Date: 28 March 2022

NOTICE

Following are the certificate courses that will be offered during the **academic year 2022-23** by L. S. Raheja School of Architecture for the students enrolled in the 5 years full time **B. Arch.** program.

List of Certificate Courses (A. Y. 2022-23)				
Sr. No.	**Course Code**	**Course Name**	**Semester**	**Duration**
1	BARE121 ELECTIVES SR	Architectural Sketching & Rendering	I	12 Week
2	BARE221 ELECTIVES AB	AutoCAD Basics	II	12 Week
3	BARE321 ELECTIVES AS	Architectural Softwares- AutoCAD and SketchUP	III	14 Week
4	BARE421 ELECTIVES RB	Revit Basics	IV	12 Week
5	BARE521 ELECTIVES RR	Revit & Rhino	V	16 Week
6	BARE621 ELECTIVES GI	GIS Basics	VI	16 Week
7	BARE721 ELECTIVES GL	Effective use of Glass in the Built Environment	VII	12 Week
8	BARE921 ELECTIVES AL	Advanced Landscape	IX	12 Week
9	BARE921 ELECTIVES CM	Introduction to Construction Management	IX	16 Week
10	BARE921 ELECTIVES ER	Earthquake Resistant Architecture and Passive design	IX	12 Week
11	BARE921 ELECTIVES HC	Heritage Conservation	IX	12 Week

The interested students can apply for these courses by contacting certificate course coordinator **Ar. Anmol Warang or respective class incharges of the semester** before **15 April 2022.** The certificate of completion* shall be issued by the institute for the students after successful completion of course.

Principal

L. S. Raheja School of Architecture * Bandra (E) * B.ARCH.

*Terms and conditions apply.

Raheja Education Complex,
Plot No. 341, Kher Nagar
Bandra (East), Mumbai - 400051.

Tel.: 022 6196 6666, 2647 5861
E-mail.: rahejaarch@lsrsa.edu.in
Website.: www.lsrsa.edu.in

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

RULES AND REGULATIONS FOR THE CERTIFICATE COURSES OFFERED FOR FIVE YEARS FULL TIME B.ARCH. PROGRAM

A. Eligibility Criteria

1. Participants should be bonafide students of L. S. Raheja School of architecture and has an active enrollment status in the five years full time B. Arch Program.
2. Participants should be in the semesters of studies as a fresh attempt. (i.e. repeaters and/or ATKT students are not eligible for the participation in certificate course program)
3. Repeaters and/or ATKT students are eligible to attend the certificate courses.

B. Certificate Course Completion Criteria

1. Participants should maintain minimum of 75% of attendance
2. Participants should score at least 50% marks in all the assignments
3. Participants should fulfill criteria B1 and B2 in one attempt only.
4. Participants who will not fulfill the criteria B1 and B2 shall not be granted a certificate of completion. However, after upgradation of the work such participants shall receive sessional marks and due course credits.
5. Participants who fall under the criteria A3 shall not be granted a certificate of completion. However, such participants shall receive sessional marks and due course credits.

L. S. Raheja School of Architecture B. ARCH. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Details of Certificate Courses for Academic Year 2022-23

Course Code	BARE121 ELECTIVES SR		
Course Name	**Sketching & Rendering**		
Course Instructor	Ar. Meghana Patil, Ar. Anuj Gudekar, Ar. Shraddha Palande		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	90	Duration	12 Weeks
Course Content			
Architectural sketching & rendering is the process of creating two-dimensional and three-dimensional images of a proposed architectural design. The aim of this course is to make students aware about the various hand rendering techniques which can be used to enhance the presentation of the architectural drawings.			
Expected Outcomes			
Students are expected to render the given architectural sketch/design in various mediums of rendering taught in the studio.			

Course Code	BARE221 ELECTIVES AB		
Course Name	**AutoCAD Basics**		
Course Instructor	Ar. Gargi Karve		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	90	Duration	12 Weeks
Course Content			
The Electives is intended to introduce for the first time, a software - AutoCAD which performs as a drafting aid to Architect & designers in their academic and professional life. Not only the interface and commands are part of the subject, but also methodologies of optimising time and precision which are important to be developed from the beginning are an essential part of the syllabus.			
Expected Outcomes			
The students at the end of the course are expected to be able to use the software in design and other subjects and develop their skills during the course.			

Course Code	BARE321 ELECTIVES AS		
Course Name	**Architectural Softwares- AutoCAD and SketchUP**		
Course Instructor	Ar. Deepa Desai, Ar. Ninad Sansare		
Year of Studies	2nd Year B. Arch	Semester	III
Max. no. of Students	85	Duration	14 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creative ability of architectural students to understand space. This course aims to study basic and advanced commands for AutoCAD and SketchUP.			
Expected Outcomes			
Students are expected to produce computer aided 2D and 3D drawings for a small residential house designed in			

L. S. RAHEJA SCHOOL OF ARCH. B. ARCH. BANDRA

Course Code	BARE421 ELECTIVES RB		
Course Name	**Revit Basics**		
Course Instructor	Ar. Gargi Karve		
Year of Studies	2nd Year B. Arch	Semester	IV
Max. no. of Students	85	Duration	14 Weeks
Course Content			
The construction industry has moved from computational designs to BIM. The course is designed to expose the students to Revit, a BIM software and use it in subjects such as Design & Working Drawing. The interface, basic commands and process of modelling are part of the Electives program.			
Expected Outcomes			
Learning how to draft and model in Revit during this course and practising the same in other subjects for the next semesters, the students are expected to cultivate their knowledge in the software and implement the same during their professional career.			

Course Code	BARE521 ELECTIVES RR		
Course Name	**Revit & Rhino**		
Course Instructor	Ar. Gargi Karve		
Year of Studies	3rdYear B. Arch	Semester	V
Max. no. of Students	90	Duration	16 Weeks
Course Content			
Along with continuing learning more commands in Revit, introduction to Parametric architecture through Rhino and Grasshopper is the essence of this course. The Subject allows students to explore forms using Rhino and basics of Grasshopper coding.			
Expected Outcomes			
The students are expected to design and create unique forms using Rhino and should be able to draft the details using Revit. Both the software will help them elevate their design, drafting and Graphics skills.			

Course Code	BARE621 ELECTIVES GI		
Course Name	**GIS Basics**		
Course Instructor	Rama Shivalkar		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	90	Duration	16 Weeks
Course Content			
A geographic information system (GIS) is a system that creates, manages, analyses, and maps all types of data. GIS connects data to a map, integrating location data (where things are) with all types of descriptive information (what things are like there). In this course students will learn now to use basic functions of GIS for architectural and urban mapping.			
Expected Outcomes			
Students are expected to produce maps of a given area by using GIS software.			

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE721 ELECTIVES GL		
Course Name	**Effective use of Glass in the Built Environment**		
Course Instructor	Ar. Mridula Pillai, Ar. Anuj Gudekar		
Year of Studies	4th Year B. Arch	Semester	VII
Max. no. of Students	70	Duration	12 Weeks
Course Content			
Understanding the manufacturing process of glass , so as to understand the embodied energy in its manufacture. Factors affecting the choice of Glass in the built environment through the point of view of various stakeholders. Understand the Mechanical, Thermal & optical properties of glass. Understanding the Value Addition to the Glass- Tints, Coatings, fretting, toughening and lamination. Understanding the Glazing types. Energy Performance of Coated Glass for various Glazing types and comparison with the ECBC standards. understanding the choice and assembly of glazing type through LBNL's Window software.			
Expected Outcomes			
Students are taught to choose the glazing type for various climatic conditions, based on the data available through the LBNL's Window software. Using the data set from the above mentioned exercise is further used to analyse the performance in a conventional building using the spreadsheet calculations. These calculations take into account a Window to Wall Ratio (WWR) for all the cardinal directions. In addition these parameters are isolated to check the change in the building performance for the cooling loads.			

Course Code	BARE921 ELECTIVES AL		
Course Name	**Advanced Landscape**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
This elective introduces students to advanced theories and concepts in landscape design and landscape planning and encourages students to research on site and city related concerns.			
Expected Outcomes			
Students conduct individual and collaborative research on smaller topics along with analytical studies on maps and diagrams.			

L. S. Raheja School of Architecture * B.ARCH. * Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE921 ELECTIVES CM		
Course Name	**Introduction to Construction Management**		
Course Instructor	Ar. Meghana Patil		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	16 Weeks
Course Content			
1. Roles and responsibilities of a construction manager 2. Project delivery methods, types of projects and scales of projects. 3. Management of money, time, men, material and machinery. 4. Learning about various planning techniques, PERT & Critical Path Method (CPM) 5. Risk evaluation, mitigation and management 6. Learning about bids, negotiations and tendering methods 7. The importance of avoiding and learning from mistakes. Impact of global and national policies on project planning and business			
Expected Outcomes			
Students form groups of 4-6 students each. Each group selects a small/medium-scale live architectural/ interior execution project for study. They are to identify all the discussed factors that a Construction manager deals with; within their projects and represent the information graphically. They shall analyse and present aspects of time, money, man management, material and machinery assessment.			

Course Code	BARE921 ELECTIVES ER		
Course Name	**Earthquake Resistant Architecture and Passive design**		
Course Instructor	Ar. Sachin Prabhu		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content:			
Understanding of Earthquake, Why Earthquakes on planet Earth? Measurements of Earthquake shakings, Analysis of Last Century Earthquakes in India, Understanding effect of Earthquakes on buildings with respect to their strength. Design strategies to make Earthquake Resistant buildings. Load bearing structures in Bricks and Stones. Frame structures and different strategies to make them Earthquake Resistant Buildings. Passive Design: Understanding of making buildings less energy consuming at schematic and planning level. Understanding Sun-path and possible wind flows to gain more natural sunlight and winds (Air-circulation) inside the building. Zoning of the building and fragmentation (Scooping) of the building is done too achieve maximum day-light and cross ventilation.			
Expected Outcomes:			
Students are designing G+1 Bungalow in Load-bearing (Submission 1) and RCC (Submission 2) frame structures as Earthquake resistant structure. The are showing different Earthquake resistant remedies in plan, section, elevations and working details. By understanding sun-path and possible wind directions, the same bunglow plan is zoned and scooped out (fragmented) to get more Day-light and cross ventilation. (Submission 3)			

L. S. Raheja School of Architecture (B.ARCH.) Bandra

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE921 ELECTIVES HC		
Course Name	**Heritage Conservation**		
Course Instructor	Ar. Deepa Desai		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
1. Know your heritage 2. Introduction to Conservation 3. Vocabulary of Conservation Process 4. Role of a conservation architect 5. Heritage walk in or near the city of Mumbai 6. Framework of conservation 7. Guest Lecture on conservation practice 8. Decay and Material 9. Scale of conservation 10. Studio Interactions and Discussions			
Expected Outcomes			
Students are expected to identify and document the existing heritage in Indian cities. Based on that they are expected to generate value assessment document and to generate representation drawing for the same.			

Date: 29 March 2021

NOTICE

Following are the certificate courses that will be offered during the **academic year 2021-22** by L. S. Raheja School of Architecture for the students enrolled in the 5 years full time **B. Arch.** program.

List of Certificate Courses (A. Y. 2021-22)				
Sr. No.	**Course Code**	**Course Name**	**Semester**	**Duration**
1	BARE121 ELECTIVES SR	Architectural Sketching & Rendering	I	12 Week
2	BARE221 ELECTIVES AB	AutoCAD Basics	II	12 Week
3	BARE321 ELECTIVES AS	Architectural Softwares- AutoCAD and SketchUP	III	14 Week
4	BARE421 ELECTIVES AM	Analytical method for architectural case studies	IV	14 Week
5	BARE521 ELECTIVES MC	Mini City	V	12 Week
6	BARE621 ELECTIVES BS	Better Streets	VI	12 Week
7	BARE621 ELECTIVES HC	Heritage Conservation	VI	12 Week
8	BARE621 ELECTIVES AF	Architectural Fiction	VI	16 Week
9	BARE621 ELECTIVES DL	Daylighting	VI	12 Week
10	BARE721 ELECTIVES GL	Effective use of Glass in the Built Environment	VII	12 Week
11	BARE921 ELECTIVES CM	Introduction to Construction Management	IX	16 Week
12	BARE921 ELECTIVES ER	Earthquake Resistant Architecture and Passive design	IX	12 Week
13	BARE921 ELECTIVES HC	Heritage Conservation	IX	12 Week
14	BARE921 ELECTIVES RF	Redevelopment & Feasibility	IX	12 Week
15	BARE1021 ELECTIVES PA	Comprehensive Project Assessment	X	12 Week

The interested students can apply for these courses by contacting certificate course coordinator **Ar.Anmol Warang or respective class incharges of the semester** before **16 April 2021**. The certificate of completion* shall be issued by the institute for the students after successful completion of course.

Principal

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

*Terms and conditions apply.

Raheja Education Complex,
Plot No. 341, Kher Nagar
Bandra (East), Mumbai - 400051.

Tel.: 022 6196 6666, 2647 5861
E-mail.: rahejaarch@lsrsa.edu.in
Website.: www.lsrsa.edu.in

RULES AND REGULATIONS FOR THE CERTIFICATE COURSES OFFERED FOR FIVE YEARS FULL TIME B.ARCH. PROGRAM

A. Eligibility Criteria

1. Participants should be bonafide students of L. S. Raheja School of architecture and has an active enrollment status in the five years full time B. Arch Program.
2. Participants should be in the semesters of studies as a fresh attempt. (i.e. repeaters and/or ATKT students are not eligible for the participation in certificate course program)
3. Repeaters and/or ATKT students are eligible to attend the certificate courses.

B. Certificate Course Completion Criteria

1. Participants should maintain minimum of 75% of attendance
2. Participants should score at least 50% marks in all the assignments
3. Participants should fulfill criteria B1 and B2 in one attempt only.
4. Participants who will not fulfill the criteria B1 and B2 shall not be granted a certificate of completion. However, after upgradation of the work such participants shall receive sessional marks and due course credits.
5. Participants who fall under the criteria A3 shall not be granted a certificate of completion. However, such participants shall receive sessional marks and due course credits.

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Details of Certificate Courses for Academic Year 2021-22

Course Code	BARE121 ELECTIVES SR		
Course Name	**Architectural Sketching & Rendering**		
Course Instructor	Ar. Prachitee Lad, Ar. Mukund Dalvi		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	90	Duration	12 Weeks
Course Content			
The aim of this course is to make students aware about the various hand rendering techniques which can be used to enhance the presentation of the architectural drawings.			
Expected Outcomes			
Students are expected to render the given architectural sketch/design in various mediums of rendering taught in the studio.			

Course Code	BARE221 ELECTIVES AB		
Course Name	**AutoCAD Basics**		
Course Instructor	Ar. Gargi Karve		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	90	Duration	12 Weeks
Course Content			
The Electives is intended to introduce a software - AutoCAD which performs as a drafting aid to Architect & designers in their academic and professional life. Not only the interface and commands are part of the subject, but also methodologies of optimising time and precision are an essential part of the course..			
Expected Outcomes			
The students at the end of the course are expected to be able to use the software in design and other subjects and develop their skills during the course.			

Course Code	BARE321 ELECTIVES AS		
Course Name	**Architectural Softwares- AutoCAD and SketchUP**		
Course Instructor	Ar. Deepa Desai, Ar. Ninad Sansare		
Year of Studies	2nd Year B. Arch	Semester	III
Max. no. of Students	95	Duration	14 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creative ability of architectural students to understand space. This course aims to study basic and advanced commands for AutoCAD and SketchUP.			
Expected Outcomes			
Students are expected to produce computer aided 2D and 3D drawings for a small residential house designed in their previous semester.			

Course Code	BARE421 ELECTIVES AM		
Course Name	**Analytical method for architectural case studies**		
Course Instructor	Ar. Ninad Sansare, Ar. Deepa Desai, Ar. Niroppama S Sawant		
Year of Studies	2nd Year B. Arch	Semester	IV
Max. no. of Students	95	Duration	14 Weeks
Course Content			
A case study is a process of researching into a project and documenting through writings, sketches, diagrams, and photos. To understand the various aspects of designing and constructing a building one must consider learning from other people's mistakes. This course aims to develop a critical understanding of architectural case study as a method and to apply it for the design program.			
Expected Outcomes			
Students are expected to submit methodologically approached architectural case studies to draw lessons for the design program.			

Course Code	BARE521 ELECTIVES MC		
Course Name	**Mini City**		
Course Instructor	Ar. Deepa Desai, Ar. Alisha Acharya		
Year of Studies	3rdYear B. Arch	Semester	V
Max. no. of Students	80	Duration	12 Weeks
Course Content			
"Citymaking requires drawing together the strands of physical place, society and economy. Architects and urban planners deliver us a framework for streets, spaces and buildings, but it is the content, the activity, the people and the exchange of ideas, services and goods that ultimately makes the city. In this course students will learn the basics of city making.			
Expected Outcomes			
Students are expected to develop a small version of a city by using all the learning from the lectures			

Course Code	BARE621 ELECTIVES BS		
Course Name	**Better Streets**		
Course Instructor	Ar. Mugdha Bakade		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	16 Weeks
Course Content			
A street is the basic unit of urban space through which people experience a city. It is often misconceived as the two-dimensional surface that vehicles drive on when moving from one place to another. Streets are, in fact, multidimensional spaces consisting of many surfaces and structures. This course aims to provide students with a comprehensive understanding about urban streets.			
Expected Outcomes			
Small assignments based on observations and analysis of students' own urban neighbourhood would be expected.			

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Course Code	BARE621 ELECTIVES HC		
Course Name	**Heritage Conservation**		
Course Instructor	Ar. Deepa Desai		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	16 Weeks
Course Content			
This course aims to introduce basics of heritage conservation in architectural practice. And will enable students to understand various methods of heritage conservation.			
Expected Outcomes			
Students are expected to Identify and Map the existing heritage in the neighbourhoods of Mumbai . Based on that they are expected to generate representation drawings for the same.			

Course Code	BARE621 ELECTIVES AF		
Course Name	**Architectural Fiction**		
Course Instructor	Ar. Mildred Jose		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	16 Weeks
Course Content			
Cities are impregnated with memory, association, recall and resonance. They express multiple stories, meanings with evolving spatial forms and urban compositions.As 'Storytelling' is about the construction of stories by setting up a time-line of events, design is based on the 'physical narration' by organising spatial relationships. The elective focuses on building up an analogy of city building between these two processes of 'story telling' and 'spatial design'.			
Objectives and Expected Outcomes			
1) To enable one to be familiar with representing literary texts and vice versa 2) To be able to apply critical and theoretical approaches to analysis of literary texts 3) To identify, interpret ideas/themes that impact the future 4) To adapt to new mediums to create multi-layered interactive stories/ experiences by a multitude of inputs			

Course Code	BARE621 ELECTIVES DL		
Course Name	**Daylighting**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	16 Weeks
Course Content			
The elective course introduces students to the use of daylighting in architecture space with help of basic simulation techniques			
Expected Outcomes			
Understand the importance of daylighting in building design. Understanding use of natural light through works of master architects. understand design solutions through analysis with basic software			

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE721 ELECTIVES GL		
Course Name	**Effective use of Glass in the Built Environment**		
Course Instructor	Ar. Mridula Pillai, Ar. Anuj Gudekar		
Year of Studies	4th Year B. Arch	Semester	VII
Max. no. of Students	50	Duration	12 Weeks
Course Content			
Understanding the manufacturing process of glass , so as to understand the embodied energy in its manufacture. Factors affecting the choice of Glass in the built environment through the point of view of various stakeholders. Understand the Mechanical, Thermal & optical properties of glass. Understanding the Value Addition to the Glass- Tints, Coatings, fretting, toughening and lamination. Understanding the Glazing types. Energy Performance of Coated Glass for various Glazing types and comparison with the ECBC standards. understanding the choice and assembly of glazing type through LBNL's Window software.			
Expected Outcomes			
Students are taught to choose the glazing type for various climatic conditions, based on the data available through the LBNL's Window software. Using the data set from the above mentioned exercise is further used to analyse the performance in a conventional building using the spreadsheet calculations. These calculations take into account a Window to Wall Ratio (WWR) for all the cardinal directions. In addition these parameters are isolated to check the change in the building performance for the cooling loads.			

Course Code	BARE921 ELECTIVES CM		
Course Name	**Introduction to Construction Management**		
Course Instructor	Ar. Meghana Patil		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	16 Weeks
Course Content			
1. Roles and responsibilities of a construction manager 2. Project delivery methods, types of projects and scales of projects. 3. Management of money, time, men, material and machinery. 4. Learning about various planning techniques, PERT & Critical Path Method (CPM) 5. Risk evaluation, mitigation and management 6. Learning about bids, negotiations and tendering methods 7. The importance of avoiding and learning from mistakes. Impact of global and national policies on project planning and business			
Expected Outcomes			
Students form groups of 4-6 students each. Each group selects a small/medium-scale live architectural/ interior execution project for study. They are to identify all the discussed factors that a Construction manager deals with; within their projects and represent the information graphically. They shall analyse and present aspects of time, money, man management, material and machinery assessment.			

L. S. Raheja School of Architecture B.Arch. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE921 ELECTIVES ER		
Course Name	**Earthquake Resistant Architecture and Passive design**		
Course Instructor	Ar. Sachin Prabhu		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content:			
Understanding of Earthquake, Why Earthquakes on planet Earth? Measurements of Earthquake shakings, Analysis of Last Century Earthquakes in India, Understanding effect of Earthquakes on buildings with respect to their strength. Design strategies to make Earthquake Resistant buildings. Load bearing structures in Bricks and Stones. Frame structures and different strategies to make them Earthquake Resistant Buildings. Passive Design: Understanding of making buildings less energy consuming at schematic and planning level. Understanding Sun-path and possible wind flows to gain more natural sunlight and winds (Air-circulation) inside the building. Zoning of the building and fragmentation (Scooping) of the building is done to achieve maximum day-light and cross ventilation.			
Expected Outcomes:			
Students are designing G+1 Bungalow in Load-bearing (Submission 1) and RCC (Submission 2) frame structures as Earthquake resistant structures. They are showing different Earthquake resistant remedies in plan, section, elevations and working details. By understanding sun-path and possible wind directions, the same bunglow plan is zoned and scooped out (fragmented) to get more Day-light and cross ventilation. (Submission 3)			

Course Code	BARE921 ELECTIVES HC		
Course Name	**Heritage Conservation**		
Course Instructor	Ar. Deepa Desai		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
1. Know your heritage 2. Introduction to Conservation 3. Vocabulary of Conservation Process 4. Role of a conservation architect 5. Heritage walk in or near the city of Mumbai 6. Framework of conservation 7. Guest Lecture on conservation practice 8. Decay and Material 9. Scale of conservation 10. Studio Interactions and Discussions			
Expected Outcomes			
Students are expected to identify and document the existing heritage in Indian cities. Based on that they are expected to generate value assessment documents and to generate representation drawing for the same.			

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Course Code	BARE921 ELECTIVES RF		
Course Name	**Redevelopment & Feasibility**		
Course Instructor	Ar. Anmol Warang		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
Redevelopment implies demolition of existing structure and building completely new structure. It is the most widely used tool for the upgradation of infrastructure and urban regeneration in Mumbai. The elective on Redevelopment discusses the importance of thoughtful redevelopment through an understanding of processes, rules and regulations, current trends and practices, etc. The student participants gain knowledge of various aspects that impact and issues that plague the redevelopment system.			
Expected Outcomes			
1. Understand the processes, rules and regulations governing the redevelopment of buildings in Mumbai. 2. Understand various clauses and sections of the MCGM DCPR 2034, 3. Gain knowledge about the historic development of Mumbai and the impact of past development strategies on the current status of Redevelopment., 4. Understand financial feasibility calculations to infer the possibility of success for redevelopment projects.			

Course Code	BARE1021 ELECTIVES PA		
Course Name	**Comprehensive Project Assessment**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	5th Year B. Arch	Semester	X
Max. no. of Students	60	Duration	12 Weeks
Course Content			
This elective course encourages students to assess their own design dissertation / thesis projects under set criteria encompassing topics of site analysis, sustainable strategies, water usage, LCA/LCC etc.			
Expected Outcomes			
Students produce a report with explanation of their thesis project with analysis and evidence against each criteria to be assessed.			

L. S. Raheja School of Architecture B. ARCH Bandra (E)

Date: 27 March 2020

NOTICE

Following are the certificate courses that will be offered during the **academic year 2020-21** by L. S. Raheja School of Architecture for the students enrolled in the 5 years full time **B. Arch.** program.

List of Certificate Courses (A. Y. 2020-21)				
Sr. No.	Course Code	Course Name	Semester	Duration
1	BARE121 ELECTIVES SR	Architectural Sketching & Rendering	I	16 Week
2	BARE221 ELECTIVES SK	Learning through Sketching	II	16 Week
3	BARE321 ELECTIVES AS	Architectural Softwares- AutoCAD and SketchUP	III	14 Week
4	BARE421 ELECTIVES EN	English Language	IV	14 Week
5	BARE421 ELECTIVES FA	Films and Architectural Representation	IV	14 Week
6	BARE521 ELECTIVES CS	Climate Simulation	V	12 Week
7	BARE621 ELECTIVES AF	Architectural Fiction	VI	16 Week
8	BARE621 ELECTIVES DD	Dissecting discourses	VI	14 Week
9	BARE621 ELECTIVES DL	Daylighting	VI	12 Week
10	BARE721 ELECTIVES GL	Effective use of Glass in the Built Environment	VII	16 Week
11	BARE921 ELECTIVES AL	Advanced Landscape	IX	12 Week
12	BARE921 ELECTIVES CM	Introduction to Construction Management	IX	16 Week
13	BARE921 ELECTIVES ER	Earthquake Resistant Architecture and Passive design	IX	12 Week
14	BARE921 ELECTIVES HC	Heritage Conservation	IX	12 Week
15	BARE921 ELECTIVES RF	Redevelopment & Feasibility	IX	12 Week
16	BARE1021 ELECTIVES PA	Comprehensive Project Assessment	X	12 Week

The interested students can apply for these courses by contacting certificate course coordinator **Ar.Anmol Warang or respective class incharges of the semester** before **15 April 2020**. The certificate of completion* shall be issued by the institute for the students after successful completion of course.

Principal

L. S. Raheja School of Architecture B. ARCH. Bandra (E)

*Terms and conditions apply.

Raheja Education Complex,
Plot No. 341, Kher Nagar
Bandra (East), Mumbai - 400051.

Tel.: 022 6196 6666, 2647 5861
E-mail.: rahejaarch@lsrsa.edu.in
Website.: www.lsrsa.edu.in

RULES AND REGULATIONS FOR THE CERTIFICATE COURSES OFFERED FOR FIVE YEARS FULL TIME B.ARCH. PROGRAM

A. Eligibility Criteria

1. Participants should be bonafide students of L. S. Raheja School of architecture and has an active enrollment status in the five years full time B. Arch Program.
2. Participants should be in the semesters of studies as a fresh attempt. (i.e. repeaters and/or ATKT students are not eligible for the participation in certificate course program)
3. Repeaters and/or ATKT students are eligible to attend the certificate courses.

B. Certificate Course Completion Criteria

1. Participants should maintain minimum of 75% of attendance
2. Participants should score at least 50% marks in all the assignments
3. Participants should fulfill criteria B1 and B2 in one attempt only.
4. Participants who will not fulfill the criteria B1 and B2 shall not be granted a certificate of completion. However, after upgradation of the work such participants shall receive sessional marks and due course credits.
5. Participants who fall under the criteria A3 shall not be granted a certificate of completion. However, such participants shall receive sessional marks and due course credits.

L. S. Raheja School of Architecture B. ARCH. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Details of Certificate Courses for Academic Year 2020-21

Course Code	BARE121 ELECTIVES SR		
Course Name	**Architectural Sketching & Rendering**		
Course Instructor	Ar. Mukund dalvi		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	90	Duration	12 Weeks
Course Content			
Architectural sketching & rendering is the process of creating two-dimensional and three-dimensional images of a proposed architectural design. The aim of this course is to make students aware about the various hand rendering techniques which can be used to enhance the presentation of the architectural drawings.			
Expected Outcomes			
Students are expected to render the given architectural sketch/design in various mediums of rendering taught in the studio.			

Course Code	BARE221 ELECTIVES SK		
Course Name	**Learning through Sketching**		
Course Instructor	Ar. Prachitee Lad		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	90	Duration	12 Weeks
Course Content			
The core intent of the course is to encourage visualisation and observation in the everyday object. The chosen object was further disassembled to understand the mechanism and fixity.			
Expected Outcomes			
The assembly of the chosen object was illustrated as an exploded isometric view. In addition the components were rendered based on the materials and textures			

Course Code	BARE321 ELECTIVES AS		
Course Name	**Architectural Softwares- AutoCAD and SketchUP**		
Course Instructor	Ar. Deepa Desai, Ar. Ninad Sansare		
Year of Studies	2nd Year B. Arch	Semester	III
Max. no. of Students	90	Duration	14 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creative ability of architectural students to understand space. This course aims to study basic and advanced commands for AutoCAD and SketchUP.			
Expected Outcomes			
Students are expected to produce computer aided 2D and 3D drawings for a small residential house designed in their previous semester.			

L. S. Raheja School of Architecture * Bandra (E) * B.ARCH.

Course Code	BARE421 ELECTIVES EN		
Course Name	**English Language**		
Course Instructor	Ar. Mridula Pillai		
Year of Studies	2nd Year B. Arch	Semester	IV
Max. no. of Students	50	Duration	14 Weeks
Course Content			
English language learning will allow everyone to communicate effectively with people from all over the world, making knowledge sharing a lot easier and helping them to learn more about different cultures. This course aims to enhance students' fluency and command of the English language through various modes of communication skills.			
Expected Outcomes			
Students are expected to participate in the class discussions and weekly individual assignments based on the various aspects of English language communication skills.			

Course Code	BARE421 ELECTIVES FA		
Course Name	**Films and Architectural Representation**		
Course Instructor	Ar. Ninad Sansare, Ar. Deepa Desai		
Year of Studies	2nd Year B. Arch	Semester	IV
Max. no. of Students	50	Duration	14 Weeks
Course Content			
The representation of space in film is sculpted from the narrative, a meaningful construction of emotional space within the context of the story. Similar to experiencing a real space, a film's sophisticated language has the ability to transport the audience to the time and place of the story. This course aims to study space depicted in films to understand the narrative and its relation to the architectural representation.			
Expected Outcomes			
Students are expected to create a presentation inspired by the given film's narrative with an innovative architectural representation style to convey the same.			

Course Code	BARE521 ELECTIVES CS		
Course Name	**Climate Simulation**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	3rdYear B. Arch	Semester	V
Max. no. of Students	60	Duration	12 Weeks
Course Content			
This elective course is an extension to the subject of EVS and introduces basic climate simulations as a means to implement EVS learning from semester 1 till 3.			
Expected Outcomes			
Students learn on how to draw inferences from climate data and charts. Learn basic simulation for natural ventilation, shadow analysis and insolation analysis			

L. S. Raheja School of Architecture B.ARCH.

Course Code	BARE621 ELECTIVES DD		
Course Name	**Dissecting Discourses**		
Course Instructor	Ar. Charvi Kamat, Ar. Mugdha Bakade		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	14 Weeks
Course Content			
Expose the students to all sorts of learnings available out there; in the form of various media; so that the student's understanding can be informed based on facts that they have uncovered and not depend on others for their opinion.			
Expected Outcomes			
The elective is structured in such a way that it will enhance the student's way of thinking and self expression. Students will be involved in various exercises that will help them present their ideas, understanding and informed opinions in a better manner.			

Course Code	BARE621 ELECTIVES AF		
Course Name	**Architectural Fiction**		
Course Instructor	Ar. Mildred Jose		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	16 Weeks
Course Content			
Cities are impregnated with memory, association, recall and resonance. They express multiple stories, meanings with evolving spatial forms and urban compositions. As 'Storytelling' is about the construction of stories by setting up a time-line of events, design is based on the 'physical narration' by organising spatial relationships. The elective focuses on building up an analogy of city building between these two processes of 'story telling' and 'spatial design'.			
Objectives and Expected Outcomes			
1) To enable one to be familiar with representing literary texts and vice versa 2) To be able to apply critical and theoretical approaches to analysis of literary texts 3) To identify, interpret ideas/themes that impact the future 4) To adapt to new mediums to create multi-layered interactive stories/ experiences by a multitude of inputs			

Course Code	BARE621 ELECTIVES DL		
Course Name	**Daylighting**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	20	Duration	12 Weeks
Course Content			
The elective course introduces students to the use of daylighting in architecture space with help of basic simulation techniques			
Expected Outcomes			
Understand the importance of daylighting in building design. Understanding use of natural light through works of master architects. understand design solutions through analysis with basic software			

Raheja School of Architecture B. ARCH.

Course Code	BARE721 ELECTIVES GL		
Course Name	**Effective use of Glass in the Built Environment**		
Course Instructor	Ar. Mridula Pillai		
Year of Studies	4th Year B. Arch	Semester	VII
Max. no. of Students	70	Duration	12 Weeks
Course Content			
Understanding the manufacturing process of glass , so as to understand the embodied energy in its manufacture. Factors affecting the choice of Glass in the built environment through the point of view of various stakeholders. Understand the Mechanical, Thermal & optical properties of glass. Understanding the Value Addition to the Glass- Tints, Coatings, fretting, toughening and lamination. Understanding the Glazing types. Energy Performance of Coated Glass for various Glazing types and comparison with the ECBC standards. understanding the choice and assembly of glazing type through LBNL's Window software.			
Expected Outcomes			
Students are taught to choose the glazing type for various climatic conditions, based on the data available through the LBNL's Window software. Using the data set from the above mentioned exercise is further used to analyse the performance in a conventional building using the spreadsheet calculations. These calculations take into account a Window to Wall Ratio (WWR) for all the cardinal directions. In addition these parameters are isolated to check the change in the building performance for the cooling loads.			

Course Code	BARE921 ELECTIVES CM		
Course Name	**Introduction to Construction Management**		
Course Instructor	Ar. Meghana Patil		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	16 Weeks
Course Content			
1. Roles and responsibilities of a construction manager 2. Project delivery methods, types of projects and scales of projects. 3. Management of money, time, men, material and machinery. 4. Learning about various planning techniques, PERT & Critical Path Method (CPM) 5. Risk evaluation, mitigation and management 6. Learning about bids, negotiations and tendering methods 7. The importance of avoiding and learning from mistakes. Impact of global and national policies on project planning and business			
Expected Outcomes			
Students form groups of 4-6 students each. Each group selects a small/medium-scale live architectural/ interior execution project for study. They are to identify all the discussed factors that a Construction manager deals with; within their projects and represent the information graphically. They shall analyse and present aspects of time, money, man management, material and machinery assessment.			

Course Code	BARE921 ELECTIVES ER		
Course Name	**Earthquake Resistant Architecture and Passive design**		
Course Instructor	Ar. Sachin Prabhu		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content:			
Understanding of Earthquake, Why Earthquakes on planet Earth? Measurements of Earthquake shakings, Analysis of Last Century Earthquakes in India, Understanding effect of Earthquakes on buildings with respect to their strength. Design strategies to make Earthquake Resistant buildings. Load bearing structures in Bricks and Stones. Frame structures and different strategies to make them Earthquake Resistant Buildings. Passive Design: Understanding of making buildings less energy consuming at schematic and planning level. Understanding Sun-path and possible wind flows to gain more natural sunlight and winds (Air-circulation) inside the building. Zoning of the building and fragmentation (Scooping) of the building is done to achieve maximum day-light and cross ventilation.			
Expected Outcomes:			
Students are designing G+1 Bungalow in Load-bearing (Submission 1) and RCC (Submission 2) frame structures as Earthquake resistant structures. They are showing different Earthquake resistant remedies in plan, section, elevations and working details. By understanding sun-path and possible wind directions, the same bunglow plan is zoned and scooped out (fragmented) to get more Day-light and cross ventilation. (Submission 3)			

Course Code	BARE921 ELECTIVES HC		
Course Name	**Heritage Conservation**		
Course Instructor	Ar. Deepa Desai, Ar. Alisha Acharya		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
1. Introduction to Heritage 2. Framework and Broader Nexus of heritage 3. Role of a conservation architect 4. Scales of Conservation 5. Trade and trade Routes in Ancient India and Central Asia 6. Transnational Heritage 7. Neighbourhood renewal 8. Architectural Conservation 9. Imageability			
Expected Outcomes			
Students are expected to identify and document the existing heritage in Indian cities. Based on that they are expected to generate value assessment document and to generate representation drawing for the same.			

Course Code	BARE921 ELECTIVES RF		
Course Name	**Redevelopment & Feasibility**		
Course Instructor	Ar. Anmol Warang		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
Redevelopment implies demolition of existing structure and building completely new structure. It is the most widely used tool for the upgradation of infrastructure and urban regeneration in Mumbai. The elective on Redevelopment discusses the importance of thoughtful redevelopment through an understanding of processes, rules and regulations, current trends and practices, etc. The student participants gain knowledge of various aspects that impact and issues that plague the redevelopment system.			
Expected Outcomes			
1) Understand the processes, rules and regulations governing the redevelopment of buildings in Mumbai. 2) Understand various clauses and sections of the MCGM DCPR 2034. 3) Gain knowledge about the historic development of Mumbai and the impact of past development strategies on the current status of Redevelopment., 4) Understand financial feasibility calculations to infer the possibility of success for redevelopment projects.			

Course Code	BARE921 ELECTIVES AL		
Course Name	**Advanced Landscape**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
This elective introduces students to advanced theories and concepts in landscape design and landscape planning and encourages students to research on site and city related concerns.			
Expected Outcomes			
Students conduct individual and collaborative research on smaller topics along with analytical studies on maps and diagrams.			

Course Code	BARE1021 ELECTIVES PA		
Course Name	**Comprehensive Project Assessment**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	5th Year B. Arch	Semester	X
Max. no. of Students	60	Duration	12 Weeks
Course Content			
This elective course encourages students to assess their own design dissertation / thesis projects under set criteria encompassing topics of site analysis, sustainable strategies, water usage, LCA/LCC etc.			
Expected Outcomes			
Student produce a report with explanation of their thesis project with analysis and evidence against each criteria to be assessed.			

Date: 25 March 2019

NOTICE

Following are the certificate courses that will be offered during the **academic year 2019-20** by L. S. Raheja School of Architecture for the students enrolled in the 5 years full time **B. Arch.** program.

List of Certificate Courses (A. Y. 2019-20)				
Sr. No.	Course Code	Course Name	Semester	Duration
1	BARE121 ELECTIVES CS	Communication Skills	I	16 Week
2	BARE121 ELECTIVES SR	Architectural Sketching & Rendering	I	16 Week
3	BARE221 ELECTIVES BA	Bio-climatic approach to Design	II	16 Week
4	BARE221 ELECTIVES MN	Mechanism in Nature	II	12 Week
5	BARE221 ELECTIVES SK	Learning through Sketching	II	16 Week
6	BARE321 ELECTIVES CO	Computer Training Part 1 (Autocad)	III	16 Week
7	BARE421 ELECTIVES CT	Computer Training Part 2 (Autocad)	IV	16 Week
8	BARE521 ELECTIVES LL	LCA-LCC	V	12 Week
9	BARE621 ELECTIVES DL	Daylighting	VI	12 Week
10	BARE721 ELECTIVES GL	Effective use of Glass in the Built Environment	VII	16 Week
11	BARE921 ELECTIVES HC	Heritage Conservation	IX	16 Week
12	BARE921 ELECTIVES PM	Project Management	IX	16 Week
13	BARE921 ELECTIVES RF	Redevelopment & Feasibility	IX	16 Week

The interested students can apply for these courses by contacting certificate course coordinator **Ar. Meghana Patil or respective class incharges of the semester** before **15 April 2019.** The certificate of completion* shall be issued by the institute for the students after successful completion of course.

Principal

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

*Terms and conditions apply.

Raheja Education Complex,
Plot No. 341, Kher Nagar
Bandra (East), Mumbai - 400051.

Tel.: 022 6196 6666, 2647 5861
E-mail.: rahejaarch@lsrsa.edu.in
Website.: www.lsrsa.edu.in

RULES AND REGULATIONS FOR THE CERTIFICATE COURSES OFFERED FOR FIVE YEARS FULL TIME B.ARCH. PROGRAM

A. Eligibility Criteria

1. Participants should be bonafide students of L. S. Raheja School of architecture and has an active enrollment status in the five years full time B. Arch Program.
2. Participants should be in the semesters of studies as a fresh attempt. (i.e. repeaters and/or ATKT students are not eligible for the participation in certificate course program)
3. Repeaters and/or ATKT students are eligible to attend the certificate courses.

B. Certificate Course Completion Criteria

1. Participants should maintain minimum of 75% of attendance
2. Participants should score at least 50% marks in all the assignments
3. Participants should fulfill criteria B1 and B2 in one attempt only.
4. Participants who will not fulfill the criteria B1 and B2 shall not be granted a certificate of completion. However, after upgradation of the work such participants shall receive sessional marks and due course credits.
5. Participants who fall under the criteria A3 shall not be granted a certificate of completion. However, such participants shall receive sessional marks and due course credits.

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Details of Certificate Courses for Academic Year 2019-20

Course Code	BARE121 ELECTIVES CS		
Course Name	**Communication Skills**		
Course Instructor	Mr. Pillai		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	50	Duration	16 Weeks
Course Content			
Communication is defined as the ability to convey or share ideas and feelings effectively. In Architectural practice narrative building is an essential process to justify and convey the intent and impact of architectural design. This course aims to provide students with a foundational training regarding effective and eloquent communication skills.			
Expected Outcomes			
Students are expected to participate in the class discussions and weekly individual assignments based on the various aspects of communication skills.			

Course Code	BARE121 ELECTIVES SR		
Course Name	**Architectural Sketching & Rendering**		
Course Instructor	Ar. Mukund dalvi		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	50	Duration	16 Weeks
Course Content			
Architectural sketching & rendering is the process of creating two-dimensional and three-dimensional images of a proposed architectural design. The aim of this course is to make students aware about the various hand rendering techniques which can be used to enhance the presentation of the architectural drawings.			
Expected Outcomes			
Students are expected to render the given architectural sketch/design in various mediums of rendering taught in the studio.			

Course Code	BARE221 ELECTIVES SK		
Course Name	**Learning through Sketching**		
Course Instructor	Ar. Prachitee Lad		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	40	Duration	12 Weeks
Course Content			
The core intent of the course is to encourage visualisation and observation in the everyday object. The chosen object was further disassembled to understand the mechanism and fixity.			
Expected Outcomes			
The assembly of the chosen object was illustrated as an exploded isometric view. In addition the components were rendered based on the materials and textures			

L. S. Raheja School of Architecture B. ARCH. Bandra (E)

Course Code	BARE221 ELECTIVES BA		
Course Name	**Bioclimatic approach to Design**		
Course Instructor	Ar. Neeta Sarode		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	40	Duration	16 Weeks
Course Content			
The course is designed to sensitise students about the Bioclimatic approach to design. The students started off with case studies of animal/ bird homes from nature to understand how animals and birds design their shelters (burrows, nests etc.) in response to climate, activities, uses of the shelter, safety and survival etc. Later students were introduced to various parameters of Bioclimatic architecture.			
Expected Outcomes			
Students are expected to do case studies of Bioclimatic architecture.			

Course Code	BARE221 ELECTIVES MN		
Course Name	**Mechanism in Nature**		
Course Instructor	Ar. Sachin Vedak		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	40	Duration	12 Weeks
Course Content			
Nature shows us its beautifully articulated mechanisms or systems which can withstand any kind of situation. This elective is based on the various types of naturally evolved mechanisms which have become a part of any living creature or have been created or constructed by a living creature.The idea of this course is to study these various mechanisms and use it for the benefits of the human race in the form of a shelter or as an extension.			
Expected Outcomes			
Students are expected to make a 1:1 scale working model using the mechanisms which they have selected from nature to make shelter or an extension for themselves.			

Course Code	BARE321 ELECTIVES CO		
Course Name	**Computer Training Part 1 (Autocad)**		
Course Instructor	Mr. Mate		
Year of Studies	2nd Year B. Arch	Semester	III
Max. no. of Students	60	Duration	16 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creative ability of architectural students to understand space. This course aims to study basic commands for AutoCAD and SketchUP.			
Expected Outcomes			
Students are expected to produce computer aided 2D and 3D drawings for a small residential house designed in their previous semester.			

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Course Code	BARE321 ELECTIVES CT		
Course Name	**Computer Training Part 2 (Autocad)**		
Course Instructor	Mr. Mate		
Year of Studies	2nd Year B. Arch	Semester	IV
Max. no. of Students	60	Duration	16 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creative ability of architectural students to understand space. This course aims to study advanced commands for AutoCAD and SketchUP.			
Expected Outcomes			
The students at the end of the course are expected to be able to use the software in design and other subjects and develop their skills during the course.			

Course Code	BARE521 ELECTIVES LL		
Course Name	**LCA-LCC**		
Course Instructor	Ar. Harish Borah, Ar. Swanand and Ar. Mridula		
Year of Studies	3rdYear B. Arch	Semester	V
Max. no. of Students	60	Duration	16 Weeks
Course Content			
Introducing students the concept of sustainable development and the concept of Life Cycle Assessment and Life Cycle Costing of materials. Understand concept of embodied energy and carbon emissions related to building industry			
Expected Outcomes			
Students are expected to draw inferences on given readings on sustainable strategies and environmental issues. Learn how to calculate LCA and LCC with basic computer software			

Course Code	BARE621 ELECTIVES DL		
Course Name	**Daylighting**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	60	Duration	12 Weeks
Course Content			
The elective course introduces students to the use of daylighting in architecture space with help of basic simulation techniques			
Expected Outcomes			
Understand the importance of daylighting in building design. Understanding use of natural light through works of master architects. understand design solutions through analysis with basic software			

Course Code	BARE721 ELECTIVES GL		
Course Name	**Effective use of Glass in the Built Environment**		
Course Instructor	Ar. Mridula Pillai		
Year of Studies	4th Year B. Arch	Semester	VII
Max. no. of Students	80	Duration	12 Weeks
Course Content			
Understanding the manufacturing process of glass , so as to understand the embodied energy in its manufacture. Factors affecting the choice of Glass in the built environment through the point of view of various stakeholders. Understand the Mechanical, Thermal & optical properties of glass. Understanding the Value Addition to the Glass- Tints, Coatings, fretting, toughening and lamination. Understanding the Glazing types. Energy Performance of Coated Glass for various Glazing types and comparison with the ECBC standards. understanding the choice and assembly of glazing type through LBNL's Window software.			
Expected Outcomes			
Students are taught to choose the glazing type for various climatic conditions, based on the data available through the LBNL's Window software. Using the data set from the above mentioned exercise is further used to analyse the performance in a conventional building using the spreadsheet calculations. These calculations take into account a Window to Wall Ratio (WWR) for all the cardinal directions. In addition these parameters are isolated to check the change in the building performance for the cooling loads.			

Course Code	BARE921 ELECTIVES PM		
Course Name	**Project Management**		
Course Instructor	Tasmeen Dhoondia		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	16 Weeks
Course Content			
Project management focuses on planning and organising a project and its resources. This course includes identifying and managing the lifecycle to be used, applying it to the user-centred design process, formulating the project team, and efficiently guiding the team through all phases until project completion.			
Expected Outcomes			
Students are expected to make a report at the end of the course based on the topics covered during the lectures.			

L. S. Raheja School of Architecture B. ARCH. Andheri (E)

Course Code	BARE921 ELECTIVES HC		
Course Name	**Heritage Conservation**		
Course Instructor	Ar. Vikas Dilawari		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
1. Know your heritage 2. Introduction to Conservation 3. Vocabulary of Conservation Process 4. Role of a conservation architect 5. Heritage walk in or near the city of Mumbai 6. Framework of conservation 7. Guest Lecture on conservation practice 8. Decay and Material 9. Scale of conservation 10. Studio Interactions and Discussions			
Expected Outcomes			
Students are expected to identify and document the existing heritage in India. Based on that they are expected to generate value assessment documents for the same.			

Course Code	BARE921 ELECTIVES RF		
Course Name	**Redevelopment & Feasibility**		
Course Instructor	Ar. Anmol Warang		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	20	Duration	12 Weeks
Course Content			
Redevelopment implies demolition of existing structure and building completely new structure. It is the most widely used tool for the upgradation of infrastructure and urban regeneration in Mumbai. The elective on Redevelopment discusses the importance of thoughtful redevelopment through an understanding of processes, rules and regulations, current trends and practices, etc. The student participants gain knowledge of various aspects that impact and issues that plague the redevelopment system.			
Expected Outcomes			
1. Understand the processes, rules and regulations governing the redevelopment of buildings in Mumbai. 2. Understand various clauses and sections of the MCGM DCPR 2034. 3. Gain knowledge about the historic development of Mumbai and the impact of past development strategies on the current status of Redevelopment., 4. Understand financial feasibility calculations to infer the possibility of success for redevelopment projects.			

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Date: 30 March 2018

NOTICE

Following are the certificate courses that will be offered during the **academic year 2018-19** by L. S. Raheja School of Architecture for the students enrolled in the 5 years full time **B. Arch.** program.

List of Certificate Courses (A. Y. 2018-19)				
Sr. No.	Course Code	Course Name	Semester	Duration
1	BARE121 ELECTIVES CS	Communication Skills	I	16 Week
2	BARE121 ELECTIVES SR	Architectural Sketching & Rendering	I	16 Week
3	BARE221 ELECTIVES CS	Communication Skills	II	16 Week
4	BARE221 ELECTIVES SR	Architectural Sketching & Rendering	II	16 Week
5	BARE321 ELECTIVES CO	Computer Training Part 1 (Autocad)	III	16 Week
6	BARE421 ELECTIVES CT	Computer Training Part 2 (Autocad)	IV	16 Week
7	BARE521 ELECTIVES AP	Architectural photography	V	16 Week
8	BARE521 ELECTIVES FC	Form and facade development through climate simulation	V	12 Week
9	BARE621 ELECTIVES DL	Daylighting	VI	12 Week
10	BARE721 ELECTIVES GL	Effective Use of Glass in the Built Environment	VII	16 Week
11	BARE921 ELECTIVES HC	Heritage Conservation	IX	16 Week
12	BARE921 ELECTIVES RF	Redevelopment & Feasibility	IX	16 Week
13	BARE921 ELECTIVES SD	Set Design	IX	16 Week

The interested students can apply for these courses by contacting certificate course coordinator **Ar. Meghana Patil or respective class incharges of the semester** before **14 April 2018**. The certificate of completion* shall be issued by the institute for the students after successful completion of course.

Principal

L. S. Raheja School of Architecture B. ARCH. Bandra (E)

*Terms and conditions apply.

Raheja Education Complex,
Plot No. 341, Kher Nagar
Bandra (East), Mumbai - 400051.

Tel.: 022 6196 6666, 2647 5861
E-mail.: rahejaarch@lsrsa.edu.in
Website.: www.lsrsa.edu.in

RULES AND REGULATIONS FOR THE CERTIFICATE COURSES OFFERED FOR FIVE YEARS FULL TIME B.ARCH. PROGRAM

A. Eligibility Criteria

1. Participants should be bonafide students of L. S. Raheja School of architecture and has an active enrollment status in the five years full time B. Arch Program.
2. Participants should be in the semesters of studies as a fresh attempt. (i.e. repeaters and/or ATKT students are not eligible for the participation in certificate course program)
3. Repeaters and/or ATKT students are eligible to attend the certificate courses.

B. Certificate Course Completion Criteria

1. Participants should maintain minimum of 75% of attendance
2. Participants should score at least 50% marks in all the assignments
3. Participants should fulfil criteria B1 and B2 in one attempt only.
4. Participants who will not fulfil the criteria B1 and B2 shall not be granted a certificate of completion. However, after upgradation of the work such participants shall receive sessional marks and due course credits.
5. Participants who fall under the criteria A3 shall not be granted a certificate of completion. However, such participants shall receive sessional marks and due course credits.

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Details of Certificate Courses for Academic Year 2018-19

Course Code	BARE121 ELECTIVES CS		
Course Name	**Communication Skills**		
Course Instructor	Mr. Pillai		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	50	Duration	16 Weeks
Course Content			
Communication is defined as the ability to convey or share ideas and feelings effectively. In Architectural practice narrative building is an essential process to justify and convey the intent and impact of architectural design. This course aims to provide students with a foundational training regarding effective and eloquent communication skills.			
Expected Outcomes			
Students are expected to participate in the class discussions and weekly individual assignments based on the various aspects of communication skills.			

Course Code	BARE121 ELECTIVES SR		
Course Name	**Architectural Sketching & Rendering**		
Course Instructor	Ar. Mukund dalvi		
Year of Studies	1st Year B. Arch	Semester	I
Max. no. of Students	50	Duration	16 Weeks
Course Content			
Architectural sketching & rendering is the process of creating two-dimensional and three-dimensional images of a proposed architectural design. The aim of this course is to make students aware about the various hand rendering techniques which can be used to enhance the presentation of the architectural drawings.			
Expected Outcomes			
Students are expected to render the given architectural sketch/design in various mediums of rendering taught in the studio.			

Course Code	BARE221 ELECTIVES CS		
Course Name	**Communication Skills**		
Course Instructor	Mr. Pillai		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	50	Duration	16 Weeks
Course Content			
Communication is defined as the ability to convey or share ideas and feelings effectively. In Architectural practice narrative building is an essential process to justify and convey the intent and impact of architectural design. This course aims to provide students with a foundational training regarding effective and eloquent communication skills.			
Expected Outcomes			
Students are expected to participate in the class discussions and weekly individual assignments based on the various aspects of communication skills.			

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Course Code	BARE221 ELECTIVES SR		
Course Name	**Architectural Sketching & Rendering**		
Course Instructor	Ar. Mukund dalvi		
Year of Studies	1st Year B. Arch	Semester	II
Max. no. of Students	50	Duration	16 Weeks
Course Content			
Architectural sketching & rendering is the process of creating two-dimensional and three-dimensional images of a proposed architectural design. The aim of this course is to make students aware about the various hand rendering techniques which can be used to enhance the presentation of the architectural drawings.			
Expected Outcomes			
Students are expected to render the given architectural sketch/design in various mediums of rendering taught in the studio.			

Course Code	BARE321 ELECTIVES CO		
Course Name	**Computer Training Part 1 (Autocad)**		
Course Instructor	Mr. Mate		
Year of Studies	2nd Year B. Arch	Semester	III
Max. no. of Students	60	Duration	16 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creativity of architectural students to understand space. This course aims to study basic commands for AutoCAD and SketchUP.			
Expected Outcomes			
Students are expected to produce computer aided 2D and 3D drawings for a small residential house designed in their previous semester.			

Course Code	BARE321 ELECTIVES CT		
Course Name	**Computer Training Part 2 (Autocad)**		
Course Instructor	Mr. Mate		
Year of Studies	2nd Year B. Arch	Semester	IV
Max. no. of Students	60	Duration	16 Weeks
Course Content			
Learning architectural softwares is an essential skill set for contemporary architectural practices. Learning AutoCAD for the complex architectural drafting and SketchUP for the digital 3D form modulation enhances the creative ability of architectural students to understand space. This course aims to study advance commands for AutoCAD and SketchUP.			
Expected Outcomes			
The students at the end of the course are expected to be able to use the software in design and other subjects and develop their skills during the course.			

L. S. Raheja School of Architecture B.ARCH. Bandra (E)

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE521 ELECTIVES AP		
Course Name	**Architectural photography**		
Course Instructor	Mr. Viraj Shirodkar		
Year of Studies	3rdYear B. Arch	Semester	V
Max. no. of Students	80	Duration	16 Weeks
Course Content			
Understanding use of photography as a tool to document architectural and interior designs with use of digital camera and cell phones			
Expected Outcomes			
Students submit a short portfolio of images taken on specific themes			

Course Code	BARE521 ELECTIVES FC		
Course Name	**Form and facade development through climate simulation**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	3rdYear B. Arch	Semester	V
Max. no. of Students	80	Duration	12 Weeks
Course Content			
This elective course is an extension to the subject of EVS and introduces basic climate simulations as a means to implement EVS learning from semester 1 till 3.			
Expected Outcomes			
Students learn on how to draw inferences from climate data and charts. Learn basic simulation for natural ventilation, shadow analysis and insolation analysis			

Course Code	BARE621 ELECTIVES DL		
Course Name	**Daylighting**		
Course Instructor	Ar. Swanand Mahashabde		
Year of Studies	3rdYear B. Arch	Semester	VI
Max. no. of Students	80	Duration	12 Weeks
Course Content			
The elective course introduces students to the use of daylighting in architecture space with help of basic simulation techniques			
Expected Outcomes			
Understand the importance of daylighting in building design. Understanding use of natural light through works of master architects. understand design solutions through analysis with basic software			

L. S. Raheja School of Architecture * B.ARCH. * Bandra (E)

Course Code	BARE721 ELECTIVES GL		
Course Name	**Effective use of Glass in the Built Environment**		
Course Instructor	Ar. Mridula Pillai		
Year of Studies	4th Year B. Arch	Semester	VII
Max. no. of Students	70	Duration	12 Weeks
Course Content			
Understanding the manufacturing process of glass , so as to understand the embodied energy in its manufacture. Factors affecting the choice of Glass in the built environment through the point of view of various stakeholders. Understand the Mechanical, Thermal & optical properties of glass. Understanding the Value Addition to the Glass- Tints, Coatings, fretting, toughening and lamination. Understanding the Glazing types. Energy Performance of Coated Glass for various Glazing types and comparison with the ECBC standards. understanding the choice and assembly of glazing type through LBNL's Window software.			
Expected Outcomes			
Students are taught to choose the glazing type for various climatic conditions, based on the data available through the LBNL's Window software. Using the data set from the above mentioned exercise is further used to analyse the performance in a conventional building using the spreadsheet calculations. These calculations take into account a Window to Wall Ratio (WWR) for all the cardinal directions. In addition these parameters are isolated to check the change in the building performance for the cooling loads.			

Course Code	BARE921 ELECTIVES HC		
Course Name	**Heritage Conservation**		
Course Instructor	Ar. Vikas Dilawari		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	30	Duration	16 Weeks
Course Content			
1. Introduction to Heritage 2. Framework and Broader Nexus of heritage 3. Role of a conservation architect 4. Scales of Conservation 5. Trade and trade Routes in Ancient India and Central Asia 6. Transnational Heritage 7. Neighborhood renewal 8. Architectural Conservation 9. Imageability			
Expected Outcomes			
Students are expected to identify and document the existing heritage in Indian cities. Based on that they are expected to generate value assesment document and to generate representation drawing for the same.			

L. S. Raheja School of Architecture B.ARCH. Bandra

Bombay Suburban Art and Craft Education Society's

L. S. RAHEJA SCHOOL OF ARCHITECTURE

Course Code	BARE921 ELECTIVES RF		
Course Name	**Redevelopment & Feasibility**		
Course Instructor	Ar. Anmol Warang		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	30	Duration	16 Weeks
Course Content			
Redevelopment implies demolition of existing structure and building completely new structure. It is the most widely used tool for the upgradation of infrastructure and urban regeneration in Mumbai. The elective on Redevelopment discusses the importance of thoughtful redevelopment through an understanding of processes, rules and regulations, current trends and practices, etc. The student participants gain knowledge of various aspects that impact and issues that plague the redevelopment system.			
Expected Outcomes			
1. Understand the processes, rules and regulations governing the redevelopment of buildings in Mumbai. 2. Understand various clauses and sections of the MCGM DCPR 2034. 3. Gain knowledge about the historic development of Mumbai and the impact of past development strategies on the current status of Redevelopment., 4. Understand financial feasibility calculations to infer the possibility of success for redevelopment projects.			

Course Code	BARE921 ELECTIVES SD		
Course Name	**Set Design**		
Course Instructor	Mr. Ankit Pallan		
Year of Studies	5th Year B. Arch	Semester	IX
Max. no. of Students	30	Duration	16 Weeks
Course Content			
Set design is the creation of the physical space in which the action of a performed event takes place. This course aims to make students understand the scenery, furniture, props, appearance, and overall look of the stage.			
Expected Outcomes			
Students in groups are expected to design a small scale set for an event allocated to them.			

L. S. Raheja School of Architecture * Bandra (E) * B.ARCH.