

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, MAHARASHTRA

DETAILED SYLLABUS – BACHELOR OF ARCHITECTURE (B. Arch) 2019-20

Important notes:

1. An attempt is made to let the detailed content to be suggestive and not prescriptive. The nature and number of assignments, test, tutorials etc. are not specified intentionally. Every Institute and teacher should design these for their class. Every semester the exercises will be different and thus plagiarism could be avoided.
2. It is expected of all teachers to set up the exercises, tests and tutorials etc. in such a manner that they relate to student's own Design projects attempted in earlier semesters.
3. The detailed content for each course / subject in the document specifies the "Minimum" content to be disseminated to students. Every Institute depending on their Philosophy and Vision statement should make an attempt to go beyond this minimum content mentioned in the syllabus.
4. The content of each subject/course is divided into number of Credit point blocks relevant to the Credits allotted to that course/subject. For theory courses, the distribution of questions asked and marks allotted to topics should be proportionately spread over the content of each credit point in Mid Semester and Semester End Examinations. Questions asked and marks allotted to topics shall address all Credit point blocks of that course/subject at the Semester End Examinations.
5. For every "Elective" course / subject the student must attempt one of the three topics offered. His / her choice of the topic from amongst the three topics listed should be made at the beginning of the semester and conveyed to the Controller of Examinations of the University.
6. However the student may choose to attend more than one topics if he / she desires in an effort to acquire more knowledge. Also Institutes may offer topics other than mentioned in the syllabus and students may attend these extra classes voluntarily.
7. All courses / subjects are divided into three categories:
 - a. Theory courses / subjects (TH) – Student's work will comprise of class tests, tutorials, assignments done in the class + attempt a Paper in the Mid-Semester examinations + Attempt a Paper at the end of Semester examinations. The evaluation of student's performance will be marked separately for continuous assessment during the class sessions – CA1: before Mid-Sem Exams, Mid-Sem exams; CA2: After Mid-Sem exams and End-Sem exams. The marks for CA1, Mid-Sem exams and CA2 should be displayed and performance should be discussed with the students.
 - b. Studio Term Work courses (STW) - Student's work will comprise of class tests, tutorials, assignments done in the class. The assignments should reflect successful application of the knowledge in solving real life problems. The evaluation of student's performance will be marked separately for continuous assessment during the class sessions + assessment by an Internal & External Examiner at the End of Semester examinations where the student will not be present at the time of assessment. The work of the students shall be either in the form of manually drawn sheets, Journals, etc. or it shall be Acceptable in Digital format. Institutes have choice of selecting mode of submissions in any form.
 - c. Studio – Viva courses (SV) - Student's work will comprise of class tests, tutorials, assignments done in the class. The evaluation of student's progress will be marked separately for continuous assessment during the class sessions + Jury / Viva conducted by an Internal & External Examiner at the End of Semester examinations where the student will present his / her work in person. The work of the students shall be either in the form of manually drawn sheets, Journals or it shall be Acceptable in Digital format. Institutes have choice of selecting mode of submissions in any form.
8. The Internal & External examiner mentioned above is generally defined as follows:
 - a. Internal Examiner is the Teacher teaching that course / subject to that class during the semester.
 - b. External Examiner shall be a person not teaching in the concerned Institute. He / she should be a qualified Architect registered with the Council of Architecture, New Delhi and with a minimum of 5 years' experience in teaching – profession. For allied subjects the person could be an expert in that field with 5 years of experience. External examiner for course / subject "Thesis" shall be a qualified Architect registered with the Council of Architecture, New Delhi and with a minimum of 10 years' experience in teaching – profession.

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FINAL Teaching - Evaluation Scheme for B. Arch (December 2018)												
SEMESTER V												
Course Code	Subject / Course	L/w	S/w	T/w	C T	Cr	T M	CA 1	MSE	CA2	ESE-P	ESE-SV/STW
BA18051S	Architectural Design IV	0	10	10	SV	5	250	50	0	50	0	150
BA18052S	Building Construction Technology-V	0	6	6	SV	3	150	30	0	30	0	90
BA18053S	Working Drawing I	1	2	3	SV	2	100	20	0	20	0	60
BA18054T	Theory of Structure-V	2	0	2	TH	2	100	10	20	10	60	0
BA18055S	Landscape Design I	1	2	3	STW	2	100	20	0	20	0	60
BA18056T	Building Services - III	2	0	2	TH	2	100	10	20	10	60	0
BA18057T	Culture & Built Form-V	2	0	2	TH	2	100	10	20	10	60	0
BA18058S	Elective V (Any One from Below)	2	0	2	STW	2	100	20	0	20	0	60
	(A) Film Appreciation											
	(B) Architectural Journalism (C) Exhibition Design											
		10	20	30		20	1000					

SEMESTER VI												
Course Code	Subject / Course	L/w	S/w	T/w	C T	Cr	T M	CA 1	MSE	CA2	ESE-P	ESE-SV/STW
BA18061S	Architectural Design V	0	10	10	SV	5	250	50	0	50	0	150
BA18062S	Building Construction Technology-VI	0	6	6	SV	3	150	30	0	30	0	90
BA18063S	Working Drawing II	1	2	3	STW	2	100	20	0	20	0	60
BA18064T	Sociology	2	0	2	TH	2	100	10	20	10	60	0
BA18065S	Landscape Design II	1	2	3	STW	2	100	20	0	20	0	60
BA18066T	Building Services - IV	2	0	2	TH	2	100	10	20	10	60	0
BA18067T	Contemporary Architecture	2	0	2	TH	2	100	10	20	10	60	0
BA18068S	Elective VI (Any One from Below)	2	0	2	STW	2	100	20	0	20	0	60
	(A) Building Information Modelling											
	(B) Cyber Laws (C) Theatre Design											
		10	20	30		20	1000					

Abbreviations:

L/w	Number of Clock Hours of Lectures per week for the Subject / Course
S/w	Number of Clock Hours of Studios per week for the Subject / Course
T/ w	Total Number of Clock Hours per week for the Subject / Course
C T	Subject / Course Type: Theory (TH) or Studio Term Work (STW) or Studio Viva (SV)
Cr	Total Number of Credits allotted for the Subject / Course in the Semester
T M	Total Number of Marks allotted for the Subject / Course in the Semester
CA 1	Marks allotted for Continuous Assessment during the Semester before Mid Semester examinations the Subject / Course in the Semester
MSE	Marks allotted for Mid Semester examinations for the Subject / Course in the Semester
CA2	Marks allotted for Continuous Assessment during the Semester after Mid Semester examinations the Subject / Course in the Semester
ESE-P	Marks allotted for End of Semester examinations Paper for the Subject / Course in the Semester
ESE-SV/STW	Marks allotted for End of Semester examinations Studio Sessional work or Studio Viva for the Subject / Course in the Semester

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Detailed content

Third Year B. Arch. - Semester 5

BA18051S: Architectural Design - IV

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18051S	Architectural Design - IV	0	10	10	SV	5	250	50	0	50	0	150

Learning Objectives:

After successful completion of this course, student should be able to:
 To explore complex concepts. To understand building basic bye-laws in strict application and interdependency of various functions in a public building.
 Design Agenda: **Multifunctional public building.**

Detailed Syllabus:

1	This semester design program focuses on interrelation of various functions (typology) and architectural response towards it.
2	Site analysis with respect to surrounding environment, tradition, culture. Climatic considerations, topographic understanding and water shed awareness.
3	Related Case Studies & studying building bye-laws. Formatting design brief. Research regarding selected philosophy. Understanding characters of selected style.
4	Conceptual explorations of character and selected style. Occupation and meanings of various spaces within a typology placed in a context
5	Considering structural solutions & materials for plural Architectural spaces. Cluster combinational principles. typology, society and community
6	Design Development. Considering building guidelines. Consideration of building related services. Finalization of Design Proposal. Highlighting the character of building as regards to style, lsm or philosophy.
Studio Exercises suggested: Design of Multifunctional public building preferably Large Public Buildings as decided by the Institute. 1 no Major Project based on above Modules with creative presentation of drawings & models.	

Recommended Reading:

1	Ching, Francis D.K.; Architecture Form, Space and Order.
2	Pandya Yatin, concept of space in traditional Indian architecture,
3	Jain Kulbhushan, Thematic Space in Indian architecture
4	Koolhaas Rem, SMLXL
5	Anant Raje Architects 1971-2009
6	Scriver Peter, After the masters
7	Peter Streens, Patterns in Nature.
8	Anthony Antoniadis - Poetics in Architecture: Theory of design
9	Am heim Rudolf, Visual Thinking.
10	Jonathan A. Hale -Building Ideas. An introduction to Architectural Theory.
11	William J.J. Synectics: The Development of Creative Capacity
12	Elvadine R. Seligmanann : Reaching Students through Synectics: A Creative solution
13	Joyce, Bruce and Weil Marsha Synectics Involving creative thought

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BA18052S: Building Construction and Technology - V

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18052S	Building Construction Technology - V	0	6	6	SV	3	150	30	0	30	0	90

Learning Objectives:

After successful completion of this course, student should be able to:
Understand complex construction systems for large structures. Introduction to special techniques used for modern High - rises, Prefabrication, as well as influence of Vernacular Architecture in development and adaptation of new systems.

Detailed Syllabus:

1.	Construction systems used for Industrial and large span buildings, high rise buildings in Concrete & steel, Pre-stressed structures. Technical nomenclature of different steel sections, construction methods, methods of connections, different types of welds, riveting & bolting.
2.	Modular co-ordination, Modular construction, Pre-fabricated elements for structures, specialized plant & machinery used for on-site installation, sequence of operations in construction
3.	Study of traditional & vernacular systems and materials used in construction. Appropriate technology & Modern non-conventional techniques developed by various research institutes in response to the local/regional conditions

Recommended Reading:

1.	Elements of structure by Morgan
2.	Steel Structure by Krishna Raju
3.	Building Construction by Punmia
4.	Building Construction by Bindra Arora
5.	Building Construction by Sushil Kumar
6.	Structure in Architecture by Salvadori
7.	Building construction by McKay W. B., Vol. 1 to 4
8.	Construction of Building by Barry, Vol. I to V
9.	Construction Technology by Chudley R. Vol. I to IV
10.	Building Construction Illustrated – Ching Francis D.K.
11.	Elementary Building Construction by Michell

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BA18053S: Working Drawing - I

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18053S	Working Drawing - I	1	2	3	SV	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
 Understand importance of making detailed working drawings/shop drawings for carrying out work of construction.
 Importance of Precision, comprehensive information and detailed drawings required to furnished for cost estimating as well as execution of work.

Detailed Syllabus:

1.	Understanding purpose of making Working drawing and details. Importance of 2D – orthographic projection drawings. Understanding Construction details, Sequence of construction. Drawing Conventions, precision / accuracy, scales for overall drawings and details. To be simple and easily read / understood by contractors, workmen and possibly illiterate labor also. Importance of incorporating complete information like Measurements, Dimensions, Material, other annotation of information etc. Dimension styles and conventions. Getting acquainted with terminology like centerline, section planes, centerline plan, setting out, different schedules etc. Printing to scale and size of sheets of paper.
2.	Making a complete set of Working drawing and details of a simple load bearing walls type structure (A design project of previous semester). All sequential / stage wise plans, sections, elevations, large scale details. Details of Internal & external Water supply & sanitation layouts including sewage disposal, etc. Electrical layouts showing all details.

Recommended Reading:

1.	Elements of structure by Morgan
2.	Structure in Architecture by Salvadori
3.	Building construction by Mckay W. B., Vol. 1 to 4
4.	Construction of Building by Barry, Vol. I to V
5.	Construction Technology by Chudley R. Vol. I to IV
6.	Building Construction Illustrated – Ching Francis D.K.
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BA18054T: Theory of Structure - V

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18054T	Theory of Structure - V	2	0	2	TH	2	100	10	20	10	60	0

Learning Objectives:

After successful completion of this course, student should be able to:
 Understand Course emphasis on understanding of section design in R.C.C. and its implication on design of structures

Detailed Syllabus:

1.	<ul style="list-style-type: none"> • PRESTRESSING: Definitions, Principles of Pre stressing ,Pre stressing and post tensioning, Materials of Pre stressing, systems of pre stressing , applications and uses - stresses of pre stressed concrete members , Approximate design of pre stressed concrete members. • SHELLS STRUCTURES: Definition and various forms and classification of shells Advantages and disadvantages, Study of Preformed shells, cylindrical shells, Hyperbolic and paraboloids, free forms of shells.
2.	<ul style="list-style-type: none"> • PREFABRICATION: Definitions, Principles of Prefabrications, Applications – Prefabrication system for buildings. • CABLE STRUCTURES: Cable stayed – cable suspended structures, simply curved suspended roofs, combination of roofs and struts. The students are encouraged to do case study of advance structural forms and make a presentation.

Recommended Reading:

1.	Elements of Structures – Morgan.
2.	Structure in Architecture – Salvadon and Heller.
3.	Engineering mechanics by A. K. Tayal
4.	Mechanics of structure Vol. I By Junnarkar.
5.	Design of steel structures-Vazirani – Rathwani.
6.	Design of steel structures- L.S. Negi.
7.	R.C.C. Design – Khurmi, Punmia, Sushilkumar.
8.	Strength of Materials by Amol Dongre.
9.	Engineering Mechanics - F.L. Singer, Harper Collins publications.

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BA18055S: Landscape Design - I

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18055S	Landscape Design - I	1	2	3	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
Make students aware of architecture beyond buildings, in the outdoor environment and spaces, and the role and importance of landscaping and site planning in enhancing and improving the quality of building environs, functionally and aesthetically.

Detailed Syllabus:

1.	<ul style="list-style-type: none"> Introduction to Landscape Architecture, definitions, importance, need and scope. Levels of landscape planning and design. Landscape architecture and ecology. Relationship between landscaping and environmental planning, regional planning, urban planning, urban design, architecture and interior design. Historical development of landscape architecture. Origins of gardens. Design Principles, salient features and elements of various gardens in history – like Egyptian, Persian, Spanish, Italian, French, English, American, Japanese, Moghul Indian etc. Changed scenario for modern garden designs. Different factors and components of a landscape. Social and economic factors. Psychological considerations of spaces and enclosures. Brief idea about manmade components like walls, fences, entrances, gates, barriers, screens, planters, roads & pathways, street furniture, signage, services-electrical, water supply and drainage. Basic natural components - land, trees, water and climate.
2.	<ul style="list-style-type: none"> Different aspects of land as a landscape element - soils, geology, topography, earth forms, levels, foundations, grading, drainage, paved and unpaved surfaces. The importance and use of the aspects as a landscape design element. Various forms of water elements in a landscape - fountains, waterfalls, pools, cascades, channels irrigation etc. Importance and use of water as a landscape design element. Construction of various water elements. Different aspects of trees, shrubs, climbers, hedges, lawns as landscape elements. Basic horticultural idea about plants, plant selection, planting design and care of plants. Importance and use of the aspects as a landscape design element.

Recommended Reading:

1.	Appleton. (1996). The Experience of Landscape. Wiley.
2.	Geoffrey, and Jellico, S. (1987). The Landscape of Man. Thames and Hudson.
3.	Holl, G. P. (2006). Questions of Perception Phenomenon logy of Architecture. Richmond
4.	Laurie. (1986). An Introduction to Landscape Architecture. Elsevier.
5.	Lynch, K. (1962). Site Planning. Cambridge: The MIT Press.
6.	Reid, G. (2002). Landscape Graphics. New York: Watson-Guptill.
7.	Simonds, J. O. (2006). Landscape Architecture: A Manual of Land Planning and Design.

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BA18056T: Building Services - III

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18056T	Building Services - III	2	0	2	TH	2	100	10	20	10	60	0

Learning Objectives:

After successful completion of this course, student should be able to:
Understand Environmental control systems – **Artificial Ventilation.**

Detailed Syllabus:

1.	<ul style="list-style-type: none"> Basic theory – Terminology – Heat, Temperature, Humidity, Relative humidity, heat exchange, heat flow - Conduction, Convection, Radiation, sensible (Specific heat) and insensible (Latent heat) Heat, Conductivity of materials, “K” value, “U” value, transmittance. Human - Physical comfort-Freshness of Air & Air change, Temperature, Humidity, outdoors and indoors, heat flow within buildings, steady state conditions and periodic flow, thermal performance of building elements, sun protection of buildings. Natural Ventilation, Wind and stack effects, evaporative cooling. Concept of Heat Exchange- Heating / cooling loads. Artificial Ventilation. Forced ventilation system, Types of fans and blowers, mounting, sizes and calculation of fans Unit. Air-conditioning system, Principles of air-conditioning system, Components of air-conditioning system, Air-conditioning system, Types of conventional systems of air-conditioning, Non-conventional systems of air-conditioning. Air conditioning Ventilation Equipment & systems presently used, their working, installation requirements and demands in building layout, supply air, return air ducting systems, their layouts and requirements within building systems, co-ordination to building systems.
2.	<ul style="list-style-type: none"> Air-conditioning systems their layouts of ductwork and requirements within building systems, co-ordination to building systems. Mechanical Services in a building. Vertical & horizontal transportation systems like Lifts, escalators, dumb waiters, conveyor paths. Determining the demand, carrying capacity, travel time, co-ordination, space requirements & installation of such equipment. Layouts of lift banks, Escalators etc. in a building.

Recommended Reading:

1.	National Building Code 2016
2.	Mechanical and Electrical Equipment for Buildings by Walter T. Grondzik, Alison G. Kwok, Benjamin Stein
3.	Building Construction by Rangwala.
4.	Basic Refrigeration and Air Conditioning by A. Ananthanarayana

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BA18057T: Culture & Built Form-V

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18057T	Culture & Built Form-V	2	0	2	TH	2	100	10	20	10	60	0

Learning Objectives:

After successful completion of this course, student should be able to:
Development of architecture and structural systems based on knowledge of materials and technology developed from contextual to the social and cultural history of the place. Period - 1800 CE to 1970 CE

Detailed Syllabus:

1.	<ul style="list-style-type: none"> • Effects of Industrial Revolution (1800-1880) on construction technology and architectural design-Early movements such as Industrial romanticism, eclecticism, Arts and Crafts, Development Of 'New Art & Architecture' Art Nouveau (1890-1920), Avant- garde, Art deco, De Stijl ((1917-1930) Advent of Steel and Henry Labrouste -Great Exhibitions of 1851 and 1889 and their contributions. Pioneers of these movements - Joseph Paxton, Gustav Eiffel, Anguste Perret, Tony Garnier, Antonio Gaudi, Victor Horta, Hector Guimard and their Creations. • Architectural Developments from 1880 to 1940: Idea of Modernism: Movements like Expressionism (1910-25), Constructivism, Cubism, Functionalism, Organic Architecture theory. • Chicago school and skyscraper (1880-1910), Bauhaus Design school (1919-1933): Legends of the Era- Bruno Taut, Peter Behrens , Adolf Loolf, Louis Sullivan, F.L Wright, Walter Gropius, Ludwig van der Rohe and their works. • Surrealism (1920-1930), Constructivism (1900 -1923) Tatlin tower - 1919, Art Deco Architecture (1925-1940)
2.	<ul style="list-style-type: none"> • Growth of International style (1940-1970): Movements like- Minimalism, Brutalism, Metabolism, Post modernism, Structuralism. Works of master architects- Eero Saarinan, Kenzo Tange, Oscar Niemeyer, Richard Neutra, Paul Rudolph, Philip Johnson. Spread and Development of International style under Le Corbusier, Louis-I- Kahn, I M Pei, Lucio Costa. • Colonial Architecture in India- cantonments, bungalows etc.: Transformation of Indian architecture during colonial period – influences and effects, Colonialism and its impact on India. Works of British architects in pre- independence. Planning of New Delhi - Viceroy House, Parliament etc. Saracenic architecture- Town halls, CST, Museums etc.

Recommended Reading:

1.	Spiro Kostof "History of Architecture"
2.	Global History of Architecture – Franchis d.k Ching
3.	The Puzzle of Architecture by Robui Boyd.
4.	Modern Architecture by Kenneth Frampton
5.	Architecture & independence by John T. Lans, Madhavi Desai Miki Desai
6.	The story of Architecture by Patrick Nuttgens.

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BA18058S: Electives – V (A) FILM APPRECIATION
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18058S	Electives – V (A) Film Appreciation	2	0	2	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student is equipped with an ability to engage with cinema deeply. It teaches the student to contextualize a film in its historical, social, aesthetic and technological perspective and then goes on to explain the language of pictures and sounds and the meaning created by their design, juxtaposition and sequencing. Finally it explores with the students the relationship between cinema and the society.

Detailed Syllabus:

1.	Introduction to film appreciation, film history, film analysis and film production – fiction and documentary - from concept to final film. Identify different processes of film making. Identify types of films – Documentaries, Fiction, Study material, Short Films, etc.
2.	Analyze a few selected films and taken through the process of film making – fiction as well as documentary. There may also be specific sessions on the impact of cinema on society and the process of preserving film and film heritage. Finally, there will be an opportunity for the students to explore the avenues for further learning of the film craft.

Recommended Reading:

1.	The Great Movies Author: Roger Ebert
2.	Anatomy of Film Author: Bernard F. Dick
3.	Art of Watching Films Author: Joseph M. Boggs, Dennis W. Petrie
4.	The Film Appreciation Book: The Film Course You Always Wanted to Take Paperback– by Jim Piper
5.	Signs and Meaning in the Cinema Peter Wollen, Secker & Warburg, 1969

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BA18058S: Electives – V (B) ARCHITECTURAL JOURNALISM

ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18058S	Electives – V (B) Architectural Journalism	2	0	2	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
Get An overview of journalism and reporting in the field of Design and Interior Design in particular.

Detailed Syllabus:

1.	Writing descriptive and analytical reports of visits to sites, identifying the design theme, Case studies and class exercises. Interviewing techniques, Photo journalism, Editing write ups, Editorial policies. Case studies and class exercises.
2.	An overview of Structure of Design journals and overall content and distribution of the content in journals. Page compositions, The printing process. Case studies and class exercises. Electronic media and e-journals, various techniques used in e-presentations, Case studies and class exercises.

Recommended Reading:

1.	Exploration of Architectural Journalism in India by Pappal Suneja
2.	Challenges to the Epistemology of Journalism: The Architecture of the Contemporary Mediascape
3.	Architectural Voices of India: A Blend of Contemporary and Traditional Ethos Book by Apurva Bose Dutta

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BA18058S: Electives – V (C) EXHIBITION DESIGN
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18058S	Electives – V (C) Exhibition Design	2	0	2	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
To create and implement an exhibition design strategy.

Detailed Syllabus:

1.	Introduction to Exhibition Design. Identifying types of installations- Temporary/permanent, indoor/outdoor, Materials to be used etc.
2.	The course will be further conducted in 4 Stages :- 1. Concept & Research: Gathering information, Research, Exhibition Structure & Space narrative. 2. Design: Design thinking, Sketches & Models, 3D Modeling, Design Elements and Design principles. 3. Planning: Floor plan & elevations, Wall layouts, Lighting, New Media and Human factors. 4. Production & Installation: Time management, Colours & materials, Typography & graphics, Building & Production.

Recommended Reading:

1.	Exhibition Design: An Introduction, Philip Hughes
2.	Grand Stand 6, Ana Martins, Evan Jehl
3.	Exhibition Art : Graphics and Space Design, Wang Shaoqiang
4.	The Art of Museum Exhibitions: How Story and Imagination Create Aesthetic Experiences, Leslie Bedford

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Third Year B. Arch. - Semester 6

BA18061S: Architectural Design - V

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18061S	Architectural Design - V	0	10	10	SV	5	250	50	0	50	0	150

Learning Objectives:

After successful completion of this course, student should be able to:

To explore Idea of mass housing which strictly prevailing a model of apartment typology. It should explore new design styles and design issues discussed globally.

Mass Housing – Climate, interdependency, Density –

footprints, built and unbuilt relation, and understanding. Theory of mass housing and issues of policies related.

Detailed Syllabus:

1	Issues of Identity, Scale, Public spaces, Context, Grouping of buildings, Infrastructure for community formation etc. Site analysis with respect to surrounding environment, tradition, culture. Climatic considerations. Study of Contours.
2	Related Case Studies & defining guidelines in various contexts. Formatting design brief.
3	Conceptual explorations of character and selected style.
4	Urban neighborhoods, traditional and present day composition, structure, density, building use, built and unbuilt, building controls, urban infrastructure and services. . Considering structural solutions & materials for complex Architectural spaces. Considering use of mechanical vertical transport.
5	Finalization of Design Proposal. Highlighting the character of building as regards to style.
Studio Exercises suggested: Design of Complex function spaces preferably related to Housing complexes as decided by the Institute. 1 no Major Project based on above Modules with creative presentation of drawings & models	

Recommended Reading:

1.	Ching, Francis D.K.; Architecture Form, Space and Order.
2.	C.M. Deasy -Design for Human Affairs.
3.	Rudofsky, Bernard; Architecture without Architects.
4.	Rasmussen, Steen Eiler; Experiencing Architecture
5.	Paul Lassau – Graphic Thinking for Architects and Planners.
6.	Peter Pearce, Structure in Nature – Strategy for Design.
7.	Peter Streens, Patterns in Nature.
8.	Anthony Antoniadis - Poetics in Architecture: Theory of design
9.	Am heim Rudolf, Visual Thinking.
10.	Jonathan A. Hale - Building Ideas. An introduction to Architectural Theory.
11.	William J.J. Synectics: The Development of Creative Capacity
12.	Elvadine R. Seligmanann : Reaching Students through Synectics: A Creative solution
13.	Jyoce, Bruce and Weil Marsha .Synectics Involving creative thought

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BA18062S: Building Construction and Technology - VI

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18062S	Building Construction Technology -VI	0	6	6	SV	3	150	30	0	30	0	90

Learning Objectives:

After successful completion of this course, student should be able to:
Understand materials used in construction, principles of construction, building systems. Issues related to Remodeling, Repairs, and Temporary structures. Issues related to coordination between the detailing and execution on site.

Detailed Syllabus:

1.	Building repairs & remodeling: Temporary supports like formwork, strutting, scaffolding, and shoring. Procedure of carrying out repairs, construction details for building services. Additions and alterations to existing Residential, Commercial, Industrial buildings.
2.	Construction of Temporary structures like work sheds, construction of compound fences, gates, grills in wood, steel etc.
3.	Issues of clear coordination in construction to relate between the design and construction, causes for failures in performance. Case studies to illustrate coordination and cases of failure.

Recommended Reading:

1.	Elements of structure by Morgan
2.	Building Construction by Punmia
3.	Building Construction by Bindra, Arora
4.	Building Construction by Sushil Kumar
5.	Structure in Architecture by Salvadori
6.	Building construction by McKay W. B., Vol. 1 to 4
7.	Construction of Building by Barry, Vol. I to V
8.	Construction Technology by Chudley R. Vol. I to IV
9.	Building Construction Illustrated – Ching Francis D.K.
10.	Elementary Building Construction by Michell

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BA18063S: Working Drawing - II

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18063S	Working Drawing - II	1	2	3	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:

Understand importance of making detailed working drawings/shop drawings for carrying out work of construction.

Importance of Precision, comprehensive information and detailed drawings required to furnished for cost estimating as well as execution of work.

Detailed Syllabus:

1.	Understanding purpose of making Working drawing and details. Importance of 2D – orthographic projection drawings. Understanding Construction details, Sequence of construction. Drawing Conventions, precision / accuracy, scales for overall drawings and details. To be simple and easily read / understood by contractors, workmen and possibly illiterate labor also. Importance of incorporating complete information like Measurements, Dimensions, Material, other annotation of information etc. Dimension styles and conventions. Getting acquainted with terminology like centerline, section planes, centerline plan, setting out, different schedules etc. Printing to scale and size of sheets of paper.
2.	Making a complete set of Working drawing and details of an R.C.C. frame type structure (A design project of previous semester). All sequential / stage wise plans, sections, elevations, large scale details. Details of Internal & external Water supply & sanitation layouts including sewage disposal, etc. Electrical layouts, Air conditioning ductwork layout showing all details.

Recommended Reading:

1.	Elements of structure by Morgan
2.	Structure in Architecture by Salvadori
3.	Building construction by Mckay W. B., Vol. 1 to 4
4.	Construction of Building by Barry, Vol. I to V
5.	Construction Technology by Chudley R. Vol. I to IV
6.	Building Construction Illustrated – Ching Francis D.K.
7.	Elementary Building Construction by Michell

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BA18064T: Sociology

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18064T	Sociology	2	0	2	TH	2	100	10	20	10	60	0

Learning Objectives:

After successful completion of this course, student should be able to:
Understand relationship between sociology, social systems and built environment.

Detailed Syllabus:

1.	<ul style="list-style-type: none"> Introduction to Sociology, an overview of Urban Sociology. Social institutions - Introduction to the concept of family, community, association, religion, etc. Study of culture, Culture and Society – interrelationships. Social interactions, groups, communication, leadership. Social process - Co -operation, Conflict, Competition, Accommodation, Assimilation, progress and evolution. Socialization, Social change, Population, demographic transition - planned and unplanned Urbanization Process, World urbanization, Indian and different states
2.	<ul style="list-style-type: none"> Urbanization pattern and social change due to urbanization, Growth of slums and squatter settlements, migration pattern, population structure in slums, Concept of personal Integration, Consolidation index to compare slums at varying age, effect of industrialization and technological advancement on Society. Urban living - Crime and city size. Urban revitalization. Social policy and social planning community planning, urban crime, Effect of living in high rise building on children - Meaning of urban space. Effect on social planning on spatial planning.

Recommended Reading:

1.	The Sociology of Architecture: Constructing Identities by Paul Jones
2.	Cities and urbanization (Viewpoints in sociology) by T Richard Geruson
3.	Urban Renewal in India: Theory, Initiatives and Spatial Planning Strategies by S K Kulshrestha

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BA18065S: Landscape Design - II

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18065S	Landscape Design - II	1	2	3	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
To introduce the students to the discipline of Landscape architecture & its relevance to Architecture. To gain an insight into the changing relationship of human with nature, to develop the understanding of site and site planning. To develop the skill of integrated design of open and built spaces.

Detailed Syllabus:

1.	<ul style="list-style-type: none"> • Meaning and experience of a landscape, Aesthetics and Imagery of a landscape. Relationship of humans and nature. How landscapes relate to land, nature, environment and place. How the scales & conception of landscapes evolve over time, Sense of place in the landscape. • Site survey and appraisal, Site Inventory checklist – Topography, vegetation, soil, hydrology, climate etc. Principles of site planning, Design issues in site planning and siting of buildings. Integrating the built and open spaces. • Macro and micro-climatic considerations in landscape architecture. Effect of climate on landscape and various components of landscape on the micro climate. Relationship between climate and landscape and architecture.
2.	<ul style="list-style-type: none"> • Study and detailing of hard and soft landscape Hardscape - Materials used in civil component. Softscape - Trees, Shrubs, Ground cover, Indoor plants, Creepers. Importance and use of these elements in designed Landscape. • Functional requirement of landscape design as per Residential, Commercial, Industrial occupancy and relationship with user group. • Introduction to services related to Landscape like: Plumbing, electrical, Sewage, management, Irrigation • Introduction to Landscaping of City level Parks, plazas, squares, Stadiums / Playgrounds, Roof Garden, Vertical Garden, Avenue / Roadside Plantation, Indoor Landscape, Landscape on wastelands

Recommended Reading:

1.	Appleton. (1996). The Experience of Landscape. Wiley.
2.	Geoffrey, and Jellico, S. (1987). The Landscape of Man. Thames and Hudson.
3.	Holl, G. P. (2006). Questions of Perception Phenomenon logy of Architecture. Richmond :
4.	Laurie. (1986). An Introduction to Landscape Architecture. Elsevier.
5.	Lynch, K. (1962). Site Planning. Cambridge: The MIT Press.
6.	Reid, G. (2002). Landscape Graphics. New York: Watson-Guptill.
7.	Simonds, J. O. (2006). Landscape Architecture: A Manual of Land Planning and Design.

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BA18066T: Building Services - IV

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18066T	Building Services - IV	2	0	2	TH	2	100	10	20	10	60	0

Learning Objectives:

After successful completion of this course, student should be able to:

Understand Environmental control systems - **Building Acoustics, Noise control, Fire safety & Hazard management**

Detailed Syllabus:

1.	<ul style="list-style-type: none"> • Building Acoustics. Sound- Basic theory, Physics of sound, human perception, various units of measurement of sound. • Behavior of sound in enclosed & open field- Travel, reflection, refraction, reverberation, attenuation of sound. Design for good hearing conditions- Calculations for actual reverberation time, coefficients of absorption, Sabine's theory, correction & acoustical Treatment for desired conditions. Construction details
2.	<ul style="list-style-type: none"> • Noise control - behavior of sound for noise control, measure & designing for correction. Construction details, codes of practice like NRC, etc. • Fire safety & hazard management: Causes of occurrence spread of fire. Concept & understanding of Fire rating system for various materials & spaces. Warning systems, Fire extinguishers. Study of fire regulations, space planning for fire prevention & control. Fire escapes, Fire doors, fire staircase – lifts etc. Means of escape.

Recommended Reading:

1.	Leslie, Doelle. Environmental Acoustics. McGraw Hill.1972
2.	Kundsen, V.O. & Harris, C.M. Acoustical designing in Architecture
3.	Egan, M. David. Architectural Acoustics. McGraw-Hill
4.	Mehta, Madan, Johnson, J., Rocafort, J. Architectural Principles and Design
5.	National Building Code of India

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BA18067T: Contemporary Architecture

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18067T	Contemporary Architecture	2	0	2	TH	2	100	10	20	10	60	0

Learning Objectives:

After successful completion of this course, student should be able to:
Understand development of architecture and structural systems based on knowledge of materials and technology developed from 1970 up to 2000 CE, contextual to the social and cultural history of the place.

Detailed Syllabus:

1.	<ul style="list-style-type: none"> • Post Modernism (1970): Micheal Graves, Robert Venturi, Aldo Rossi. • High Tech Architecture (1970 onwards): Structuralism, Metabolism, Brutalism. Master works of Norman Foster, Renzo Piano, Richard Rogers. • Philosophies and works of Indian Architects: Indian Architecture since Independence. Works of some master architects from the post-independence period like Dr. B.V. Doshi, A.P. Kanvinde, Charles Correa, Raj Rewal, Anant Raje, J.A. Stein, A. Kanvinde. Impact of Chandigarh planning on Indian Architecture. Contributions of Laurie Baker & Louis Kahn in India.
2.	<ul style="list-style-type: none"> • De-constructivism (1980 -86): Characterized by ideas of fragmentation, an interest in manipulating ideas of a structure surface or skin, non-rectilinear shapes which serve to distort and dislocate some of the elements of architecture such as structure and envelope. Works of Frank O – Gehry, Daniel Libelskind, Rem Koolas, Zaha Hadid. • Regionalism: Kenneth Framptom, Charles Correa, Hassan Fathy, Alvaro Siza, Geoffery Bawa, Alvar Alto, Tadao Ando, William Curtis, Rapheal Moneo, Raesm Badran • Late 20th –Century Supertall Towers: Petronas Towers, Kuala Lumpur, Malaysia (1998) (452m/ 1,483 feet).

Recommended Reading:

1.	Architecture for the Poor – Hassan Fathy
2.	Architecture in India- Electa Moniteur
3.	A concise History of modern architecture in India – Jon Lang
4.	Delhi and its neighbourhood
5.	Indian canvas - Rerendered
6.	Details of modern Architecture – Edward. R Ford
7.	Building 300 years of design, engineering & Construction – Adam Addas
8.	Ballard B and Rank V.P "Material for Architectural Design " Lawrence King 2006
9.	Frampton K " Modern Architecture - A Critical History" 3rd edition Thames & Hudson 2002
10.	Gossel P and Lenthauser G. "Architecture in the 20th century" vol 1 & 2 Taschen

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BA18068S: Electives – VI (A) BUILDING INFORMATION MODELLING
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18068S	Electives – VI (A) Building Information Modelling	2	0	2	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
Understand that BIM is used to collaboration - between engineers, owners, architects and contractors in a three dimensional environment (common data environment), and it shares information across these disciplines. BIM is the management of information through the whole life cycle of a built asset, from initial design all the way through to construction, maintaining and finally de-commissioning.

Detailed Syllabus:

1.	Introduction to Building Information Modeling. The advantages of using the software. Introduce various software's like Revit, Archicad, etc. Special Features of Revit Architecture Understanding Revit Elements Working in one model with many views Using Ribbon & Quick Access Toolbar (QAT) Using Project Browser. WORKING WITH PROJECT: Configure Project UNITS Settings Adding Levels Referring Layout with temporary dimensions Adding Columns. MODELLING WALLS, DOORS AND WINDOWS: Adding Walls Wall Properties and Types Using Modifying Tools Adding Doors and Windows all Joints LINKING IN REVIT Linking AutoCAD Drawing Files Import Tips Create a Group.
2.	MODELLING ROOF, CEILING & FLOOR Working with Roofs Working with Ceilings Working with Floors WORKING WITH STAIRS Working with Stairs Adding Railings to Stairs VIEWS, VISIBILITY & GRAPHIC CONTROLS Hiding and Isolating objects in a model Displaying Objects Above-Below in Plan Views DOCUMENTATION Adding Schedule Views Modifying Schedule Views Exporting to AutoCAD Adding Text

Recommended Reading:

1.	BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors by Rafael Sacks, Chuck Eastman, Ghang Lee, Paul Teicholz
2.	Building Information Modeling for Dummies Book by David Philp, Paul Swaddle, and Stefan Mordue

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BA18068S: Electives – VI (B) CYBER LAWS
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18068S	Electives – VI (B) Cyber Laws	2	0	2	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
Understand legal issues and care students should take when using Internet, cyberspace etc. Understand the safety and protection of personal data, issues of hacking, and cybercrimes.

Detailed Syllabus:

1. Introduction to the Cyber Laws prevailing in India. What is Internet and what devices are used to connect to internet. Understanding the tools we use when we get connected to Internet like- Browser, Social media tools like Whatsapp/Facebook/Instagram/Twitter, Banking apps, etc., Email, Location sharing & tracking, etc. Risks involved in using these tools and precautions to be taken.
2. Introduction to Cyber Laws and their domain. Etiquettes you should observe to not breach Cyber laws. What you should do not to become a victim, what you should do if you become a victim.

Recommended Reading:

1. Cyber laws and IT protection Book by HARISH CHANDER
2. Textbook on Cyber Law by Pavan Duggal

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BA18068S: Electives – VI (C) THEATRE DESIGN
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

Sem.	Code	Course	L	St	Tot	Type	Cr	TM	CA 1	MSE	CA2	ESE-Pap	ESE-SV/STW
1	BA18068S	Electives – VI (C) Theatre Design	2	0	2	STW	2	100	20	0	20	0	60

Learning Objectives:

After successful completion of this course, student should be able to:
Gets an overview in technicalities involving Design of theatres (Auditoriums, etc.). Understand various theater forms and their specific requirement.

Detailed Syllabus:

1.	Knowing about various Types & Forms of Theatres Small drama theatres: Arena, Black box theatre, Studio theatre, Courtyard theatre, Large drama theatres, Thrust, End stage, Proscenium theatre, Thrust and open stage, Recital hall, Concert halls, Spaces for opera and dance, Opera house, Multi-use commercial theatre, Spaces for acoustic music (unamplified), Shoebox concert hall, surround hall, Dance theatre, Spaces for media interaction, Spaces for meeting and worship, Spaces for teaching, Spaces for multiple uses, Multipurpose theatre, Multiform theatre, Spaces for entertainment, Showroom, Conference room, House of worship
2.	Technical aspects: Stage technology – Stagecraft, Mechanically operated stage, Jack-knife stage, Wagon type stage, Revolving stage, etc. Drapery: Wings – position & installation, Borders, teasers, Curtains, Backdrop, cyclorama, etc. Lighting Equipment: placement and controls. Sound Equipment: placement & controls.

Recommended Reading:

1.	http://theatreprojects.com/files/pdf/Resources_IdeasInfo_typesandformsoftheatre.pdf
2.	Behind the Scenes - PHOEBE ADLER
3.	Joseph Urban - JOHN LORING
4.	Theatre Design: Behind the Scenes with the Top Set, Lighting, and Costume Designers Paperback – September 1, 2006 by Babak A. Ebrahimian