

**B.Architecture (2020)**

**COURSE STRUCTURE & DETAIL  
SYLLABUS BASED ON CHOICE  
BASED CREDIT SYSTEM (CBCS of  
UGC) And as per Draft NEP**

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# IKGPTU Mohali Campus-II

## 2.6.1 Programme Course Outcomes.

Course Code	Course Name	L-1, ST 5	Int. : Ext.	Duration of Exam
UC-BARCH101-19	Architectural Design & Theory – 1	Credits - 06	60:40	06 Hours

### Course Objective

The main objective of the course is to get the students interested in and to familiarize them with the basic concepts of Design. To enhance and promote visualization, expressional skills and sensitivity to surrounding environment and to develop the ability to translate principle of design into architecture solution.

**Course Outcomes:** At the end of the course, the students will able to -

1. Understand & will gain a fundamental knowledge of architecture design and its basic principles.
2. To apply visual and formal analysis of architecture in their mind and they will be able to appreciate well-designed buildings.
3. Understand the skill required to interpret a work of architecture and to evaluate, identify and analyse artistic expression of architectural forms.
4. Understand the relationship between human activities of Space.

Course Code	Course Name	L - 1, ST - 3	Int. : Ext.	Duration of Exam
UC-BARCH102-19	Architectural Drawing -I	Credits - 04	60:40	03 Hours

### Course Objective

The objective is to make the students familiarize with good drafting and lettering techniques use in architecture. To gain the basic knowledge for preparing the architectural drawings by learning about the orthographic projections of simple geometric forms and representation of 3-D & 2-D forms.

**Course Outcomes:** At the end of the course, the students will able to –

- Gain the comprehensive understanding of the fundamental techniques of technical drawing and its architectural representation.
- Attain the knowledge to visualize the geometrical forms through plans, elevations and sections.

Course Code	Course Name	L - 1, ST - 2	Int. : Ext.	Duration of Exam
UC-BARCH103-19	Architectural Graphics -I	Credits - 03	60:40	03 Hours

### Course Objective



The objective is to make the students familiar with visual arts and its basic principles and to explore the potential of Pencil of different grades and Coloured pencils as a powerful tool of Graphic Communication.

**Course Outcomes:** At the end of the course, the students will able to –

- Gain a fundamental knowledge of architecture Graphics and its principles.
- Achieved a comprehensive understanding of architectural presentation techniques.

Course Code	Course Name	L - 2	Int. : Ext.	Duration of Exam
UC- BARCH104-19	History of Architecture– I	Credits – 02	40:60	03 Hours

**Course Objective**

To appreciate the constraints in the Architectural design of an ancient building with reference to its function, form and structures. To make student understand how different Architectural solutions were evolved (in successive historic periods) within the limitation imposed by prevalent social and religious customs, available building materials, climate of region/topography, complex structural problems and the limited technology available at that time period.

**Course Outcomes:** At the end of the course, the students will be able to –

- Develop a holistic approach to architecture s an integral component of the built environment.
- Develop an understanding of architecture as an outcome of various social, political and economic influences and as a response to the cultural and climate conditions.
- Understand the physical experience of buildings in order to appreciate the complexity of the physical and metaphysical influences bearing on architecture.

Course Code	Course Name	L - 1, ST - 4	Int. : Ext.	Duration of Exam
UC- BARCH105-19	Building Construction & Materials - I	Credits - 05	60:40	03 Hours

**Course Objective**

- The objective is to introduce the elementary building materials and their applications. To familiarize students with construction details of various components of construction.

**Course Outcomes:** At the end of the course, the students will able to –

- Understand the properties, types, uses and application of various building materials i.e. brick, lime, cement, mortar, sand, stones etc.
- Gain the fundamental knowledge of building Construction especially in brick and stone.

Course Code	Course Name	L-1, T-1	Int. : Ext.	Duration of Exam
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UC-BARCH106-19	Structure Systems - I	Credits - 02	100	No exam only External viva-voce
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#### Course Objective

The main objective is to get the students interested in and to familiarize them with the Structure Systems in Architecture. To inculcate in the student an awareness of basic structural principles used in cellular & Bulk active structural system.

**Course Outcomes:** At the end of the course, the students will able to –

- Realize the fundamental principles of Cellular & Bulk Active structure systems

Course Code	Course Name	P - 2	Int. : Ext.	Duration of Exam
UC-BARCH107-19	Workshop – I	Credits - 01	100	No exam only Internal viva-voce

#### Course Objective

The student will gain basic hands on experience and fundamental knowledge in carpentry, brick masonry and model making.

**Course Outcomes:** At the end of the course, the students will able to –

- Gain the basics knowledge of the carpentry tools and its joints.
- Attain skill to work with different materials for making architectural model.

Course Code	Course Name	2 - L	Int. : Ext.	Duration of Exam
UC-BTHU101-18	Communicative English	2	60:40	03 Hours

#### Course Objective

The student will gain basic hands on experience and fundamental knowledge English and become the independent users of English Language.

**Course Outcomes:** At the end of the course, the students will able to –

1. Have proficiency in reading & listening, comprehension, writing and speaking skills.
2. Understand spoken and written English language, particularly the language of their chosen technical field.
3. Converse fluently.
4. Produce clear and coherent texts on their own.



Course Code	Course Name	L, S/T, P/FW, ST	Credits	Duration of Exam
UC-BTHU102-18	Communicative Skill Laboratory	2 - P	1	Viva- Voce

### Course Objective

The objective of the course is to help the students become the independent users of English language.

**Course Outcomes:** At the end of the course, the students will able to –

1. Students will acquire basic proficiency in listening and speaking skills.
2. Students will be able to understand spoken English language, particularly the language of their chosen technical field.
3. They will be able to converse fluently
4. They will be able to produce on their own clear and coherent texts.

Course Code	Course Name	L-1, Stu-5	Int. : Ext	Duration of Exam
UC/BARCH-201/19	Architectural Design - II	Credits - 6	60:40	06 Hours+ Ext viva-voce

### Course Objective

Understand the Architectural design of a small building with reference to function, form and structures.

**Course Outcomes-** At the end of the course, the students will be able to:  
Develop a basic understanding of function, form, structure in the design of small structure. Understand & gain a fundamental knowledge of architecture design process and its principles.

Course Code	Course Name	L-1, ST-3, Credits - 4	Int. :Ext.	Duration of Exam
UC-BARCH202-19	Architectural Drawing - II		60:40	03 Hours

### Course Objective

To make students learn the techniques to represent different objects through 3-D and developing skill for visualization of 3-D forms through isometric/axonometric views, perspective and sciography to enhance the designing skills.

**Course Outcomes-** At the end of the course, the students will be able to:

- Understand the fundamental techniques of technical drawing used in 3-D.
- Analyse the 3-dimensional drawings of the building with Sciography.

Course Code	Course Name	L-1 ,ST-2 Credits-3	Int. : Ext.	Duration of Exam
UC-BARCH203-19	Architectural Graphics - II		60 : 40	03 Hours

### Course Objective

The objective of the course in Architectural Graphics is to make the students familiar with the basic potential of Pencil and colours as a powerful tool of Graphic Communication.



**Course Outcomes** - At the end of the course, the students will be able to:

- Gain a fundamental knowledge of architecture Graphics and its principles.
- Attain the knowledge about the role of colours in presentation drawing and rendering techniques used in architectural design.

Course Code	Course Name	L-2	Int. : Ext.	Duration of Exam
UC-BARCH204-19	History of Architecture - II	Credits-2	40:60	03 Hours

**Course Objective**

To understand the role of geo-physical, societal, political and technological factors in the evolution of architectural and urban forms.

**Course Outcomes** - At the end of the course, the students will be able to:

- Develop an understanding of architecture as an outcome of various social, political and economic influences and as a response to the cultural and climate conditions.
- Develop an understanding of the physical experience of buildings in order to appreciate the complexity of the physical and metaphysical influences bearing on architecture.

Course Code	Course Name	L-1, ST-4,	Int. :Ext.	Duration of Exam
UC-BARCH205-19	Building Construction & Materials - II	Credits-5	60:40	03 Hours

**Course Objective**

The main objective is to introduce the properties of timber as building materials and to familiarize the students with traditional construction methods of a single storeyed building in timber with sloping roofs.

**Course Outcomes:** At the end of the course, the students will be able to-

- Comprehend timber as a building material and its application in building components and Gain knowledge on construction of Door, window, roof made out of it.
- Understand various surface finishes for single storey building and the fundamental knowledge for water proofing details in simple structures.

Course Code	Course Name	L-2, Sem./Tut-1	Int. : Ext.	Duration of Exam
UC/BARCH-206/19	Theory of Structures-I	Credits-3	40:60	03 Hours

**Course Objective**

Give introduction of basic principles governing structural systems. Make students understand basic properties of solids and sections which influence their behaviour under the effect of various types of forces.

**Course Outcomes:** At the end of the course, the students will able to –

1. Develop techniques for analysing forces in statically determinate structures.
2. Apply basic knowledge of Maths and Physics to solve real life problems related to structures.
3. Describe Hooke's law relationships and perform calculations

Course Code	Course Name	L-2	Int. : Ext.	Duration of Exam
UC-BARCH207-19	Theory of Design - I	Credits -2	40:60	03 Hours

**Course Objective**



The objective is to establish the role and importance of Theory of Design as a broad, comprehensive activity to help students to formulate a responsible opinion and a well-reasoned judgement by looking at the design in depth and in a critical way.

**Course Outcomes:** At the end of the course, the students will able to-

- Develop a basic understanding of spatial organisation
- Learn about the inter-dependence of function, structure and form in architectural design. .

Course Code	Course Name	P - 2	Int. : Ext.	Duration of Exam
UC-BARCH208-19	Workshop - II	Credits-o1	100	No Exam only Internal Viva-voce

#### Course Objective

The student will gain basic hands on experience and fundamental knowledge in model making, sculpture and clay modelling.

**Course Outcomes:** At the end of the course, the students will able to--

- Proficiency in handling clay as a material.
- Acquire skills in different types of architectural model making using various materials and get hold of skill in sculpture making in various mediums.

Course Code	Course Name	L-2,	Int. : Ext.	Duration of Exam
UC/BARCH-209/19	Environmental Science	Credits - 2	40:60	03 Hours

#### Course Objective

Upon successful completion of the course, students should be able to Measure environmental variables and interpret results. Evaluate local, regional and global environmental topics related to resource use and management

**Course Outcomes:** At the end of the course, the students will able to

- 1 Propose solutions to environmental problems related to resource use and management
- 2 Interpret the results of scientific studies of environmental problems
- 3 Describe threats to global biodiversity, their implications and potential solutions

Course Code	Course Name	P/FW-2	Int. : Ext.	Duration of Exam
UC/BARCH-210/19	Mentoring & Professional Development-I	Non-Credits	100: -	No Exam

Guidelines regarding Mentoring and Professional Development

The objective of mentoring will be development of

- Overall Personality
- Aptitude (Technical & General)
- General Awareness (Current Affairs & GK)
- Communication Skills
- Presentation Skills



Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-301/19	Architectural Design -III	1L, 5 stu	6	06 Hours + External Viva Voce

**Course Objective:** To make students understand and appreciate the constraints in the designing of a building of a small scale with reference to function, form and structure. And to create awareness about the role and importance of physical factors in Architectural Design e.g. orientation, ventilation, adequate protection from natural elements, and human dimensions in various postures (in applied form), their relation to everyday utilities including table, chair, bed etc. Introduction to barrier free buildings at a small scale.

**Course Outcomes:** At the end of the course, the students will be able to understand the nuances of house, school, cafeteria and post office design. They will also be well versed with various physical factors of architecture design and equipped with the norms of barrier free design.

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-303/19	Building Construction & Materials-III	1 L, 3 Stu	4	03

**Course Objective:** To make students understand and appreciate, various methods of building construction in coordination with the building materials and science related to them. Students will gain knowledge on the various applications of timber products and Glass in buildings.

**Course Outcomes:** At the end of the course student will be able to become aware of the different types of timber roofing systems and trusses. Understand details for trusses, staircases, sliding doors, sliding folding doors, partitions, panelling, work out and apply appropriate details for building construction of the same.

Course Code	Course Name	L/ Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-304/19	Structure Systems-II	1 L, 1 Tut	2	Ext Viva Voce

**Course Objective:** To make students learn basic principles of structure systems with emphasis on learning by doing and making 3-D models to provide the student with different spatial experience.

**Course Outcomes:**

At the end of the course, the students will be able to gain ability to comprehend the Design erection process and application of large span structures.

To understand the need and importance of prefabricated components and structures as an alternative to cast in situ construction process.

To understand the needs, requirements, and selection for various types of structure systems.



Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-305/19	Structure Design-I	2 L, 2 Tut	4	03

**Course Objective:**

The aim and objective of the course on structure design-I is to get introduced to basic structural members in masonry and timber, to give knowledge of design of timber beams in buildings and to enable understanding of basic concepts of shear force and bending moment.

**Course Outcomes:** At the end of the course, the students will able to –

Design timber beams by applying codal provisions, Design Masonry foundation and retaining walls, Analyse indeterminate structures and to calculate shear force and bending moment in determinate structures.

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-306/19	Surveying & Leveling	2 L, 2 FW	3	03

**Course Objective:** To make students understand and learn about and basics of surveying and levelling and its application in designing of buildings.

**Course Outcomes:** At the end of the course, the students will able to do chain surveying, compass survey, plane table survey, levelling, contouring. Students will have knowledge of survey instruments also.

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-307/19	Climate & Architecture-I	2 L, 1 Tut	3	3

**Course Objective:**

To make students understand the role and importance of climate as one of the major determinant of built form and to familiarize them with various climate controlling devices.

**Course Outcomes:** At the end of the course, the students will able to understand the fundamental of climatology as important consideration in architecture design and it will orient his/ her proposal accordingly. Like thermal comfort, design sensitivity towards climate and climatic zones.

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/BARCH-308/19	Computer Application-I	1, -, 2, -,	2	Ext Viva Voce

**Course Objective** To make students aware of the role and importance of Computers in the field of Architecture.



**Course Outcomes:** At the end of the course, the students will be able to understand basics of Computers hardware, operating systems and operative languages, being a fundamental course the students will be introduced to the basic of hardware and software. They will be introduced to 2D presentation..

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 6	Duration of Exam
UC/BARCH-401/19	Architectural Design -IV	1 L, 5 ST	Int : Ext 60:40	06 + External Viva Voce

**Course Objective:**

To make students appreciate the elements of vernacular/rural Architecture of a particular region of the state of Punjab and understand the role of vernacular/traditional in relative thermal comfort.

**Course Outcomes:** At the end of the course, the students will be able to Study Social and Physical environment and methods of construction in Vernacular/Rural Architecture, emerging out of the traditional way of life of the people in a given place with special reference to Punjab and understand the principles of design in vernacular/traditional architecture w.r.t to thermal comfort, climate, and topography.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
UC/BARCH-402/19	History of Architecture-III	2 L	Int : Ext - 40:60	03

**Course Objective:** To make students understand how different architectural solutions were evolved (in successive historical periods) within the constraints/limitations imposed by prevalent social and religious costumes, available building materials, prevailing climate, topography, complex structural problems, and building technology available at the time.

**Course Outcomes:** At the end of the course, the students will be able to approach the architectural structures provided by their ancestors and co-relate them with the contemporary scenario.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-403/19	Building Construction & Materials-IV	1, -, -, 3,	Int : Ext 60:40	03

**Course Objective:** To make students understand and appreciate, various methods of building construction in coordination with the building materials and science related to them. Students will gain knowledge on the various applications of the roof and floor coverings in building construction.



**Course Outcomes:** At the end of the course student will be able to become aware of the roof and floor coverings. Understand details for trusses, staircases, sliding doors, sliding folding doors, partitions, paneling, work out and apply appropriate details for building construction of the same.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-404/19	Structure Design -II	2 L, 2 Tut	Int : Ext - 40:60	03

**Course Objective:** The aim and objective of the course on structure design-II are to get introduced to the design of reinforced concrete structures and to make the building structurally safe.

**Course Outcomes:** At the end of the course, the students will able to – design RCC Beams, Slabs, Columns, and footings with different loads for one-story simple buildings.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-405/19	Building Services-I	2 L, 1 T	Int : Ext - 40:60	03

**Course Objective:** To make students learn and understand the requirements of Building Services and their application to buildings with a focus on Water Supply, Drainage, and Sanitation.

**Course Outcomes:** At the end of the course, the students will able to:

- Understand the terminology and basic principles of water supply, stormwater drainage, and sanitation.
- Understand water requirements in various types of buildings, types of water storage and distribution systems, sanitary & drainage system requirements, and their integration in architectural design.
- Understand the functions of various sanitary fittings and fixtures and be aware of the different types of materials and specifications of the same.
- Develop design skills for water supply and drainage systems in buildings and prepare architectural drainage layouts.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-406/19	Climate & Architecture-II	2L, 1 T	Int : Ext - 40:60	03



**Course Objective:** To acquaint the students and make them aware of the concept of climate as a significant determinant of built forms and to familiarize them with various climate control devices.

**Course Outcomes:** At the end of the course, the students will be able to understand advanced climatology and ventilation as an important consideration.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
UC/BARCH-407/19	Computer Application -II	1L, 2 FW	Int : Ext - 40:60	Ext Viva Voce

**Course Objective:** To make students aware of the role and importance of Computers in the field of Architecture.

To develop 3D skills in the students by familiarizing them with different software.

**Course Outcomes:** At the end of the course, the students will be able to :

1. Develop skills required for using Computers as a tool for design, 3D modeling, and rendering.
2. Familiarize themselves with 3D model design and rendering techniques using different software for building visualization/design representation.
3. Produce 3D models and renderings of simple and complex buildings using CAD and other software programs.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
UC/BARCH-409/19	Constitutional Law	2L	Int : Ext - 40:60	03

**Course Objective**

The objective of the course is to familiarize students (Prospective engineers) with an elementary knowledge of laws that would be of utility in their profession. The syllabus covers the Constitution of India and new areas of law like IPR, ADR, Human Rights, Right to Information, Corporate law, Law relating to Elections, and Gender Studies. To be supplemented by the historical development of laws wherever required.

**Course Outcomes:** At the end of the course, the students will be able to get the basic knowledge of law and constitution.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 6	Duration of Exam
UC/BARCH-501/19	Architectural Design -V	1L, 5 Studio	Int : Ext -60:40	12 (in 2 days) + External Viva Voce

**Course Objective:** To make students understand and appreciate the constraints in the designing of buildings regarding function, form, and structure. To create awareness about the Role and Importance of physical factors in Architectural Design on flat or contour site.



**Course Outcomes:** At the end of the course, the students will be able to understand the nuances of commercial and public buildings. They will also be well versed with various physical factors of architecture design and equipped with the norms of barrier-free design and design of building with respect to site topography.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-502/19	Building Construction & Materials-V	1, 3	Int : Ext -60:40	03

**Course Objective:** To make students understand and appreciate, various methods of building construction in coordination with the building materials and science related to them. Students will gain knowledge on the various applications of materials i.e. Iron/ Steel? Aluminium in buildings.

**Course Outcomes:** At the end of the course student will be able to Become aware of the different types roofing systems and trusses. Understand details for trusses, staircases, sliding doors, partitions work out and apply appropriate details for building construction of the same.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
UC/BARCH-503/19	Structure Systems-III	1, 1, -, -	Int : Ext 60:40	Ext Viva Voce

**Course Objectives:** At the end of the course, the students will be able to understand the concept of High rise, Long span, shell, flat slabs, tensile and pneumatic structures and the structural and construction issues involved with each type of structure.

**Course Outcome:** After completing this course, the student will be able to: Understand the basic principles of structures. Realize the fundamental requirements of long span structures Understand the architectural features and necessity of shells and plate structures Comprehend the design principles and applications of pneumatic and tensile structures

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-504/19	Structure Design-III	2L, 2 Tut	Int : Ext -40:60	03

### Course Objective

The aim and objective of the course on Structure Design- III is to make students aware about the design methodology adopted and principals involved in designing the structural elements used in the built environment with focus on steel.

**Course Outcomes:** At the end of the course, the students will able to –

Design Beams, Compression members, trusses for different conditions by applying code provisions along with the knowledge of Riveted and welded joints

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-505/19	Building Services-II	2, 1, -, -,	Int : Ext -40:60	03

**Course Objective:** To make students learn and understand the requirements of Building Services and their application to buildings with focus on Electrical, lighting, fire and mechanical circulation.

**Course Outcomes:** At the end of the course, the students will able to:

- Understand the terminology and basic principles MEP Services
- Develop design skills for MEP layouts in architecture design

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-506/19	Theory of Design-III	2, 1, -, -,	Int : Ext -40:60	03

**Course Objective:** To make students learn and understand the To make students drive deeper into the Architecture problems and look for directive principles guiding the philosophy of design used by masters of modern Architecture and to assess their contribution by their own criteria.

**Course Outcomes:** At the end of the course, the students will able to understand, appreciate and learn the design principles, philosophy of design used by masters of modern architects.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-507/19	Landscape Architecture	2, 1, -, -,	Int : Ext -40:60	03



**Course Objective:** To make students understand the elements of Landscape Design and its application in Architectural Design solutions.

**Course Outcomes:** At the end of the course, the students will be able to understand and appreciate the elements, principle and need of design and apply the same in landscape design solutions.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH/ /508 (A)/19	Green Buildings & Rating System	2, 1, -, -,	Int : Ext -40:60	03

**Course Objective:** To acquaint the students and make them aware of the concept of green buildings and rating systems as a significant determinant of built forms and to familiarize them with aspects.

**Course Outcomes:** At the end of the course, the students will be able to Understand Green buildings and their rating systems.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 6	Duration of Exam
UC/BARCH-601/19	Architectural Design -VI	1, -, -, 5	Int : Ext - 60:40	12 (in 2 days) + External Viva Voce

**Course Objective:** To make students understand and appreciate the constraints in the designing of a building, the principles and approach to the designing of complexes in the context of urban design, environmental components and urban services.

**Course Outcomes:** At the end of the course, nature of urban complexes, scale and other elements of urban design to be incorporated. They will also be well versed with various physical factors of architecture design and equipped with the norms of barrier free design & large span column free structures.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
UC/BARCH-602/19	History of Architecture-IV	2L	Int : Ext - 40:60	03

#### Course Objective

To appreciate the constraints in the Architectural design of an ancient building with reference to its function, form and structures. To make student understand how different Architectural solutions were evolved (in successive historic periods) within the limitation imposed by prevalent social and religious customs, available building materials, climate of region/topography, complex structural problems and the limited technology available at that time period.

**Course Outcomes:** At the end of the course, the students will be able to –

- Develop a holistic approach to architecture as an integral component of the built environment.
- Develop an understanding of architecture as an outcome of various social, political and economic influences and as a response to the cultural and climate conditions.
- Understand the physical experience of buildings in order to appreciate the complexity of the physical and metaphysical influences bearing on architecture



Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-603/19	Estimating Costing & Specifications- I	2, 1, -, -	Int : Ext - 40:60	03

**Course Objective:** To make students understand the factors affecting cost of buildings and methods of preparing estimates of architectural projects.

**Course Outcomes:** At the end of the course, the students will able to prepare detailed estimates and cost of two-storeyed residential buildings in masonry and reinforced cement concrete.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
UC/BARCH-604/19	Architecture Legislation - I	2L	Int : Ext - 40:60	03

**Course Objective:** To make students understand students familiar with the role and importance of Legal Framework in Designing the Built Environment and Promoting orderly growth of Human Settlements

**Course Outcomes:** At the end of the course, the students will able to understand need for building byelaws, importance of legislation in building industries ana NBC norms.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-605/19	Building Construction & Materials-VI	1, 3Studio	Int : Ext - 60:40	03

**Course Objective:** To make students understand and appreciate, various methods of building construction in coordination with the building materials and science related to them. Students will gain knowledge on the various applications of materials in Interior project and its detailing.

**Course Outcomes:** At the end of the course student will able to Become aware overall intent is to make students understand construction/detailing of work associated with interior finishes and works.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-606/19	Structure Design (Project) -IV	1, 3, -, -	Int : Ext - 40:60	03

**Course Objective:** To create skill among students to apply the knowledge gained regarding structural design in an applied project and to make buildings safe against natural/ manmade disasters

**Course Outcomes:** At the end of the course student will able to Become aware overall intent is to make students understand construction/detailing of work associated with interior finishes and works.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 2	Duration of Exam
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UC/BARCH-607/19	Building Services-III	2L	Int : Ext - 40:60	03
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**Course Objective:** To make students learn and understand basic principles governing design/provision of HVAC, Building Management System and Acoustics within the buildings

**Course Outcomes:** At the end of the course, the students will be able to :

1. Know about the working principles of the building.
2. Understand the role of services and would be able to design appropriate space, location for it.
3. Know about the acoustics materials where, how and why we are using these materials.
4. Understand the importance of intelligent buildings.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 12	Duration of Exam
UC/BARCH- 701/19	Practical Training	18 to 22 Weeks	Int : Ext 60:40	No Exam/ Only Univ. Viva-Voce

**Course Objective:**The students are required to undergo Practical Training in a well-qualified, preferably Architect's Office/ Design/ construction. Students will be trained in the various practical aspects of Architecture, Construction & Professional practice.

**Course Outcomes:** At the end of the course, the students will be able to make student learn the intricacies of Architectural Profession by joining and working with practicing Architects/design firms for one complete semester.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 7	Duration of Exam
UC/BARCH-801/19	Architectural Design -VII	1 L, 6 ST	Int: Ext 60:40	Portfolio viva voce

**Course Objective:**To make students understand the principles and implications of advance and complex design problems with a focus on planning, landscaping, energy conservation, and services considering zoning regulations.

**Course Outcomes:** At the end of the course, the students will be able to design complex health care academic projects, design for pandemics situations, design Terminals of air/railway/bus, design Light Industrial buildings for different uses.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 4	Duration of Exam
UC/BARCH-802/19	Comprehensive Smart Village Development-I	1 L, 3 ST	Int: Ext 60:40	Portfolio viva voce

**Course Objective:**The objective of the studio subjects is to provide the students with higher levels of specialized knowledge in the field of planning the smart village.

**Course Outcomes:** At the end of the course, the students will be able to deal with the environment, policy-making and analysis, governance, and rehabilitation and resettlement issues for smart village development.



Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-803/19	Urban Design	2 L, 1T	Int: Ext 40:60	03

**Course Objective:**To make students understand the principles and design on an urban scale.

**Course Outcomes:** At the end of the course, the students will be able to create awareness and promote understanding of the nature, role, and importance of Urban Design in the making of quality Built environments and Human Settlements

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-804/19	Housing	2 L, 1T	Int: Ext 40:60	03

**Course Objective:**To make students understand the principles and implications of housing & understand the role, importance, and issues related to housing.

**Course Outcomes:** At the end of the course, the students will be able to Analyze what are the housing issues we are facing. Understand how we can contribute to eliminating this housing problem. Know about what our government is doing to provide a basic comfortable environment for the citizens of India.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 5	Duration of Exam
UC/BARCH-805/19	Building Construction & Materials-VII	1 L, 4 ST	Int: Ext 60:40	03

**Course Objective:**To make students understand the details of finishes, materials, and construction work.

**Course Outcomes:** At the end of the course, the students will be able to make students aware and familiar with special constructional details involving finishing and furnishing, extension and expansion joints, and basements with details.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-806 (A) /19	GIS & Remote sensing	2 L, 1T	Int : Ext 40:60	03

**Course Objective:**To introduce the students to the basic concepts and principles of various components of remote sensing, GIS, and GPS and to provide exposure to its practical applications

**Course Outcomes:** The course will enable the students to understand: The Principles of Remote sensing, satellite images, and Applications of remote sensing. The GIS and its Data models. The Global Navigation Satellite System.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 7	Duration of Exam
UC/BARCH-901/19	Architectural Design -VIII	1 L, 6 ST	Int : Ext 60:40	External viva voce

**Course Objective:**This course shall offer students opportunity to understand the complex relationship between user experience and built environment in large scale campus design. This course shall impart experience on



research based design process and explore design solutions in relation to the urban context.

**Course Outcomes:** At the end of the course, the students will able to Design large scale campus environments with efficient circulation and understanding the significance of user experience in built environments. Evolve design focusing on form generation and appropriate structural system. Conduct simple architectural research as the basis for architectural design projects Develop skills to design large urban level built environments and perceive future needs.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 5	Duration of Exam
UC/BARCH-902/19	Research Methodology & Dissertation	2 L, 3 ST	Int : Ext 60:40	03 Hours Theory exams. The dissertation to be marked by taking viva voce

**Course Objective:**To give an overview of the research methodology and explain the technique of defining a research problem. To explain the functions of the literature review in research. To explain carrying out a literature search, its review, developing theoretical and conceptual frameworks and writing a review.

**Course Outcomes:** At the end of the course, the students will able to – explain key research concepts and issues read, comprehend, and explain research articles in their academic discipline.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-903/19	Construction Management	2 L, 1T	Int : Ext 40:60	03 Hours Theory exams

**Course Objective:**To make student understand and appreciate the role and importance of management in building construction.

**Course Outcomes:** At the end of the course, the students will able to Do CPM analysis. Control cost of the project. Know about their role in construction industry. Know about safety and quality

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 5	Duration of Exam
UC/BARCH-904/19	Building Construction & Materials-VIII	1 L, 4ST	Int : Ext 60:40	04 Hours

**Course Objective:**To make students aware and learn about advance construction techniques and preparing project drawings.

**Course Outcomes:** At the end of the course, the students will able to will be able To make students aware and familiar with special constructional details involving finishing and furnishing, extension and expansion joints and basements with details.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 03	Duration of Exam
UC/BARCH- 905 (A)	Town & Country Planning	2 L, 1T	Int : Ext 40:60	03 Hours



**Course Objective:**To make students understand the role and importance of Town Planning in the evolution of Human Settlements and Urban Forms in the Historical and Modern Context.

**Course Outcomes:** At the end of the course, the students will be able to make students aware and familiar with special constructional details involving finishing and furnishing, extension and expansion joints and basements with details.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 18	Duration of Exam
UC/BARCH-1001/19	Architectural Design(Thesis Project) -IX	18 ST	Int : Ext 60:40	External JuryViva Voce

**Course Objective:**Study of Rural, Vernacular, Historical Settlements/buildings of distinct Architectural characteristics including detailing with physical planning and other related systems.

**Course Outcomes:** At the end of the course, the students will be able to design Social and Physical environment and methods of construction.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-1002/19	Professional Practice	2L, 1 S/T	Int : Ext 40:60	03

**Course Objective:**To make students understand and familiar with different aspects of Architectural Practice and Professional Responsibilities.

**Course Outcomes:** At the end of the course, the students will be able to –Become aware and understand the professional and legal aspects of architectural practice and profession in India. Understand the duties and liabilities of an architect, his client and the contractor with respect to the various issues of the architectural practice. Become aware of Arbitration and laws pertaining to it, Valuation and its application in the professional practice. Understand the Tendering & Contract process applicable to the architectural profession.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-1003/19	Disaster Management	2L, 1 S/T	Int : Ext 40:60	03

**Course Objective:**To make the students to understand various types of disaster their significance, disaster prevention and disaster management cycle. To create awareness about natural disasters, factors that cause them, and to foster knowledge about strategies for disaster prevention and management. To enable the students their role in design and planning solutions for reduction of risk and damages caused shall be exposed through case studies.

**Course Outcomes:** At the end of the course, the students will be able to – understand various types of disasters their causes, significance and effects of disaster. Students will gain an understanding of various Disaster Preparedness, Response, management and mitigation.

Course Code	Course Name	L, S/T, P/FW, ST	Credits - 3	Duration of Exam
UC/BARCH-1004 (A)	Building Economics	2L, 1 S/T	Int : Ext 40:60	03



**M.ARCHITECTURE (2020)**

**COURSE STRUCTURE & DETAIL  
SYLLABUS BASED ON CHOICE BASED  
CREDIT SYSTEM (CBCS OF UGC)  
AND AS PER APPROVED NEP-2020**

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**Course Objective:** To understand the various alternate building materials used and their applications in the construction industry. To create awareness, impart knowledge and promote understanding of the role and importance of Economy and Cost –effectiveness in the buildings to promote sustainability .

**Course Outcomes:** At the end of the course, the students will able to, Recognise mud as an alternate material and to understand its properties and construction techniques. Comprehend the various types of alternate construction blocks. Gain knowledge on the applications of natural materials such as bamboo and straw in building construction. Appreciate the applications of alternate cement based building materials. Critically analyse the cost effective construction techniques through case studies.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-101/20	Studio I	L-2, S-4	6	Viva only

**Course Objective:**

The syllabus has been designed to attain the following objectives:

- Understand the Architectural Education system in India & its future scope.
- To make the students understand the diversity and fast-paced dynamics of the Architecture profession to be adopted and incorporated in Architecture Education.
- To understand the social work environments of architects.

**Course Outcomes:**

At the end of the course, the students will able to :

- Have a fairly good idea of the scenario of architecture education in the country
- Understand the basic issues and challenges of imparting Architecture Education in India
- They will also be clear about the perception of society (general public) about the Architecture and architect and the role and responsibility & the need to update Architecture education continuously to cope with dynamic practice.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-102/20	Contemporary Architecture- I	L-2, S-2	3	03 Hours

**Course Objectives:**

Study the contemporary architecture of India in general & northern region in particular & the role of materials and technological know-how on the outcome.

The architecture of Chandigarh will also be understood

**Course Outcome:**

At the end of the course, the students will able to –

- Understand various trends of contemporary architecture in their immediate surroundings.
- It will be possible
- To identify & point out various influences (social, political, cultural, etc) on the architecture of India in general & northern region in particular.
- They will understand the impact of globalization and the contribution of material & new technologies in shaping the architecture.



Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-103/20	Educational Technology	2 – L, 2 - T	3	03 Hours

**Course Objective:**

To introduce the students to the importance of Education Technology in Architecture Education. To understand Architecture Education with technology and digitization and the way it has revolutionized Architectural thinking.

**Course Outcomes:** At the end of the course, the students will able to

- Incorporate innovative instructional technologies through project-based activities.
- Collaborate in online discussions about the field of educational technology.
- Synthesize information from various texts and online sources.
- Deliver oral presentation through collaborative, online learning software applications.
- Be equipped to prepare MOOC'S

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-104/20	Research Methodology - I	3 – L, 1- T	3	03 Hours

**Course Objective:**

- To develop an understanding of the basic framework of the research process
- To develop an understanding of various research designs and techniques
- To identify various sources of information for literature review and data collection
- To develop an understanding of the ethical dimensions of conducting applied research
- Appreciate the components of scholarly writing and evaluate its quality

**Course Outcomes:**

At the end of the course, the students will able to –

- Design framework/ techniques for the research process
- Demonstrate knowledge of research processes (reading, evaluating, and developing)
- Perform literature reviews using print and online databases
- Explain the rationale for research ethics
- Formulate the research in the form of thesis/ report

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH/ PE-106-10/20	Fundamentals of the built environment and resource conservation	2 - L, 2 – S	3	03 Hours

**Course Objective:**

This course provides an introduction to the environment and sustainable development. Understanding of the principles of design for sustainable development. Understanding of the social, cultural, global, and environmental responsibilities of professionals.



concepts, theories, and research in the psychology of learning and teaching. This course will help the students to set goals and plan each goal specifically for the class.

**Course Outcomes:**

At the end of the course, the students will able to –

- Ability to identify the sustainability of the built environment.
- Ability to identify the best practice in sustainable development.
- Ability to evaluate and form a proposal of an existing urban development based on the concept of sustainable development.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-201/20	Studio II	L-2, S-4	6	Viva Only

**Course Objective:**

- To create an understanding of the diversities of Architecture Education in National and International context.
- To understand the Management of Architecture Education and related government policies
- To develop skills in the use of fundamental teaching procedures, techniques, and methods of teaching.

**Course Outcomes:**

At the end of the course, the students will able to :

- Differentiate between various models of architecture education prevalent world over.
- Thoroughly understand the broad curriculum of major Indian schools of Architecture institutes of national repute and also understand the different philosophies applied based on world models.
- Understand Pedagogy and establish its relation with Architecture.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-202/20	Dissertation- I	L-2, S-2	4	VIVA-VOCE/ EXTERNAL JURY

**Course Objective:**

The dissertation is intended to develop the habit of exploring any subject. Topic in detail, make relevant inquires & interpret the outcome in the form of the report.

This course requires students to apply critical and analytical skills to produce a substantial piece of a research report. It provides an opportunity for students to engage in an area of architectural inquiry, including history and theory, technology and environmental science, professional practice, and related topics: developed and presented as coherent, eloquent, and will-illustrated documents.

**Course Outcome:**



**Able to formulate any research project & present it in the standard format.**

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-203/20	Psychology of Learning and Teaching	2 -L, 2 - S	3	03 Hours

**Course Objective:**

This course provides an introduction to concepts, theories, and research in the psychology of learning and teaching. This course will help the students to set goals and plan each goal specifically for the class.

**Course Outcomes:**

At the end of the course, the students will able to –

- To equip the students with the psychological theories and techniques of learning, motivation, and creativity, hence adding to teaching skills.
- Apply learning theories and models to classroom situations.
- Compare and contrast the various factors that cognitive, behavioural, and humanistic theorists believe influence the learning process

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-204/20	Architecture Research Methodology - II	2 - L, 2 - S	3	03 Hours

**Course Objective:**

To introduce the students to the importance of critical inquiry as a way of gaining knowledge and adding to it through research. To expose the students to the various forms of research and research methodologies/ processes. To engage this understanding in the specific field of architectural research.

**Course Outcomes:**

At the end of the course, the students will able to –

- The student will develop the skill to identify, translate, and interpret issues relating to an architecture based on research inquiry methods.
- The student will gain knowledge of different methods of conducting research and research writing.
- An ability to craft a thesis statement and produce an appropriate program of inquiry.
- An ability to evaluate and apply information.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-206-10/20	Elective I (Architecture Appreciation)	L-2, S-2	3	03 Hours



**Course Objective:**

Is to make the students appreciate Architecture as an Art and Science of building beautiful and everlasting pieces of human habitation.

**Course Outcomes:**

After the completion, of course, the students will be able to:

- Explore and understand the traditional architecture in the Indian context regarding the six major climatic zones prevalent in the country and appreciate the centuries-old wisdom of creating a Human Responsive Built Environment.
- Generate and utilize the information for use in design decisions.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-301/20	Studio - III	L-2, S-4	6	VIVA-VOCE/ EXTERNAL JURY

**Course Objective:** The syllabus has been designed to attain the following objectives:

- To thoroughly understand the knowledge level of students at entry as well as culmination level of B. Architecture and the conduct of various aptitude test & their relevance.
- To study the Higher Education Scenario with a special focus on Technical / Arch Education in view of the Nation educational policies Government of India issued from time to time.
- To understand the skill sets required for the successful practice of the architecture

**Course Outcomes:** At the end of the course, the students will able to :

- They will have a fairly good idea of the scenario of architecture education in the country.
- To create an understanding of Architecture Curriculum prescribed as [per CoA regulations and compare them in detail for various types of architecture institute.
- Understand the basic issues and challenges Higher Education Scenario with special focus on Technical / Arch Education because of the Education Policy of Government of India.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-302/20	Architecture Appreciation	L-2, T-2	4	03 Hours

**Course Objective:** is to make the students appreciate Architecture as an Art and Science of building beautiful and everlasting pieces of human habitation.

**Course Outcomes:** After the completion of course, the students will be able to:



1. Explore and understand the traditional architecture in Indian context with reference to the six major climatic zones prevalent in the country and appreciate the centuries old wisdom of creating Human Responsive Built Environment.
2. Generate and utilize information for use in design decisions.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-303/20	Instructional methods	2 – L, 2 - T	3	03 Hours

### Course Objective

The course aims to familiarize the students with the fundamentals of curriculum design. The main objective is to make them understand various instruction methods to be used to develop desired competency and proficiency levels.

**Course Outcomes:** At the end of the course, the students will able to

- Incorporate innovative instructional technologies through project-based activities.
- Develops methods/strategies that encourage self-directed thinking and learning in nurturing and supportive learning environments.
- Deliver oral presentation through collaborative, online learning software applications.
- To make the students learn the techniques and skill of conducting teaching in the formal classroom

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-305-10 /20	Professional Elective- I Guidance and Counselling	2 – L, 2- T	3	03 Hours

### Course Objective

- Explain the concept of guidance and counselling.
- Explain various guidance services.
- Explain approaches of counselling and their relevance.
- Explain the techniques and skills of counselling.

**Course Outcomes:** At the end of the course, the students will able to –

- Develop the skill of administration and interpretation of psychological tests.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration



UC/MARCH-311-15 /20	Open Elective- I Life Skill /Soft Skill	2 - L, 2 - S	3	03 Hours
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### Course Objective

To enable students to cope with the challenges of today's world and live a life that is socially and emotionally enriching.

**Course Outcomes:** At the end of the course, the students will able to Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress. Use appropriate thinking and problem-solving techniques to solve new problems

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-401/20	Teaching Practice (Institutional Experience)	4 S, 4 P	8	VIVA-VOCE/ EXTERNAL JURY

### Course Objective:

Understand the Architectural Education system in India in general & north region in particular. Inan internship, the student is supposed to apply the knowledge and the skill sets acquired during the entire course.

**Course Outcomes:** At the end of the course, the students will able to :  
The subject aims to culminate all teaching procedures, techniques, and experiences learned and practiced in an array of subjects undertaken during the course.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-402/20	Dissertation-II	4 S, 8 P	10	VIVA-VOCE/ EXTERNAL JURY

### Course Objective:

This course requires students to apply critical and analytical skills to produce a substantial piece of written research that sits alongside the project. It provides an opportunity for students to engage in an area of architectural inquiry, including history and theory, technology and environmental science, professional practice, and related topics: developed and presented as coherent, eloquent, and will-illustrated documents.

Course Code	Course Name	L/S, T, P	Credits
UC-MURP101	Planning Studio -I	1L; 7S	8



M.Planning (2019)

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(MURP)

COURSE STRUCTURE & DETAIL SYLLABUS

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### Course Objective

- To enable the students to understand the socio-economic and political context along with the land-use dynamics of the study area in relation to the city. The focus of this studio will be to develop the students' skills in area appreciation and mapping techniques.

### Literature Review and Area Appreciation at the sub-city level:

Search and review of relevant literatures, Book review, review of articles and paper, etc.

Understanding the linkages between different aspects of socio-economic life in relation to the land-use in the cities. Preparation of area profiles in the city, such as residential, commercial, recreational, industrial, slum area and institutional area. Studying impact of landuse, economic and socio-cultural activities on the physical environment of the area.

### I K Gujral Punjab Technical University Master in Planning (1<sup>st</sup> Semester)

Course Code	Course Name	L/S, T, P	Credits
UC-MURP102	Geoinformatics Systems - I	1L; 2P	2

### Course Objective

- To introduce the information systems and develop basic computing skills relevant to planning

Course Code	Course Name	L/S, T, P	Credits
UC-MURP103	<i>History of Human Settlements</i>	L-2; T-1	3

### Course Objective

- To equip the students with the required knowledge of conventional and contemporary planning thought, pluralistic nature of values in the profession, planning approaches and models. And to focus on integrating procedural and substantive elements of planning theory to current and future planning practices.

Course Code	Course Name	L/S, T, P	Credits
UC-MURP104	<i>Planning Techniques and Quantitative Methods</i>	L-2; T-1	3

### Course Objective

- To acquire proficiency in statistical techniques and able to conduct empirical studies employing statistical software

Course Code	Course Name	L/S, T, P	Credits
UC-MURP105	<i>Environmental Planning</i>	L-2; T-1	3

### Course Objective



- To give insights on global and local issues of environmental concern and introduce fundamental concepts and policies related to housing.

Course Code	Course Name	L/S, T, P	Credits
UC-MURP106	<i>Infrastructure Planning-I</i>	L-2; T-1	3

#### Course Objective

- To provide exposure to infrastructure and its sub-sectors relevant to physical planner in planning and design of urban and regional Infrastructure

Course Code	Course Name	L/S, T, P	Credits
UC-MURP107	<i>Socio-Economic Planning</i>	L-2; T-1	3

#### Course Objective

- To provide exposure to concepts, theory and issues relating to socio-economic aspects towards planning of settlements. Also provide understanding of the society and the economy of the nation and its importance in spatial planning

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP 201/19	<i>Planning Studio -II ( Urban Planning)</i>	1 L; 5S	6	Viva voce only

#### Course Objective

The studio is designed to expose the students to issues of urban planning and equip them with knowledge and techniques to enable them to analyse urban situations and develop logical decision-making processes.

**Course Outcomes:** At the end of the course, the students will able to –

- Analyse urban situations and develop logical decision-making skill.
- To address the complex overlays of conceptualisation, implementation and finance.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP 202/19	<i>Geoinformatics Systems - II</i>	1 L; 2 P	2	3 hours

#### Course Objective



To equip students with advanced concepts of Geoinformatics and computing skills in the GIS software, associated scientific tools, and their relevance and applicability in Urban and Regional Planning

**Course Outcomes:** At the end of the course, the students will able to –

- Apply concepts of geo-informatics and computing skills in the relevant software.
- Understand their relevance and applicability in urban and regional planning.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP 203/19	- <i>City and Metropolitan Planning</i>	2 L; 1 T	3	3 hours

### Course Objective

To introduce students to urban growth systems, linkages between city and region, problems and issues of cities and planning for the metropolitan areas.

**Course Outcomes:** At the end of the course, the students will able to –

1. Understand City – Region Linkages and problems of Metro and Mega Cities and role of urban development policies and problems.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP 204/19	- Infrastructure Planning -II	2 L; 1T	3	3 hours

### Course Objective

To expose students to several dimensions of infrastructure and to give a brief idea on existing policies and programmes.

**Course Outcomes:** At the end of the course, the students will able to –

1. Prepare schemes and programmes related to infrastructure development as a component for inclusive development.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP 205/19	- Planning Legislations and Governance	2 L; 1T	3	3 hours



### Course Objective

To expose students to various planning laws, legislations, acts, regulations which have an impact on urban and regional planning and development.

**Course Outcomes:** At the end of the course, the students will able to –

1. To learn plan preparation with respect to planning legislation.
2. Understand the working of government at central- state and local level.
3. To learn how to advise on governance of cities and their regions.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP- 211/19 ( EL- I)	Demography and Planning	2 L; 1T	3	3 hours

### Course Objective

To enhance the understanding of the students on the population dynamics and analyse the demographic demography data and information.

**Course Outcomes:** At the end of the course; the students will able to –

1. Prepare demographic data of the country
2. Understand the requirements of the population

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP- 212/19 ( EL- I)	<i>Urban Development Programs</i>	2 L; 1T	3	3 hours

### Course Objective

To provide basic conceptual understanding of heritage and conservation issues and to provide exposure to the contemporary conservation approaches.

**Course Outcomes:** At the end of the course, the students will able to –



1. Appreciate Indian art and architecture and salient features of its heritage sites.
2. Understand the institutional framework of the country.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP- 213/19 ( EL- I)	<i>Planning of New Towns</i>	2 L; 1T	3	3 hours

### Course Objective

To make Students aware and exposed to changing scenario in the spatial order of cities and regions as well as the emergence of virtual societies in the World.

**Course Outcomes:** At the end of the course, the students will able to –

1. Understand the use and power of emerging new technologies and social networks among communities.
2. Understand the paradigm shift in the spatial planning outlook and governance edge.

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MURP- 214/19 ( EL- I)	<i>Land Economics and finance</i>	2 L; 1 T	3	3 hours

**Course Objective:** This course specifically aims at enabling students to:

Know the role and use of land, real estate and environment within an economy and to examine problems faced in urban areas.

**Course Outcomes:** At the end of the course, the students will able to –

1. Examine and explain both theoretical and practical applicability of the different theories of urban growth.
2. Identify and Examine different problems faced on land and the built environment.
3. Explain possible approaches of dealing with different problems identified on land and the built environment

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
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**B.Sc Architecture basics (2020)**

**COURSE STRUCTURE & DETAIL  
SYLLABUS BASED ON CHOICE  
BASED CREDIT SYSTEM (CBCS of  
UGC)**

**And as per approved NEP-2020**

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UC/MURP - 401/19	<i>Planning Thesis</i>	2 L; 10 S	12	External/Internal Viva voce only
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**Course Objective**

To undertake independent study in the field of Planning. The main objectives of preparing a thesis is to provide an opportunity to each student to undertake a study/research to explore in depth and to develop a subject of his/her own choice demonstrating the ability to use effectively the tools of independent investigation and judgment.

**Course Outcomes:** At the end of the course, the students will be able to –

1. To have a basic understanding of the area chosen for study (by carrying out a detailed literature review).
2. To undertake detailed exploration of the topic (by way of surveys and studies).
3. To identify issues and concerns those emerge out of the study and suggest recommendations.

Course Code	Course Name	1L, 4 Stu	Int. : Ext.	Duration of Exam
UC/BSCAB-101/20	Architectural Design & Theory – 1	Credits - 05	60:40	06 + Ext. Viva Voce

**Course Objective:**

The main objective of the course is to get the students interested in and to familiarize them with the basic concepts of Design. To enhance and promote visualization, expressional skills and sensitivity to surrounding environment and to develop the ability to translate principle of design into architecture solution.

**Course Outcomes:**

At the end of the course, the students will be able to-

- Understand & will gain a fundamental knowledge of architecture design and its basic principles.
- To apply visual and formal analysis of architecture in their mind and they will be able to appreciate well-designed buildings.
- Understand the skill required to interpret a work of architecture and to evaluate, identify and analyse artistic expression of architectural forms.
- Understand the relationship between human activities of Space.

Course Code	Course Name	L - 1, ST - 3	Int. : Ext.	Duration of Exam
UC/BSCAB-102/20	Architectural Drawing –I	Credits - 04	60:40	03 Hours

**Course Objective:**

The objective is to make the students familiarize with good drafting and lettering techniques use in architecture. To gain the basic knowledge for preparing the architectural drawings by learning about the orthographic projections of simple geometric forms and representation of 3-D & 2-D forms.

**Course Outcomes:**

At the end of the course, the students will be able to –



- Gain the comprehensive understanding of the fundamental techniques of technical drawing and its architectural representation.
- Attain the knowledge to visualize the geometrical forms through plans, elevations and sections.

Course Code	Course Name	L - 1, ST - 2	Int. : Ext.	Duration of Exam
UC/BSCAB-103/20	Architectural Graphics –I	Credits - 03	60:40	03 Hours

**Course Objective:**

The objective is to make the students familiar with visual arts and its basic principles and to explore the potential of Pencil of different grades and Coloured pencils as a powerful tool of Graphic Communication.

**Course Outcomes:**

At the end of the course, the students will able to –

- Gain a fundamental knowledge of architecture Graphics and its principles.
- Achieved a comprehensive understanding of architectural presentation techniques.

Course Code	Course Name	L - 1, ST - 3	Int. : Ext.	Duration of Exam
UC/BSCAB-104/20	Building Construction & Materials - I	Credits - 04	60:40	03 Hours

**Course Objective:**

- The objective is to introduce the elementary building materials and their applications. To familiarize students with construction details of various components of construction.

**Course Outcomes:**

At the end of the course, the students will able to –

- Understand the properties, types, uses and application of various building materials i.e. brick, lime, cement, mortar, sand, stones etc.
- Gain the fundamental knowledge of building Construction especially in brick and stone.

- **IK Gujral Punjab Technical University**
- **Bachelor of Science (Architecture Basics - 1st Semester)**

Course Code	Course Name	L-3	Int. : Ext.	Duration of Exam
UC/BSCAB-105/20	Structure Systems - I	Credits - 03	60:40	No exam only External viva-voce

- **Course Objective:**
- To inculcate in the student an awareness of basic structural principles in structural system ,with emphasis on learning by doing and making 3-D models to provide the student with different spatial experience. To make them understand the concept behind every structural form.



• **Course Outcomes:**

- At the end of the course, the students will be able to – Understand the needs, requirements, and selection for various types of structures, the architectural features and necessity of choosing the correct structure system, comprehend the design principles and applications of different structural systems.

Course Code	Course Name	2 - L	Int. : Ext.	Duration of Exam
UC-BTHU101-18	<b>Communicative English</b>	<b>Credit - 2</b>	<b>60:40</b>	<b>03 Hours</b>

**Course Objective:**

The student will gain basic hands on experience and fundamental knowledge English and become the independent users of English Language.

**Course Outcomes:**

At the end of the course, the students will be able to –

- Have proficiency in reading & listening, comprehension, writing and speaking skills.
- Understand spoken and written English language, particularly the language of their chosen technical field.
- Converse fluently.
- Produce clear and coherent texts on their own.

Course Code	Course Name	2P	Int : Ext	Duration of Exam
UC-BTHU102-18	<b>Communicative Skill Laboratory</b>	<b>Credit - 1</b>	<b>60:40</b>	<b>Viva- Voce</b>

**Course Objective:**

The objective of the course is to help the students become the independent users of English language.

**Course Outcomes:**

At the end of the course, the students will be able to –

- Students will acquire basic proficiency in listening and speaking skills.
- Students will be able to understand spoken English language, particularly the language of their chosen technical field.
- They will be able to converse fluently
- They will be able to produce on their own clear and coherent texts.

Course Code	Course Name	L - 1	Int. : Ext.	Duration of Exam
UC/BSCAB-108/20	<b>Life skills</b>	<b>Credits - nc</b>		

**Course Objective:**

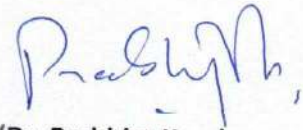
To enable students to cope with challenges of today's world and live a life which is socially and emotionally enriching.

**Course Outcomes:**

At the end of the course, the students will be able to Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress. Use appropriate thinking



and problem solving techniques to solve new problems. They will be able to understand "How to study".



(Dr. Prabhjot Kaur)

Director

IKGPTU Mohali Campus-II