

PROPOSED

COMMON SYLLABUS FOR ARCHITECTURE COLLEGES UNDER GUJARAT UNIVERSITY

FOR 2015 ONWARD BATCH

DT. 13.7. 2015

J Y A - M A T R I X

'Jya' means 'Prithvi' in Sanskrit language; 'Matrix' means the womb, or environment, A framework which allows a particular syllabus or topic to grow from 'the phenomenon of the nature' to Indian mythology. Like, word 'Geometry' which originates from Sanskrit word 'Jya-miti' means 'Measurement of Earth'

Jya-matrix will be

New method of teaching which evolves, new education techniques and references on the bases of '**Indian origins with primacy of nature.**

APPLYING **JAYA MATRIX FOR FOUNDATION BATCH (1ST SEMESTER) B.ARCH COURSE (34HRS.)**

FIRST YEAR FIRST SEMESTER - B. ARCH									
Code	Subject	Hours/Week					Evaluation System		TOTAL MARKS
		L	S	WS LAB	Viva	Total hours	Exam	TW.	
AR-101	DESIGN ACTIVITIES (Studio)	-	4	-	-	4	0	200	200
AR102	CONSTRUCTION (Building Construction)	2	2	-	-	4	100	100	200
AR103	FUNDAMENTALS OF PHYSICAL FORCES (Structure)	2	-	-	-	2	0	50	50
AR104	INDIAN HISTORY-1 (humanities)	2	-	-	-	2	50	50	50
AR105	UNIVERSAL DESIGN(Basic Design)	-	6	-	-	6	0	200	200
AR106	GEOMETRY	2	-	-	-	4	50	50	100
AR107	ARCHITECTURAL LANGUAGE (TRD)	2	2	-	-	4	0	200	200
AR108	EXPRESSION OF IDEAS(Communication skill)	2	-	-	-	2	50	-	50
AR109	SKILL DEVELOPMENT(Drawing & Painting)	-	-	2	-	2	0	100	100
AR110	SELF DEVELOPMENT (CHILD HOOD CONNECTION-1,YOG, PRANAYAM,)	-	-	4	-	4	-	100	100
						34			1250

WS Lab - Workshop base subject

TW- Term work,

L- Lecturer

S- Studio based subject

JYA - METRIX

New Syllabus for Architecture Education on bases of 'Indian origin with primacy of Nature FOR 2015 ONWARD BATCHES

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Subject	DESIGN ACTIVITY (DESIGN STUDIO-1)
CODE AR101	
FOCUS	To perform design (problem solving activities)
OBJECTIVES	<ul style="list-style-type: none"> To introduce design and how to apply design tools? Application of design fundamentals on various fields other than architecture.
CONTENT	<p>A. To introduce other design fields like, 1.product design.2.Furniture3. Industrial 4. Automobile 5.graphicdesign 6.textile 7.exhibition design 8.fashion 9.appreal design 10.ecessory design11. Jewellery 12. Visual communication 13. Aviation design etc.</p> <p>B. To make them learn about design techniques like, 1. Mind mapping 2. Under lays 3. Thumbnail sketches 4.bubble diagrams 5.scribling 6.scrap book.</p> <p>C. Client's study physical requirements, psychological needs</p> <p>D. Targeted audience(mass study)</p> <p>E. To understand difference between Need base design/Desire base design</p> <p>F. To learn human dimension starting from finger, palm, footsteps.</p> <p>G. Ancient Indian measurement like vedh, guntha, jojan</p> <p>H. Appropriate/ optimum dimensions</p>
METHODOLOGY	<ul style="list-style-type: none"> To learn about form space relationships, diff. between space and volume. To combine basic design exercises with design studio Time problem exercises on various design fields Students will study ancient design objects like vessels utensils, weapons, locks etc. Several site visits to old pole housing in old Ahmadabad city/ nearby villages To work out design inspired from inanimate specimen from natural surroundings. To study its geometry, dimensions, purpose essence of it in nature To design a space for children, in school, home, play area or garden. To work out habitat for either pets, wild animals, birds, insects
REFERENCES	Looking and seeing series by Kurt Rowland

Subject	CONSTRUCTION-1
CODE AR102	
FOCUS	To learn different construction methods.
OBJECTIVES	<ol style="list-style-type: none"> 1. To perceive form making process of nature. 2. To understand evolution of ancient Indian construction techniques.
CONTENT	<ol style="list-style-type: none"> 1.Documentation of bee hives, nests, spider webs, insects holes etc.. 2.Comparative analysis of these forms with manmade shelters like caves, huts, sub terrain structures. 3.To study different types of enclosures in Indian architecture. 4.Learning elements of construction like, foundation, plinth, wall, roof, openings, beams, columns, enclosures etc. 5. Brick and stone masonry 6.Mud block construction 7. Dimensions involved in materials like stone, brick, wood, steel etc. 8.Geometry of construction 9.To study present day materials
METHODLOGY	<ol style="list-style-type: none"> 1.Introductory sessions on different topics, slide presentations, 2.To do actual masonry work in field. 3.Classroom exercises like pencil drafting, scale models 4.Site visits for major or typical construction work. 5.Write-ups for observations
REFERENCES	<ul style="list-style-type: none"> • Animal architecture • Architecture without architect • building construction illustrated • building materials and construction technique of ancient India by dr.a.s.nene

Subject	FUNDAMENTALS OF PHYSICAL FORCES (STRUCTURE)
CODE AR103	
FOCUS	To understand about physical forces
OBJECTIVES	Study of structural qualities of living and non living organisms in nature. To Analyze and design elements of structure through natural world.
CONTENT	<ol style="list-style-type: none"> 1. To learn how mathematics can help to give some of nature's efficiency to manmade objects? 2. To study Absolute limitations of magnitude in nature. 3. Fundamentals and formulas derived from physical forces like, <ul style="list-style-type: none"> • Direction of motion, • Gravity, • Bilateral symmetry • Tension, and compression • Speed and size • Form and strength 4. Importance of mathematical formulas to analyze and design true natural world elements of structure 5. Shape of form arises because of function and forces
METHODOLOGY	<ul style="list-style-type: none"> • To observe capture and study animate and in-animate specimen from nature like grass, leaves, stems, bones. • laboratory analysis of selected forms • microscopic studies • making of scale model wire frame structures
REFERENCES	

Subject	INDIAN HISTORY 1 (HUMANITIES)
CODE AR104	
FOCUS	To appreciate Indian civilization
OBJECTIVES	To study evolution process of mankind
CONTENT	<ol style="list-style-type: none"> 1. To learn evolution of group living, like Settlements, Colonies, Villages Town, Cities, and Nation. 2. To study reasons behind it for e.g. geographical situation, natural resources like water, fertile land. Primary issues like safety, food, Trade, religion. 3. To find out examples in nature for group living like, formation of herds, bird colonies, tribes. 4. To study Leadership, territorial premises, protection, prosperity other common cause in different civilizations, all over the world. 5. To study values importance of Indian civilizations, 6. To study spectrum of Aryan kingdom stretching from Afghanistan to Burma 7. Study of different Eras from Mourya Dravid Indus valley. 8. scientific explanation of Hindu religion, god and goddesses, different rituals 9. to learn Hinduism from early treatises like Veds, Upnishads, Purans
METHODOLOGY	<ol style="list-style-type: none"> 1. collection of information on early Indian civilization on given topics 2. group discussions group work 3. individual assignment 4. site visits study tours 5. audio visual presentation 6. documentation of tribal settlements, villages house form, cluster 7. clay modeling building, drafting, sketching
REFERENCES	

Subject	UNIVERSAL DESIGN (BASIC DESIGN-1)
CODE AR105	
FOCUS	To understand 'problem solving activity'. First step to peep into grand design of universal creative spirit.
OBJECTIVES	To find out what is design? To see process of nature, How nature creates infinite variety of single purpose.
CONTENT	<ol style="list-style-type: none"> 1. Good & bad Phenomena. 2. Visualization of ideas from nature 3. Collecting and documenting texture, patterns from surroundings. Selecting inanimate form from nature, documenting it with pencil line drawing. To inspire from it for design problem. 6. Documentation of different situation through diff. mediums like pastels. Water colors, poster colors etc. 7. Form follows function, form space relationship, Proportion, scale from nature.
METHODOLOGY	Sensitizing students towards nature's creation by giving them various exercises. To go back and forth to Nature to find out solutions and Geometrical order.

Subject	GEOMETRY (jya- miti)
CODE AR106	
FOCUS	To establish as a underlying discipline of form making process
OBJECTIVES	
CONTENT	<ol style="list-style-type: none"> 1. Introduction 2. Geometric fundamentals 3. Geometry in nature 4. Two dimensional space and its underlying structure 5. Geometric principles as they apply to aesthetic and creative thinking 6. Geometric terminology 7. Construction methods of various shapes 8. Principles of symmetry, proportion systems 9. Reorganization of growth patterns like spirals and curves. 10.2d tessellation
METHODOLOGY	<ul style="list-style-type: none"> • Drafting techniques • Paper folds paper models • Demonstration • Geometrical Analysis of natural forms and its application. • Paper modeling
REFERENCES	

Subject	ARCHITECTURAL LANGUAGE (A.G.T- 1)
CODE AR107	
FOCUS	To develop an understanding of technical drawing as a tool for communication.
CONTENT	<ol style="list-style-type: none"> 1. Introduction and use of drawing instruments. 2. Line exercise. 3. Lettering. 4. Orthographic projections. <ul style="list-style-type: none"> • Solids • Planes • Lines, points 5. Orthographic projections: inclined objects. 6. Section of solids. 7. Auxiliary projections. 8. Development of surfaces.
METHODOLOGY	Various drawing exercises and making models of basic geometrical solids.
REFERENCES	<ul style="list-style-type: none"> • Engineering drawing - N.D.Bhatt • Essentials of drafting - B.James • Rendering with pen and ink - Gill Robert

Subject	EXPRESSION OF IDEAS (COMMUNICATION SKILL)
CODE AR108	
FOCUS	To learn importance of communication
OBJECTIVES	To communicate with/without spoken language
CONTENT	<ol style="list-style-type: none"> 1. Use of 'signs' before 'language' by early by Homo- sapiens 2. How To communicate without spoken language. 3. Types of languages from signs gestures body language dance form drama drawings paintings. 4. To understand how communication happens between animals, birds, insects mammals? Like for e.g. Mating time, body gesture in fights, while nurturing infants, during continental migrations. 5. Evolution of spoken languages like Sanskrit, Devnagri, Hindi foreign languages like Persian, Hibru, English etc. 6. Comparative study to find out similar words among different cultures. Similarities between vocabularies, grammars, proverbs. 7. Presentation techniques how to sell ideas or product 8. Importance of spoken languages like mother languages ,Hindi, English 9. To learn appropriate use of language as per situations, circumstances, places, and people. 10. How communication has affected entire mankind in today's world?
METHODOLOGY	<ul style="list-style-type: none"> • group discussions • performances • Public speeches • Audio visuals • practical application in juries and work presentations • Exam, assignments
REFERENCES	

Subject	SKILL DEVELOPMENT (DRAWING & PAINTING-1)
CODE AR109	
FOCUS	Learning the basic skills of sketching and drawing the given object or the place.
CONTENT	<p>To make them learn about charcoal, pencil, color wheel, Different techniques of drawing and painting.</p> <p>To teach basic elements of visual art. Like foreground, background, composition, tonal values etc.</p> <p>To exercise</p> <ol style="list-style-type: none"> 1. Straight lines, circles, basic geometrical shapes, without use of instruments <p>Exploration in making of different quality of lines on different surfaces.</p> <ol style="list-style-type: none"> 2. Drawing the shapes/forms from memory and from observation contour drawings. 3. Sketching of animate & inanimate objects in nature, natural situations from surroundings, with use of pencil colors 4. Observing and capturing textures, patterns from natural objects. 5. Outdoor sketching: natural surroundings, plant trees
METHODOLOGY	<p>To draw natural objects, situations with use of hand fingers, natural material like, leaf juices, cotton, etc. other than pencil, or drawing material.</p> <p>Freehand sketching and drawing with different grades of pencils, charcoal sticks and kittas(with fountain pen ink),on different qualities of papers.</p>
REFERENCES	<ul style="list-style-type: none"> • Design drawing - Francis D.K. Ching • Rendering with pen and ink - Robert W. Gill • The natural way to draw - Kimon Nicholaides • Drawing/thinking - Edi. Mark Treib

Subject	SELF DEVELOPMENT (Yog pranayam, child hood connection-1)
CODE AR110	
FOCUS	1. To harmonize our own 'Nature' with 'Nature' outside. 2. Being natural' is a fundamental quality for a creative person. We want to learn that from kids.
OBJECTIVES	1. To establish yog- pranayam as an essential human activity like breathing, eating, sleeping, and walking. 2. To know our self. Why do we behave as we do? 3. Introduction of our religions, rituals, religious values 4. To know child within our self.
CONTENT	1. Introduction of human body 2. To Differentiate between Gyms based exercises and Yog. 3. How Yoga sans rejuvenates human organs. 4. Type of Asans. 5. To observe and capture life cycle of insects, birds, animals with help of clay , sketches , models etc.
METHODOLOGY	<ul style="list-style-type: none"> • To perform physical yoga sans, pranayam other breathing exercises. • In outdoor environment. it can be combine sessions for other classes also. • Introductory sessions through slides, lectures demonstration. • Food habits and appropriate diet guidelines. • To conduct different interactive exercises with 1st to 3rd standards school kids.
REFERENCES	For Yogasan, pranayam Books written by H.H. shri Rajarshi Muniji, Karma no siddhant by Hari bhi panchal Naked ape by Desmond Morris