

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 VII | | | | | | | | | | | | |
| Course Code | Subject / Course | L/w | S/w | T/w | C T | Cr | T M | CA 1 | MSE | CA2 | ESE-P | ESE-SV/STW |
| BA18071S | Architectural Design VI | 0 | 10 | 10 | SV | 5 | 250 | 50 | 0 | 50 | 0 | 150 |
| BA18072S | Building Construction Technology-VII | 2 | 4 | 6 | SV | 3 | 150 | 30 | 0 | 30 | 0 | 90 |
| BA18073S | Human Settlements & Urban Design | 0 | 4 | 4 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |
| BA18074T | Quantity surveying and Estimation | 2 | 0 | 2 | TH | 2 | 100 | 10 | 20 | 10 | 60 | 0 |
| BA18075T | Specification Writing | 2 | 0 | 2 | TH | 2 | 100 | 10 | 20 | 10 | 60 | 0 |
| BA18076T | Professional Practice I | 2 | 0 | 2 | TH | 2 | 100 | 10 | 20 | 10 | 60 | 0 |
| BA18077S | Elective VII (Any One from Below) | 2 | 0 | 2 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |
| | (A) UX Design | | | | | | | | | | | |
| | (B) Foreign Language | | | | | | | | | | | |
| | (C) Transportation Planning | | | | | | | | | | | |
| BA18078S | Elective VIII (Any One from Below) | 2 | 0 | 2 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |
| | (A) IGBC-Green Design | | | | | | | | | | | |
| | (B) Digital Marketing | | | | | | | | | | | |
| | (C) Web Design | | | | | | | | | | | |
| | | 12 | 18 | 30 | | 20 | 1000 | | | | | |

| SEMESTER VIII | | | | | | | | | | | | |
|---------------|-----------------------|------------------|-----|-----|-----|-----------|-------------|------|-----|-----|-------|------------|
| Course Code | Subject / Course | L/w | S/w | T/w | C T | Cr | T M | CA 1 | MSE | CA2 | ESE-P | ESE-SV/STW |
| BA18081S | Professional Training | 16 WEEKS/90 DAYS | | | SV | 20 | 1000 | 0 | 0 | 0 | 0 | 1000 |
| | | | | | SV | 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

Fourth Year B. Arch. - Semester 7

BA18071S: Architectural Design - VI

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | TM | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|---------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18071S | Architectural Design - VI | 0 | 10 | 10 | SV | 5 | 250 | 50 | 0 | 50 | 0 | 150 |

Learning Objectives:

After successful completion of this course, student should be able to:
 Understand definition of campus formation and various parameters of organizing multiple typologies together.
 Design Agenda – **Campus Design**

Detailed Syllabus:

| | |
|---|---|
| 1 | Campus Design – Principles of Campus Design – interaction both different built form functional zoning with site specification. |
| 2 | Formal introduction to the word called Site planning where it will introduce to the concept of zoning with respect to density, mapping, function etc. |
| 3 | Reflection, philosophy of ideology of particular situation in Architectural language. |
| 4 | Infrastructural assessment like electrical lighting, transport, communication at Campus scale for example Apple Parkway, Assembly building Bangladesh, IIT Kanpur, IIM Bangalore, Salk Institute etc. |
| 5 | Formulation of building guideline in the campus to set control over Built form. |

Recommended Reading:

| | |
|----|---|
| 1 | Kanvinde & Miller – Campus Design in India |
| 2 | Paul Spreirengen - Urban Design, the Architecture of Town & Cities. |
| 3 | Charles Jencks – Modern Movements in Architecture |
| 4 | Charles Jencks – Language of Post Modern Architecture |
| 5 | Robert Venturi – Complexities and Contradictions in Architecture. |
| 6 | Aldo Rossi – Architecture of the city. |
| 7 | Raseem Badran – Narrative of people & Places. |
| 8 | Edmond Beckon – Design of Cities |
| 9 | Petrick Geddes |
| 10 | Various monographs & periodicals |

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BA18072S: Building Construction and Technology - VII

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|---------------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18072S | Building Construction Technology -VII | 2 | 4 | 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 and advanced construction techniques.

Detailed Syllabus:

| | |
|----|--|
| 1. | Waterproofing of Basements, Swimming pools and other water retaining structures. Construction of swimming pools with details of retaining walls, raft slab, underwater lighting system, scum gutter, inlet & outlet details, spring board diving details, filtration plant, notes on washing of swimming pools. Advanced construction techniques: High rise structures, Composite structures, Systems developed in response to-Earthquake zone, adverse site conditions like expansive soils – deep foundations, piles & caisson foundations. |
| 2. | Construction details of a balcony slab in an auditorium/ cinema theatre, raker beam details & RCC slab details (showing general reinforcement), longitudinal section of an auditorium. |
| 3. | Advanced construction techniques: Retaining structures and various practices in their construction. Advanced construction techniques: Construction of manufactured systems for curtain walls, skylights. Use of advanced construction machinery. |

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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BA18073S: Human Settlements & Urban Design

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|----------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18073S | Human Settlements & Urban Design | 0 | 4 | 4 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |

Learning Objectives:

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

To initiate thinking towards interface between architecture, landscape architecture and urban planning. To sensitize the students about the concept of public realm, understanding of the city as a three dimensional entity and perception of spaces at multiple scales. Familiarize students with the implementation processes through various statutory and non-statutory guidelines.

Detailed Syllabus:

| | |
|----|--|
| 1. | <ul style="list-style-type: none"> Brief introduction to human settlements as expression of civilizations. Introduction and Scope Relationship between Architecture. Brief review of the evolution of the urban design as a discipline. Basic principles and theories. Broad understanding of urban forms and spaces at various spatial scales through examples from historic cities. Typologies and Procedures -Concepts of public and private realm, Different types and procedures of urban design interventions their scale relationships, constraints and challenges of urban design in democratic versus authoritarian settings. Elements of Urban Design - Understanding the city as a three dimensional element. Urban form as determined by interplay of masses, voids, order, scale, harmony, symmetry, colour and texture, Organization of spaces and their articulation in the form of squares, streets, vistas and focal points, Concept of public open space. Image of the city and its components such as edges, paths, landmarks, street features. |
| 2. | <ul style="list-style-type: none"> Urban Design and Sustainability - Sustainability concept, Relationship of urban design with economic, environmental and social sustainability. Urban renewal and urban sprawl. Concepts of Transit Oriented Development, Compact City, Healthy City and Walkable City. Urban Design Implementation Urban design and its control Types of planning instruments, structure plans, master plans and local area plans and zoning guidelines Design communication and role of public participation. |

Recommended Reading:

| | |
|----|---|
| 1. | Larice, M. and Macdonald, E. Ed. (2013). The Urban Design Reader. 2nd Ed. The Routledge Urban Reader Series, Abingdon, Oxon: Routledge. |
| 2. | Carmona, M., Heath, T., Oc, T. and Tiesdell, S. (2010). Public Places Urban Spaces. Oxford: Architectural Press. |
| 3. | Marshall, S. (2009). Cities design and evolution. New York: Routledge. |
| 4. | Lang, J. T. (2005). Urban Design: A Typology of Procedures and Products. Oxford: Elsevier/Architectural Press. |
| 5. | Moughtin, C., Cuesta, R., Sarris, C. and Signoretta, P. (2003). Urban Design - Methods and Techniques. Oxford: Architectural Press. |
| 6. | Watson, D., Plattus, A. and Shibley, R. (2003). Time-Saver standards for urban design. New York: McGraw Hill. |

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BA18074T: Quantity surveying & Estimation

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|----------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18074T | Quantity surveying & Estimation. | 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 quantity Survey and cost analysis so as to make estimates in the design process.

Detailed Syllabus:

| | |
|----|--|
| 1. | Estimation: Methods of Quantity surveying, Methods of recording measurements, computing quantities of different Items in a building from working drawings. Schedule of Quantities |
| 2. | Rate and Cost Analysis: Methods of Analysis of rates of different materials. Estimation of Materials, Labour, Transportation, Profit etc. components with respect to the specifications, site conditions, etc. in analysis of rates. Rate Abstracts. |

Recommended Reading:

| | |
|----|---|
| 1. | Estimating and Costing by Rangwala |
| 2. | Professional Practice by R. H. Namavati |
| 3. | Estimating and Costing by B. N. Dutta |
| 4. | Civil Engineering Contracts and Estimates by B. S. Patil |
| 5. | Estimating, costing, specification and valuation in civil engineering by M. Chakraborti |
| 6. | Estimating and Costing by A.K. Upadhyay |
| 7. | B.I.S 1200 - Part-I 1992. n.d. |

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BA18075S: Specification Writing

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|-------------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18075S | Specification Writing and Contracts | 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 the nature of building specifications and contracts and its relevance to architectural practice.

Detailed Syllabus:

| | |
|----|--|
| 1. | Nature of specifications types of specifications -process oriented and performance specification. Constituents of specification -material qualities and proportions, labour - quality of inputs, tests and acceptance criteria. Mode of measurements; methods of structuring and writing specification, role of specifications in a total set of contract. Economic and quality implications of specifications. Tradeoff between ideal and realistic specifications. Nature of building contracts Tenders -calling, scrutiny and recommendations open and selective tender systems; two stage tender scrutiny process, Pretender qualifications and registrations of contractors |
| 2. | Contracts (and sub contracts) between architect & client, between client and contractor (drafted by architect), Tenders, Conditions of contracts; obligations and responsibilities of clients, contractors and architects, Deposits, labor laws and obligations; disputes and settlement of disputes. Management of the contracts. Roles of Client, Consultant (coordinator of) Contractor/sub-contractor and their coordination by architect. Site supervision Role and responsibilities of Architect Contractor |

Recommended Reading:

| | |
|----|---|
| 1. | Specification Writing for Architects & Engineers, By Donald A. Watson |
| 2. | Specification Writing for Architects & Surveyors, By Arthur J. Wills |
| 3. | Estimating, Costing, Specification & Valuation, By M. Chakraborty |
| 4. | C.P.W.D. Specifications and schedule of rates |

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BA18076T: Professional Practice - I

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|---------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18076T | Professional Practice - I | 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 nature of Professional practice and code of conduct.

Detailed Syllabus:

| | |
|----|---|
| 1. | Architectural profession as a vocation. Comparison of architectural & trade union activities. History of architectural profession, its future, degeneration and up gradation. Social obligations of an Architect as professional, Clientele, Aspects and roles of architect and client and their relationship within the profession. |
| 2. | Comparative study of different professions and also different roles and avenues within the profession of architecture. Future of professional directions. Code of conduct & ethics. Professional role: responsibilities and liabilities of architects and their indemnity (security against damages). |

Recommended Reading:

| | |
|----|---|
| 1. | Handbook of Professional Documents - Council of Architecture publication |
| 2. | Professional Practice - By Roshan H. Namavati |
| 3. | Professional Practice in India - By Madhav G. Deobhakta |
| 4. | Private Architectural practice – by Manrice E. Tayler |
| 5. | Architectural Practice and Procedure – by Hamilton H. Turner. |
| 6. | Professional Practice of Architecture by Prof. S.C.Garg & amp; Dr. Yogesh K. Garg |

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BA18077S: Electives – VII (A) UX DESIGN
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|-----------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18077S | Electives VII (A) UX Design | 2 | 0 | 2 | STW | 2 | 100 | 10 | 20 | 10 | 60 | 0 |

Learning Objectives:

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

Introduce to User experience (UX) design is the process of creating products that provide meaningful and relevant experiences to users. This involves the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability and function visual design, information Architecture, Interaction design.

Detailed Syllabus:

| | |
|----|---|
| 1. | Introduction to various goals of effective User Experience Design: Defining interaction patterns best suited in the context. Incorporating user needs collected during user research into the designs. Features and information that is important to the user. Interface behavior like drag-drop, selections, and mouse-over actions. Effectively communicating strengths of the system. Making the interface intuitive by building affordances. Maintaining consistency throughout the system. |
| 2. | Test Usability considering the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. Accessibility of a system its ease of reach, use and understanding. In terms of user experience design, the overall comprehensibility of the information and features. Introduction to Web Content Accessibility Guidelines (WCAG) which covers a wide range of recommendations for making Web content more accessible. |

Recommended Reading:

| | |
|----|---|
| 1. | The Elements of User Experience: User-Centered Design for the Web and Beyond By Jesse James Garrett |
| 2. | WCAG 2.0 made easy by Olga Revilla |
| 3. | Laura Kalbag, Accessibility For Everyone Inclusive Design Patterns by Heydon Pickering |
| 4. | A Web for Everyone: Designing Accessible User Experiences By Sarah Horton & Whitney Quesenbery |

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BA18077S: Electives – VII (B) FOREIGN LANGUAGE
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|---------------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18077S | Electives – VIII (B) Foreign Language | 2 | 0 | 2 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |

Learning Objectives:

Globalization demands working knowledge of languages other than English. Introduction to such foreign language like German, French, Spanish, etc. will help students in getting opportunities in Further Education and Career. Introduction of a foreign language at fourth year will allow the students 3 more semesters to gain expertise in the chosen language before they embark on their career or seek higher education in a country of their choice.

Detailed Syllabus:

| | |
|----|---|
| 1. | Reading - Basic alphabets, simple words and grammar, small sentences Speaking – Greetings, asking directions, Basic question and answers, Introducing self |
| 2. | Writing – Basic words, sentences, paragraphs, letters, answering simple questions Listening – Listen and repeat basic words, sentences, questions. Listen to a paragraph and repeat/write/translate, listen to music |

Recommended Reading:

| | |
|----|--|
| 1. | Complete French - Gaelle Graham |
| 2. | Collins Easy Learning French |
| 3. | Complete Spanish- Juan Kattan-Ibarra |
| 4. | El Block: Espanol en Imagenes- Pedro Tena Tena |
| 5. | German for Beginners- Angela Wilkes, John Shackell |
| 6. | Netzwerk A1- Stefanie Dengler, Paul Rusch, Helen Schmitz |

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BA18058S: Electives – VII (C) TRANSPORTATION PLANNING
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|---|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18058S | Electives – V (C) Transportation Planning | 2 | 0 | 2 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |

Learning Objectives:

After successful completion of this course, student should be able to:
Become aware of evaluation of Urban Structure, Transportation systems infrastructure and management.

Detailed Syllabus:

| | |
|----|---|
| 1. | Evaluation of Urban Structure Transportation systems: infrastructure and management, transportation systems and their types, design and operating characteristics, urban road hierarchy planning, engineering and management; criteria for road and junction improvements, arterial improvement techniques. |
| 2. | Transportation survey and studies: Study area definitions, surveys and their types, sampling methods, survey techniques; designing O-D and other Traffic and transportation surveys, programming and scheduling, processing of travel data, analysis and interpretation of traffic studies |

Recommended Reading:

| | |
|-----|--|
| 1. | Human Transit by Jarrett Walker |
| 2. | Transport and Urban Development by David Banister |
| 3. | Walkable City by Jeff Speck |
| 4. | Transportation by Jonathan Lewis Gifford |
| 5. | Bicycle Urbanism: Reimagining Bicycle Friendly Cities |
| 6. | Movement in Cities: Spatial Perspectives On Urban Transport And Travel |
| 7. | Image of the city : kelvin lynch |
| 8. | Transportation Planning: Principles, Practices and Policies Book by G. J. Joshi, PRADIP KUMAR SARKAR, and Vinay Maitri |
| 9. | TRANSPORTATION PLANNING Book by G. J. Joshi, PRABIR KUMAR SARKAR, and Vinay Maitri |
| 10. | Sustainable Transportation Planning: Tools for Creating Vibrant, Healthy, and Resilient Communities |
| 11. | Traffic and Transportation Planning by L.R. kadiali |

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BA18078S: Electives – VIII (A) IGBC – GREEN DESIGN
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|--------------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18078S | Electives VIII (A) IGBC-Green Design | 2 | 0 | 2 | STW | 2 | 100 | 10 | 20 | 10 | 60 | 0 |

Learning Objectives:

After successful completion of this course, student should be able to:
Understand concept of Green design or Sustainable design is the 'creation of buildings which are energy-efficient healthy, comfortable, flexible in use and designed for long life'. Green design should have a minimal impact on the environment, both in terms of products and materials used in the construction but in the functionality of the building.

Detailed Syllabus:

| | |
|----|--|
| 1. | Conceptual problems Diminishing returns, Unsustainable investment, Waste prevention, Negative Effects of Waste, Waste prevention strategies, Loss of Biodiversity. Understanding principles of Green Design like: Low-impact materials, Energy efficiency, Emotionally durable design, Design for reuse and recycling, Targeted durability, not immortality, should be a design goal, Material diversity in multicomponent products. |
| 2. | A brief introduction to various rating systems prevalent like Griha, LEED (India), BCA Green Mark Scheme (Singapore), Beam (Hong Kong), BREEAM (Eu, UK), CASBEE (Japan), Green Star (South Africa), Pearl Rating Systems for Estidama (UAE), etc. Design impact measures for total carbon footprint and life-cycle assessment for any resource, Sustainable design standards and project design guides, Bio mimicry - "redesigning industrial systems on biological lines, Service substitution - shifting the mode of consumption from personal ownership of products to provision of services, Renewable resource, Robust eco-design. |

Recommended Reading:

| | |
|----|--|
| 1. | GRIHA; Griha Manual, Vol 1 to 5, TERI Publication |
| 2. | IGBC Manuals, CII Publication |
| 3. | LEED Manuals |
| 4. | ECBC Manual |
| 5. | ECBC User Manual |
| 6. | Whole building life cycle assessment by Frances Yang |
| 7. | Textbook of Environmental Studies by Erach Bharucha |

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, MAHARASHTRA
DETAILED SYLLABUS – BACHELOR OF ARCHITECTURE (B. Arch) 2019-20**

BA18078S: Electives – VIII (B) DIGITAL MARKETING
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|--|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18078S | Electives – VIII (B) Digital Marketing | 2 | 0 | 2 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |

Learning Objectives:

Digital marketing is the marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, display advertising, and any other digital medium. This currently is the most expanding branch of marketing which as Architect could use it as a customer or a seller. The course is make students aware of these modern marketing ways.

Detailed Syllabus:

| | |
|----|---|
| 1. | New non-linear marketing approach The spread of information and awareness can occur across numerous channels, such as the blogosphere, YouTube, Facebook, Instagram, Snapchat, Pinterest, and a variety of other platforms. Using an Omni-channel strategy. Ease of access. Competitive advantage. Effectiveness. |
| 2. | Latest developments and strategies: Segmentation, Influencer marketing, Online behavioral advertising, Collaborative Environment, Data driven advertising, Remarketing, Game Advertising and ways to further increase the effectiveness of digital marketing. |

Recommended Reading:

| | |
|----|---|
| 1. | Fundamentals of Digital Marketing by Punit Singh Bhatia |
| 2. | Marketing 4.0 by Philip Kotler |
| 3. | The Art of Digital Marketing by Ian Dodson |
| 4. | Understanding Digital Marketing by Damian Ryan |
| 5. | Digital Marketing for Dummies by Ryan Deiss and Russ Henneberry |

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BA18078S: Electives – VIII (C) WEB DESIGN
ANY ONE OF THE ELECTIVES (A), (B), or (C)

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|---------------------------------|---|----|-----|------|----|-----|------|-----|-----|---------|------------|
| 1 | BA18078S | Electives – VIII (C) Web Design | 2 | 0 | 2 | STW | 2 | 100 | 20 | 0 | 20 | 0 | 60 |

Learning Objectives:

The Digital media has taken over every field of life. For Architects also showcasing their work through websites is an essential mode of reaching the prospective clients. Thus, after successful completion of this course, student should be able to generally understand the essentials of the process of Web Design for promotion of their profession.

Detailed Syllabus:

| | |
|----|--|
| 1. | What is Web Design? An overview of the development of this discipline since around 2000. Conceptual understanding of terms like HTML, Java script, CSS, creating web compatible vector & raster images, Business to Business (B2B) website design, Web navigation, User Experience, Interface design, etc. |
| 2. | Introduction to Page layouts – Static & fluid /dynamic, screen reading devices, responsive web design, Content writing. Concept of motion graphics, typography, code, Homepage design, coding and the role of the Web Developer. |

Recommended Reading:

| | |
|----|---|
| 1. | Learning Web Design-A Beginners Guide by O'reilly |
| 2. | Designing with Web Standards by Jeffery Zeldman |
| 3. | Don't Make me Think by Steve Krug |
| 4. | HTML & CSS by Jon Duckett |

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

Fourth Year B. Arch. - Semester 8

BA18081S: Professional Training

Course Information:

| Sem. | Code | Course | L | St | Tot | Type | Cr | T M | CA 1 | MSE | CA2 | ESE-Pap | ESE-SV/STW |
|------|-----------------|-----------------------|---|----|-----|------|----|------|------|-----|-----|---------|------------|
| 1 | BA18081S | Professional Training | 0 | 0 | 0 | SV | 20 | 1000 | 0 | 0 | 0 | 0 | 1000 |

Learning Objectives:

The student shall work at an Architect's office (Internship) as per the guidelines of CoA, and approved by the Institute, for duration of one semester. After successful completion of this course, student should be able to Understand on-going construction work on sites, supervisory controls of an Architect in a Project.

Detailed Syllabus:

| | |
|----|--|
| 1. | Making presentation drawings for client presentations, and municipal approval drawings of projects undertaken in the office- of at least one project each, duly attested by the supervising architect. |
| 2. | Visiting sites of ongoing projects undertaken by the office, photo documenting progress with appropriate descriptions, as per the directions of the supervising architect. Identifying various stages of work. |
| 3. | Discussions, getting inputs from the Consultants on the ongoing projects undertaken by the office, documenting as per the directions of the supervising architect. Understanding the inputs to be given to the consultants and feedback from them. |
| 4. | Visiting sites of ongoing projects undertaken by the office, photo documenting the progress of work. Understanding the impact of local conditions in the Design and method of execution of job / jobs. |
| 5. | Understanding the basic working system of an architect's office, regularity in attendance, maintaining a daily log book of activities involved in the office, personnel & management and hierarchy of office staff. |
| 6. | Prepare Working drawings & details of an Architectural project, under the guidance of supervising architect. |