>		<b>22 Marks</b>		
<b>No.</b>	<b>Experiment</b>				<b>Contact Hrs. (Total 15 weeks teaching /semester)</b>	<b>Weightage</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>
1	Law Of Parallelogram Of Forces				4	13	2,3,5	CO2	PSO2
2	Law Of Polygon				4	13	2,3,5	CO2	PSO2
3	Simple Beam				4	13	2,3,5	CO2	PSO2
4	Jib Crane				2	7	2,3,5	CO2	PSO2
5	Complete Tensile Test On Mild Steel (Ms)				2	7	2,3,5	CO2	PSO2
6	Modulus Of Elasticity For Ms				2	7	2,3,5	CO2	PSO2
7	Direct Shear Test On Ms				2	7	2,3,5	CO2	PSO2
8	Coprression Test On Ms And Cast Iron (Ci)				2	7	2,3,5	CO2	PSO2
<b><u>GRAPHICS – STATICS</u></b>									
1	Coplanar Concurrent Force System-1				2	6	2,3,5	CO2	PSO2

2	Coplanar Concurrent Force System-2	2	6	2,3,5	CO2	PSO2
3	Coplanar Non-Concurrent Force System-1	2	7	2,3,5	CO2	PSO2
4	Coplanar Non-Concurrent Force System-2	2	7	2,3,5	CO2	PSO2

### Syllabus of Courses

		<b>The Maharaja Sayajirao University of Baroda</b> <b>Faculty Technology and Engineering</b> <b>Department of Architecture</b>			<b>Academic Year</b>		<b>2021-2022</b>					
<b>Bachelor of Architecture (B.Arch.): Regular Programme</b>												
<b>Year</b>	<b>I</b>	<b>Core / Elective/ Foundation</b> <b>Basic Design &amp; Workshop II</b> <b>(ARC-11XX)</b>			<b>Credits / Hours per week</b>		<b>03 Credits / 05 Hrs per week</b> <b>(1 Lecture + 4 Studio)</b>					
<b>Semester</b>	<b>II</b>	Year of Introduction: 1994 Year of Syllabus Revision: 2021			<b>Maximum Marks / Grade</b>		<b>Total: 100</b> <b>(50 Marks TW + 50 Marks TW including VIVA)</b>					
<b>Mode of Transaction:</b> Lectures, Presentations, in-class exercises, model making etc. and reviews					<b>Minimum Passing</b>		<b>45 Marks</b>					
<b>Course Outcome (CO)</b> CO1 The students gain mastery in sketching, visualizing and expression through manual drawing. CO2 Sensitized to culture, craft and context. CO3 Skill Development in Handling Materials and in Making Products.												
<b>Unit No.</b>	<b>Topic/Unit</b>				<b>Contact Hours (Total 15weeks teaching /semester)</b>	<b>Weightage (%)</b>	<b>BT Level</b>	<b>CO</b>	<b>PSO</b>	<b>Elements of Employability (Emp)/ Entrepreneurs hip (Ent)/ Skill</b>	<b>Relevance to Local (L)/National (N)/ Regional/I/G lobal (G)</b>	<b>Relation to Gender (G), Environment and Sustainability (ES), Human</b>

							Development (SD)	developmental needs	Values (HV) and Professional Ethics (PE)
1	<p><b>Graphic Design</b></p> <p>Explanation of fundamentals of drawings and its practice. Object drawing, studies in light and shade of simple, natural and geometric forms. Study built environment, light and shade pattern, surface texture, scale and proportion.</p>	15	20%	1,2,6	CO1	PSO1 PSO2	EMP, SD	L, R,G	HV, PE
2	<p><b>Abstraction from Observation</b></p> <p>Introduction to history of Graphic Design</p> <ul style="list-style-type: none"> <li>-Visual perception theory (Gestalts)</li> <li>-Principle of Compositions</li> <li>-Colour Theory</li> <li>-Type Design and Typography (Layouts / Format / Calligraphy)</li> <li>-Environmental Graphics (Signage / Logo / enhancing the built environment)</li> <li>-Exercises in environmental graphic design, colour and composition</li> </ul>	20	25%	2,6	CO2	PSO1 PSO2			
3	<p><b>Understanding and Exploring Forms (Diagramming)</b></p> <p>Conceptual sketches – Plan, section, elevation, perspectives, isometric / oblique projections, axonometric /parallel projection, photography and montage as techniques in Architectural Delineation from study till presentation.</p> <p>Two-dimensional and Three-dimensional exercises using different Media and materials- the basic aim being organization of space, order, unity, harmony, balance, etc. Studies of surface textures of materials their psychological and Visual effects-their uses.</p>	15	25%	2,6	CO1, CO2	PSO1 PSO2			



4	<b>Material Exploration (Workshop)</b> Stone and Wood carpentry workshop. Understanding Culture and Craft Material exploration (Wood/ Stone) – to be Explored as Workshop Modules – Wood Carving / Stone Sculpting	25	30%	2,3,6	CO3	PSO1, PSO2			
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#### Reference Books

1.	Alkin, Urbelleth and Lione, Pencil Techniques in Modern Design
2.	Caldwell Peter, Pen and Ink Sketching
3.	Criss. B. Mills, Designing with Models
4.	Bernald S and Copplence Myers, History of Art
5.	Krier Rob, Element of Architecture
6.	Gill, Rendering with Pen and Ink
7.	Wenninger, Spherical Models
8.	John W. Mills, The Technique of Sculpture
9.	David & Charles, U.K., 1994, Moivahuntly, “The artist drawing book”
10.	Mills and Boon, London/Charles, T. Brand Ford Company, U.S.A., Arundell (Jan) Exploring sculpture
11.	The Grumbacher Library Books, New York, 1996. The art of drawing trees, heads, colours, mixing, drawing, landscape and painting, water colour, oil colour, etc.
12.	Caldwell peter, “Pen and Ink Sketching”, B.T. Bats ford Ltd., London, 1995.