



**SCHOOL OF ARCHITECTURE AND PLANNING**  
**Master of Architecture (General)**

**Programme Code: SAP0101**  
**Duration- 2 Years Full Time**

**PROGRAM STRUCTURE**  
**AND**  
**CURRICULUM & SCHEME OF EXAMINATION**  
**2021-22**

## 1.1 Vision, Mission and Core Values of the University

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### Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

### Mission of the University

Transformative educational experience  
Enrichment by educational initiatives that encourage global outlook  
Develop research, support disruptive innovations and accelerate entrepreneurship  
Seeking beyond boundaries

### Core Values

Integrity  
Leadership  
Diversity  
Community

## 1.2 Vision and Mission of the School

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### Vision of the School

To be amongst the top institutes in India imparting quality education and professional skills to the students to emerge as architects of global caliber and thus the society in large.

### Mission of the School

- To create and sustain a stimulating and responsive academic inclusive environment.
- To regularly enhance the teaching contents & techniques in keeping with current and future trends.
- To provide a competitive and career oriented programme.
- To encourage students to be socially responsive and responsible architects.

### Core Values

**Critical Thinking and Observation**

**Analytical Skills**

**Creativity**

**Integrity to uphold authentic building traditions and architecture principles**

### 1.3.1 Programme Educational Objectives (PEO)

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- PEO1** Students shall be able to define architectural designs that satisfy both aesthetics and technical requirements with the adequate acquired knowledge of the history and related fields. They shall be able to appraise the physical problems, technologies and functions of buildings and summarize so as to provide justified internal conditions of comfort and protection against the climate.
- PEO2** Students shall have an understanding of the relationship between people and buildings, and distinguish between buildings and the environment, thus being able to able to analyze the methods of investigation and illustrate the preparation of the brief for a design project.
- PEO3** Students shall demonstrate an understanding of the profession of architecture and the role of an architect in society and at the same time have the ability to display sensitivity towards concerns for environmental and energy issues.
- PEO4** Students shall be able to appraise themselves with the design skill necessary to meet building users' requirements within the constraints imposed through adequate knowledge of the industries, organizations, regulations, and procedures.

### 1.3.3 Program Outcomes (PO's)

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**PO – 1: Architectural knowledge:** Apply the knowledge of design, science, engineering fundamentals, and architectural specialisations to the solution of complex architectural problems.

**PO – 2: Problem analysis:** Identify, formulate, review research literature, and analyse complex architectural problems reaching substantiated conclusions using principles of design and architecture

**PO – 3: Design/development of solutions:** Design solutions for complex architectural problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO – 4: Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO – 5: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern architecture and IT tools including prediction and modelling to complex architectural activities with an understanding of the limitations.

**PO – 6: The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional architectural practice.

**PO – 7: Environment and sustainability:** Understand the impact of the professional architectural solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO – 8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the architectural practice.

**PO – 9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.

**PO – 10: Communication:** Communicate effectively on complex architectural activities with the architecture community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO – 11: Project management and finance:** Demonstrate knowledge and understanding of the architecture and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO – 12: Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

**School of Architecture and Planning**  
**Batch 2021-23**  
**Program: MASTER OF ARCHITECTURE (GENERAL)**  
**TERM: 1**

S.No.	Subject Code	Subjects	L	P	S	Credits	Type of Course <sup>1</sup> : 1. CC 2. AECC 3. SEC 4. DSE
<b>Jury Subjects</b>							
1	MAJ 121	Design Studio – I (Commercial or Institutional)	0	0	8	8	CC
2	MAJ 122	Digital Fabrication-BIM	0	0	3	3	SEC
3	MAJ 123	Advance building Const./Technology	0	0	3	3	CC
<b>Theory Subjects</b>							
4	MAR 124	Architecture of 21st Cen/ Contemporary Architecture	3	0	0	3	CC
5	MAR 125	Project Management	3	0	0	3	CC
6	MAR 126	Theory of Sustainability	3	0	0	3	CC
7	MAR 127	Infrastructure Planning	3	0	0	3	CC
<b>Elective Subjects</b>							
8	MEJ	Elective I	0	0	3	3	DSE
<b>Practical Subjects</b>							
9	VAC	Value Added Course	-	-	-	2/ Non-GPA credits	
<b>Total Credits</b>						29	

<sup>11</sup> CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses

**School of Architecture and Planning**  
**Batch 2021-23**  
**Program: MASTER OF ARCHITECTURE (GENERAL)**  
**TERM: 2**

S.No	Subject Code	Subjects	L	P	S	Credits	Type of Course <sup>2</sup> : 5. CC 6. AECC 7. SEC 8. DSE
<b>Jury Subjects</b>							
1	MAJ	Design Studio – II (Conservation or UD)	0	0	8	8	CC
2	MAJ	Digital Design Fabrication-Parametric	0	0	3	3	SEC
<b>Theory Subjects</b>							
3	MAR	Research Methodology	3	0	0	3	CC
4	MAR	Theory of Landscape Architecture	3	0	0	3	CC
5	MAR	Conservation	3	0	0	3	CC
6	MAR	Theory of UD	3	0	0	3	CC
7	MAR	Laws, Acts and Governance	3	0	0	3	CC
<b>Elective Subjects</b>							
8	MEJ	Elective II	0	0	3	3	DSE
<b>Total Credits</b>						<b>29</b>	

<sup>21</sup> CC: Core Course, AECC: Ability Enhancement Compulsory Courses, SEC: Skill Enhancement Courses, DSE: Discipline Specific Courses



**School of Architecture and Planning**  
**Batch 2021-23**  
**Program: MASTER OF ARCHITECTURE (GENERAL)**  
**TERM: 3**

S. No.	Subject Code	Subjects	L	T	P	Contact Hours	Credits	Remarks
<b>Theory Subjects</b>								
1	MAA 204	Elective I: Contemporary Architecture	2	0	0	2	2	Old
<b>Jury Subjects</b>								
2	MAJ 201	Design Studio – III	2	2	6	10	12	Old
3	MAJ 202	Architectural Dissertation I	2	2	2	6	5	Old
4	MAJ 203	Design Technology and Sustainability	2	2	0	4	3	Old
<b>Total Credits</b>						<b>23</b>	<b>22</b>	

**School of Architecture and Planning**  
**Batch 2021-23**  
**Program: MASTER OF ARCHITECTURE (GENERAL)**  
**TERM: 4**

S. No.	Subject Code	Subjects	L	T	P	Contact Hours	Credits	Remarks
<b>Jury Subjects</b>								
1	MAJ 211	Architectural Design Thesis	0	0	12	12	18	Old (1902 Scheme)
2	MAJ 212	Architectural Dissertation II	0	4	0	4	2	Old (1902 Scheme)
3	MAA 213	Elective II: Theory of Landscape Architecture	2	0	0	2	2	Old (1902 Scheme)
<b>Total Credits</b>						<b>18</b>	<b>22</b>	

# SEMESTER I

**MAR 124: Architecture Of 21st Cen/ Contemporary Architecture**

<b>School: SUSAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: I</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Contemporary Architecture</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	Compulsory
6	Course Objective	After successful completion of this course, students should be able to: Develop an awareness of the reasons for contemporary theories. Acquire an in- depth knowledge of contemporary architectural trends, study the works of architects practicing in a definable style of contemporary architecture.
7	Course Outcomes	CO1: <b>Identify</b> Architectural trends within specified context. CO2: <b>Illustrate</b> the influencing factors in contemporary architecture CO3: <b>Explain</b> the digital technologies and applications CO4: <b>Analyse</b> the application and impact related to sustainability in environment CO5: <b>Hypothesize</b> the examples of modern structures in the 20 <sup>th</sup> century.
8	Course Description	The <b>course</b> will analyze major <b>contemporary architectural</b> ideas, ideologies, and projects in the context of both globalization and specific local contexts. ... The critical reflection on <b>contemporary</b> topics will allow students to better understand the buildings and cities which we live in.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction to Contemporary Architecture</b>
		1a: Contemporary Architecture and its characteristics.
		1b: Modern Architecture and its characteristics.
		1c: Design Influence.
	<b>Unit 2</b>	<b>Evolution of Architectural trends</b>
		2a: Manifestations and significant theories.
		2b: Formal and the informal built-form.
		2c: Styles as classified later in history.
	<b>Unit 3</b>	<b>Influencing factors in shaping Contemporary Architecture</b>
		3a : Advances in Construction Technology.
		3b: Advances in Digital Technology.
		3c: Simulation and application techniques.
	<b>Unit 4</b>	<b>Analysis of Contemporary Design.</b>
		4a: Awareness and application of sustainability.
		4b: Awareness and application of sustainability.
		4c: Architectural expression influenced by world as a global village.

	<b>Unit 5</b>	<b>Case Studies</b>
		5a: Works of the architects in the global context.
		5b: Works of the architects in the Asian context.
		5c: Works of the architects in the Indian context.

10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
12	Text book/s*	1. Monument Builders: Modern Architecture and Death. 2. The failure of Modern Architecture. 3. Kinetic City. 4. Greening Modernism: Preservation, Sustainability and the Modern Movement. 5. Rematerial: From Waste to Architecture. 6. The city as Playground. 7. The death and Life of Great American Cities. 8. No Stop City. 9. Theories and Manifestoes of Contemporary architecture.		
13	Other References			

**MAR 125: Project Management**

<b>School: SUSAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: I</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Project Management</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	Compulsory
6	Course Objective	To make them understand the concepts of Project Management for planning the execution of projects. To make them understand the feasibility analysis in Project Management and network analysis tools for cost and time estimation. Make them capable to analyze, apply and appreciate contemporary project management tools and methodologies in Indian context.
7	Course Outcomes	CO1: <b>Understand</b> project characteristics and various stages of a project. CO2: <b>Recognize</b> the conceptual clarity about project organization and feasibility analyses CO3: <b>Analyze</b> the learning and understand techniques for Project planning, scheduling and Execution Control. CO4: <b>Apply</b> the risk management plan and analyse the role of stakeholders. CO5: <b>Develop</b> an Understanding the contract management, Project Procurement, Service level agreements and productivity.
8	Course Description	This course provides an overview of project management and the essential tools needed to deliver successful projects on time and on budget. Students will learn the fundamental principles of project management including: project initiation, project definition, creation of work breakdown structures, scheduling using Gantt charts and network diagrams, risk management, budgeting and controlling resources, quality assurance, auditing and project termination.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction to Project Management</b>
		1a: The difference between a project manager and a project engineer/project leader. 1b: The duties of a project manager/project leader. 1c: Project Life Cycle, Project Management process
	<b>Unit 2</b>	<b>Basics to Project Managements.</b>
		2a: Types of project, Phase of project, project management and its relevance. 2b: Stakeholders of a project, structure of project organization, management levels.

		2c: Failures and success of a project.	
	<b>Unit 3</b>	<b>Construction Planning</b>	
		3a: Introduction, activities involved types of project plan, work breakdown structure. 3b: Planning Terminologies. 3c: Time Scheduling Techniques	
	<b>Unit 4</b>	<b>Project Scheduling And Controlling</b>	
		4a: Introduction, Resource allocation and levelling of Major resources, Multi resource allocation, Optimal scheduling. 4b: Work Breakdown Structure (W.B.S.) 4c: Time Scheduling Techniques	
	<b>Unit 5</b>	<b>Project Monitoring And Control</b>	
		5a: Feasibility report, Project updating, Cost control, Earned value management. 5b: Project progress reports, project control techniques, change management, reasons for failure. 5c: Project Implementation of Project management skills on a live project of about 10,000 sqm.	
10	Mode of examination	Theory	
11	Weightage Distribution	CA	MTE
12		30%	20%
13	Text book/s*	1. Construction Planning and Management – U.K.Shrivastava 2. Total Construction Project Management – George J Ritz	
14	Other References		

**MAR 126: Theory of Sustainability**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-2022</b>
<b>Branch: General</b>		<b>Semester : I</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Theory of Sustainability</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
Course Status		<b>Compulsory</b>
5	Course Objective	The course aims to explore on interpretations of sustainability in and around architecture and urban design, at varying scales in built environment, to propose new ideas and dimensions, more conscious of resource use, ecological balance and minimizing environmental impacts through design work and technological applications.
6	Course Outcomes	CO1: <b>Identification</b> and exploration of current interpretations of sustainability in architecture and urban design. CO2: <b>Evaluate</b> selected case studies identifying design and technological issues related to sustainability of built environment. CO3: <b>Formulate</b> design ideas/proposal/interventions, technological applications and/or managerial strategies for a selected project/case. CO4: <b>Assess</b> the design proposal and development of the design for implementation CO5: <b>Discuss</b> the final design for sustainability
7	Course Description	The course investigates how the notion of sustainability is conceptualized, interpreted and implemented in the broadest sense - from the micro level of materials and technology, through the building scale, to the macro scale of urban form and suburbanization. Case studies are identified, investigated and students will propose their own solutions as part of the final project. The course will be collaborative and will develop as a forum where students and faculty will engage both in investigative analysis as well as design studies of a speculative nature.
8	Outline syllabus	
<b>Unit 1</b>		<b>Current interpretation of sustainability</b>
A		a) Introduction to the topic - Questioning and exploring some of the multitude of interpretations of 'sustainability'.
B		b) Research the sustainability issue through a review of current literature, publications, web sites, assessment methods, products
C		c) Presentation of interpretation of sustainability
<b>Unit 2</b>		<b>Critical Case study (strategies/ processes/projects/technologies)</b>
A		a) Selection of any sustainable domain for research. Define scope of study. Collect relevant material.
B		b) Compare, contrast and evaluate issues in the studies from



		sustainable point of view as interpreted		
	C	c) Presentation of such studies		
	<b>Unit 3</b>	<b>Design study for a selected process/project /technology</b>		
	A	a) Description of the design case		
	B	b) Identification of issues in sustainability		
	C	c) Study of alternative applicable design ideas, interventions or strategies		
	<b>Unit 4</b>	<b>Design ideas investigation</b>		
	A	a) Selection of a design idea or proposal. Identifying its scope and limitations.		
	B	b) Suggesting how such limitation could be overcome.		
	C	c) Presenting the proposal with its investigation		
	<b>Unit 5</b>	<b>Final Report</b>		
	A	a) Presentation of proposed holistic idea /process /design / technology		
	B	b) Report compilation		
	C	c) Report completion and submission		
9	Mode of examination	Jury		
10	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
12	Text book/s*			
13	Other References	<p>1. Leon Glicksman, and Andrew Scott. <i>4.183 Sustainable Design and Technology Research Workshop</i>. Spring 2004. Massachusetts Institute of Technology: MIT OpenCourseWare, <a href="https://ocw.mit.edu">https://ocw.mit.edu</a>. License: <u>Creative Commons BY-NC-SA</u>.</p> <p>2. A.H. Hu, M.Matsumoto, T.C.Kuo, S.Smith (2019) <i>Technologies and Eco-innovation towards Sustainability II: Ecodesign Assessment and Management</i>, Springer, Singapore</p> <p>3. The Energy Research Institute <a href="https://www.teriin.org/">https://www.teriin.org/</a></p> <p>4. Centre for Science and Environment <a href="https://www.cseindia.org/">https://www.cseindia.org/</a></p> <p>5. <u>EPA Web site for Sustainable Development</u></p> <p>6. IGBC <a href="https://igbc.in/igbc/">https://igbc.in/igbc/</a></p> <p>7. Griha India <a href="https://www.grihaindia.org/#&amp;home">https://www.grihaindia.org/#&amp;home</a></p> <p>8. Sustainability assessment methodologies <a href="https://www.oecd.org/greengrowth/39925248.pdf">https://www.oecd.org/greengrowth/39925248.pdf</a></p> <p>Bringing Life to Ideas <a href="https://cpdm.iisc.ac.in/cpdm/ideaslab/sustainability.php">https://cpdm.iisc.ac.in/cpdm/ideaslab/sustainability.php</a></p> <p>10. Auroville Earth Institute <a href="http://www.earth-auroville.com/sustainable_development_en.php">http://www.earth-auroville.com/sustainable_development_en.php</a></p> <p>Building Material and Technology Promotion Council <a href="http://mohua.gov.in/cms/BMTPC.php">http://mohua.gov.in/cms/BMTPC.php</a></p> <p>12. Development Alternatives <a href="https://www.devalt.org/">https://www.devalt.org/</a></p>		

**MAR 127: Infrastructure Planning**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: I</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Infrastructure Planning</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	Compulsory
6	Course Objective	<p>1. To define and discuss general concepts in infrastructure along with ownership, control and operations and their impact on city planning .</p> <p>2. To apply and comprehend the water supply and irrigation planning and their demand supply in collocation of the national policy</p> <p>3. To understand and sensitize about the sanitation and solid waste management systems along with their role in the different categories of the societal as well as economical fabrications.</p> <p>4. To plan and create strategies for effective electricity and transportation infrastructure planning and roles of different government bodies in their upliftment.</p> <p>5. To identify requirements of effective social and economic infrastructure planning.</p>
7	Course Outcomes	<p>CO1: To <b>conceive</b> and design strategies for effective infrastructure planning.</p> <p>CO2: To <b>appraise</b> and assess the different policies as well as government bodies along with their role in infrastructure.</p> <p>CO3: To <b>generate</b> understanding of application of various infrastructures at different scales .</p> <p>CO4: To <b>develop</b> a comprehensive understanding of interrelationship of different infrastructures in nation building.</p> <p>CO5: To <b>design</b> and make recommendations for meeting the future needs infrastructure for a human settlement.</p>
8	Course Description	To engage and explain the holistic network of infrastructure planning needed to sustain Urban/Rural demands along with the discussion of management and standards.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction</b>
		<p>1a: Introduction to the infrastructure planning, categorization at both urban and rural level</p> <p>1b: Ownership, control and operations, Institutions in infrastructure and modes of their ownership and stake</p> <p>1c: Technological advancements and policies in infrastructure provision</p>
	<b>Unit 2</b>	<b>Water Supply and irrigation</b>
		2a: Water rights, water treaty between nations/states, stakeholders, demand and supply analysis

		2b: Technology advancements in recycling and reuse of water along with National water policy 2c: Irrigation challenges and regulations in efficiency and pricing		
	<b>Unit 3</b>	<b>Sanitation and Solid Waste Management</b>		
		3a: Access to sanitation in context to SDG's and the role of different public and private institutions in the community involvement. 3b: Land use and solid water generation along with waste management strategies in national policy. 3c: Role of technology in the effective waste collection and disposal for cost agilent economy		
	<b>Unit 4</b>	<b>Electricity, Transportation, Telecommunication</b>		
		4a: Sources of generation of electricity, production and sharing terms and conditions 4b: Urban and regional transport policy, standards, road institutions and policies for road development 4c: Speed and coverage of areas, policies, operability of stakeholders		
	<b>Unit 5</b>	<b>Social and economic infrastructure</b>		
		5a: Government and NGOs role in the infrastructure successful implementation 5b: PPP meaning and roles at different infrastructure levels through case studies 5c: Institutions in Economic infrastructure		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
12	Text book/s*	1. Solid waste management: The Regional approach / CLAYTON, C K 2. Water supply, waste disposal & Environmental Engineering / CHATTERJEE, AK 3. Street Lighting / WALDRAM, J M 4. Municipal and Rural Sanitation / EHBEN, V M 5. Solid Liquid flow Slurry pipeline Transportation / WASPE, E J		
13	Other Reference			

**MAJ 121: Design Studio I (Commercial or Institutional)**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2020-21</b>
<b>Branch: General</b>		<b>Semester: I</b>
1	Course Code	<b>MAJ 121</b>
2	Course Title	<b>Design Studio-I</b>
3	Credits	<b>8</b>
4	Contact Hours (L-P-S)	<b>0-0-8</b>
5	Course Status	Compulsory
6	Course Objective	<p>1. Emphasizes the detailed studies and drawings of the following aspects - space analysis, climatic consideration, services and environmental issues, and site planning.</p> <p>2. Analytical work on various issues specific to the project introduced will be carried out for the development of link / connection between studio work and lecture courses. A high standard of graphical representation and verbal skills are expected from the students to present their design ideas</p> <p>3. Projects to include buildings with multi - use, multi-span &amp; multiple activities such as Library, Institutional buildings , Commercial Complex, Specialty Hospitals etc. in an Urban Context.</p> <p>4. Display of competence in the application of knowledge gained from the following will be an essential requirement for all the design projects: Materials, Construction &amp; Structures, Theory of Architecture, Environmental / Architectural Science &amp; Behavioral science..</p>
7	Course Outcomes	<p>CO1: To <b>conceive</b> and design buildings as positive additions to the city.</p> <p>CO2: To <b>appraise</b> and assess the emerging technical aspects of architecture.</p> <p>CO3: To <b>generate</b> optimal design, balancing the basics of architectural design with emerging new technical and planning parameters.</p> <p>CO4: To <b>develop</b> a comprehensive understanding of advanced construction methods and materials collaborated with the application of the theories of Architecture and Design</p> <p>CO5: To <b>Interpret</b> the traditional built environment in context with community /neighbourhood.</p>
:	Course Description	To engage in architectural design in the context of the city. The studio will focus on architecture as being shaped by and shaping the urban context & urban mass. The process of architectural design would be seen along with the aspects such as nature of cities, urban morphology, history, place, Housing density, society, public realm, economy, climate , ecology, legislation, finance. The design projects would become the site for taking positions on specific issues and developing these ideas to completion.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction</b>
		<p>1a: Introduction to the design problem; may be focused on people-centric design and sustainability</p> <p>1b: Understanding the stakeholders, their perception</p>

		1c: Study of methodology for design conception, development and detailing		
	<b>Unit 2</b>	<b>Literature Studies</b>		
		2a: Application of alternative materials and technique - prefab, steel, other newer building materials, etc., green buildings, building control regulation. Detailing: Building & site services - water, electricity, sanitation, drainage, RWH, solid waste management, etc. 2b: Case Studies of projects of similar scale on various parameters like User Space Analysis etc. 2c: Detailed study of methodology for design conception, design development and detailing, materiality		
	<b>Unit 3</b>	<b>Area Program Formulation</b>		
		3a: Analysis from the Case Studies with inferences 3b: Program Formulation and Zoning 3c: Concept		
	<b>Unit 4</b>	<b>Site Planning</b>		
		4a: Master planning, green &/or smart campus, vertical & horizontal circulation, , green buildings, building control regulation 4b: Grid planning, structural system and detailing 4c: Application of alternative materials and technique - prefab, steel, other newer building materials, etc.,		
	<b>Unit 5</b>	<b>Design Development</b>		
		5a: Master planning: Site and services, circulation, infrastructure 5b: Plans, sections & Elevations 5c: 3D Models and Walkthroughs		
10	Mode of examination	Jury		
12	Weightage Distribution	CA	MTE	ETE
		50%	0%	50%
13	Text book/s*	1. School of Architecture(CEPT),( 1988), Typology and Mapping of Housing Zones, Ministry of Urban Development; NBO 2. Cullen Gordon, (1968), Townscape, Architectural Press SYLLABUS 2019 – Manipal School of Architecture and Planning   54 3. Caminos Horacio; Goethert Reinhard, (1983), Urbanization Primer, M I T Press 4. Frey Hildebrand;(1999), Designing the city, E and F N Spon 5. Krier Rob, (1984) Urban Space, Academy editions 6. Sanoff Henry, (1991), Visual research methods in Design, Van Nostrand Reinhold 7. BanargeeTridib Southworth Michael, (1990), City Sense and City Design, M I T Press 8. Zeisel John, (1995), Inquiry by design, Cambridge University press 9. Institute for landscape visual impact assessment(2002), Guideline for landscape and visual impact assessment, Spon, London 10. Watson Donald;others,(2003) Time saver standards for urban design, McGraw Hill, NY 11. Paddison Ronan Ed, (2001), Handbook of urban studies, Sage Publications, London		

		12. Hillier Bill ;Hanson Julienne, (1990), Social logic of space, Cambridge University press, NY 13. Sanoff, H. (2000). Community participation methods in design and planning. John Wiley & Sons.
14	Other Reference	

**MAJ 122: Digital Fabrication-BIM**

<b>School: SUSAP</b>		<b>Batch: 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: I</b>
<b>1</b>	Course Code	<b>MAJ 122</b>
<b>2</b>	Course Title	<b>Digital Fabrication-BIM</b>
<b>3</b>	Credits	<b>3</b>
<b>4</b>	Contact Hours (L-P-S)	<b>0-0-3</b>
<b>5</b>	Course Status	<b>Compulsory</b>
<b>6</b>	Course Objective	<p><b>Building Information Modeling (BIM)</b> is fundamentally changing the nature of the building profession. Current BIM technology, such as Autodesk Revit is quickly establishing itself as a new standard for architectural practice. As professionals and students eagerly acquire the skills necessary for using BIM in practice, it is critical to understand these new tools in the context of a rapidly evolving practice. This course aims to provide a context for learning so that new technology is not taught in isolation. As students of the digital age, rapidly adapting to new and often radical forms of communication and expression is a way of life. Learning software is a matter of technological literacy, and it demands that one evolve just as rapidly. Similar to learning a new language, fluency is often achieved through immersion rather than vocabulary alone. The objective is to promote discourse and understanding of not only what Revit does and how to use it, but also to ask why, what if, and what does it mean?</p> <p>The course is structured on situational-based immersion, to expose students to the broadest range of information and potential beyond the classroom. The ability to troubleshoot, design, and improvise within the program will give one the agility necessary to be prepared not only for the next version, as well as the next innovation. Learning Revit is not simply about 3D modeling, but how to collaborate with others, and how to extract useful and elegant information from the model. Understanding how to manage 2D output is the key to producing high-quality drawings, and to communicate ideas effectively.</p>
<b>7</b>	Course Outcomes	<p>CO1: <b>Understanding</b> of a parametric building information model (“BIM” = a 3d object-oriented model of a building where each component has “intelligent” behaviors and embedded data) and extracting data. This approach facilitates the creation of construction documents (plans, elevations etc.), material takeoffs and building schedules as well as performance (e.g. building energy) analysis.</p> <p>CO2: <b>Apply</b> &amp; Create CAD/BIM-based tools to solve technical issues (fabrication, energy efficiency, lighting, structural etc.) during the planning process.</p> <p>CO3: <b>Formulate</b> BIM based Project Design.</p>

		CO4: <b>Evaluate</b> BIM project and required documentation. CO5: <b>Develop</b> understanding of BIM projects and techniques for quicker methods and presentation skills.	
<b>8</b>	Course Description	This course introduces students to Building Information Modeling through the use of Autodesk Revit. Students will learn the fundamentals of working in Revit by developing a project, using both 3D parametric modeling and the 2D documentation skills essential to communicating ideas effectively in professional practice.	
<b>9</b>	Outline syllabus		
	<b>Unit 1</b>	<b>Introduction to BIM and BIM tools</b>	
		1a - Introduction to Autodesk Revit 1b - Introduction to BIM, Scope, Challenges and Opportunities 1c - Drawing Tools, Basic Walls, Doors and windows	
	<b>Unit 2</b>	<b>Design development process in BIM &amp; Tools of parametric design</b>	
		2a - Wall Finishes, Components, Material & Texturing 2b - Working with Floor and Slabs with finishes 2c - Working with Roof and Roof Types	
	<b>Unit 3</b>	<b>Building modeling using BIM tools</b>	
		3a - Stairs and Railings 3b - Complex walls with finishes-1 3c - Complex walls with finishes-2	
	<b>Unit 4</b>	<b>Scheduling and detailing with BIM</b>	
		4a - 3D Views, Section and elevations 4b - 3D Texturing and Materials 4c - 3D Components & 3D massing	
	<b>Unit 5</b>	<b>Methods, Techniques and implementation</b>	
		5a - Sheets & layout 5b - Plot settings 5c - Final Project.	
<b>10</b>	Mode of examination	Jury	
<b>11</b>	Weightage Distribution	CA	ETE
		50%	50%
<b>12</b>	Text book/s*	<ol style="list-style-type: none"> <li>1. Mastering Autodesk Revit, by Eddy Krygiel, Lance Kirby, and Marcus Kim</li> <li>2. Residential Design Using Autodesk Revit 2020, by Daniel John Stine</li> <li>3. Design Integration Using Autodesk Revit 2021</li> <li>4. Building Information Modeling, by Karen M. Kensek</li> </ol>	
<b>13</b>	Other Reference		



**COURSE ARTICULATION MATRIX**
**MAJ 123: Advanced Building Construction Technology**

<b>School: SUSAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: I</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Advanced Building Construction Technology</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	Compulsory
6	Course Objective	To study different methods of construction to successfully achieve the structural design with recommended specifications. To involve the application of scientific and technological principles of planning, analysis, design and management to construction technology.
7	Course Outcomes	This course will enable students to CO1: <b>Recognize</b> the various types of equipment used for Construction. CO2: <b>Understand</b> the various methods of Construction Techniques. CO3: <b>Relate</b> recent advancement in heavy construction. CO4: <b>Appraise</b> with the knowledge of construction of tall structures. CO5: <b>Develop</b> work individually and in teams to explore new approaches to construction studies.
8	Course Description	This course explores issues and concepts relating to contemporary developments in materials, construction and building engineering technology and introduces students to techniques appropriate for the production of medium to large scale buildings. Students will engage with these new theories and technologies in an exploratory environment to develop an understanding of various structural systems and elements, building fabric, materiality, detailing, and the relationship between design, construction and structures.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Industrial Structures in Steel</b>
		1a: Multi Storied. 1b: Tall Structures. 1c: Towers.
	<b>Unit 2</b>	<b>Large Span Construction</b>
		2a: Flat slabs-Shell structures, Folded plates. 2b: Portal frames space frame. 2c: Trusses, Tensile Structures.
	<b>Unit 3</b>	<b>Pre-Fabricated Construction &amp; Pre-Engineered Building</b>
		3a: New Material in Construction. 3b: Cold form sections. 3c: FRP.
	<b>Unit 4</b>	<b>Earthquake Resistant Construction Practices and Design.</b>
	a	4a: Behaviour of structures during earthquakes.
	b	4b: Retrofitting of buildings.

	c	4c: Study of case studies.		
	<b>Unit 5</b>	<b>Live Case Studies</b>		
	a	5a: Site Visit.		
	b	5b: Documentation.		
	c	5c: Report of the visit.		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
12	Text book/s*	1. Agarwal, P. and Shrikhande, M. (2010). Earthquake Resistant Design of Structures. PHI Learning Pvt Ltd. 2. Bureau of Indian Standards. (1993). Code of practice for ductile detailing of RC structures subjected to Seismic forces. IS:13920. 3. Bureau of Indian Standards. (2002). Criteria for Earthquake Resistant Design of Structures - General Provisions and Buildings. IS: 1893 (Part 1). 4. Bureau of Indian Standards. (2002). Repair and Seismic strengthening of buildings – Guidelines. IS:13935. 5. Day, R. W. (2002). Geotechnical Earthquakes Engineering Hand Book. New Delhi : Tata McGraw-Hill. 6. Hayder, A. R. (2014). Strengthening Design of Reinforced Concrete with FRP. CRC Press.		
13	Other References			

# SEMESTER II

**MAJ ...: Research Methodology**

<b>School: SUSAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: II</b>
1	Course Code	<b>MAJ</b>
2	Course Title	<b>Research Methodology</b>
3	Credits	3
4	Contact Hours (L-P-S)	3-0-0
5	Course Status	Compulsory
6	Course Objective	After successful completion of this course, the student should be able to: define the necessity of appropriate research. understand with the methods of conducting research. know the technical writing.
7	Course Outcomes	CO1: to <b>recognize</b> the subjective and objective aspects of research CO2: to <b>identify</b> objectives and working out methodologies CO3: to <b>relate</b> to and analyse the structure of a research paper CO4: to <b>compose</b> the research in a clear and concise format easily accessible to a range of readers. CO5: to <b>develop</b> writing skills for research proposal (grants)
8	Course Description	This course aims to prepare the students to research in the field of architecture. They are familiarized with academic writing standards and ethical aspects of academic research.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Foundations of Research</b>
		1a: Meaning, Motivation, Utility of research in architecture
		1b: Objective and characteristics of research
		1c: Research and the scientific method
	<b>Unit 2</b>	<b>Types of Research</b>
		2a: Descriptive vs Analytical Research
		2b: Applied vs Fundamental Research
		2c: Review of projects of design complexity, involving themes, subthemes and architectural expression
	<b>Unit 3</b>	<b>Tools and Techniques</b>
		3a: Used for collecting data (observational studies, surveys, interviews) and analyzing data.
		3b: Multivariate analysis and software applications) for different research methods
		3c: Software for paper formatting, Software for detection of Plagiarism
	<b>Unit 4</b>	<b>Literature Review</b>
		4a: Need and process of literature review
		4b: Style of referencing and bibliography
		4c: Literature review writing

<b>Unit 5</b>		<b>Citation Methods and Rules</b>		
		5a: Footnote, text note, endnote		
		5b: Bibliography		
		5c: Citation rules: MLA, APA, Chicago, Blue Book, OSCOLA		
10	Mode of examination	Theory		
12	Weightage Distribution	CA 30%	MTE 20%	ETE 50%
13	Text book/s*	1. Ross, R., "Research: An Introduction", Barnes and Noble Books. 2. Khanzode, V. V., "Research Methodology – Techniques and Trends", APH Publishing. 3. Kothari, C. R., "Research Methodology – Methods and Techniques", New Age International. 4. Knight, A. and Ruddock, L., "Advanced Research Methods in Built Environment", John Wiley & Sons.		
14	Other References			

**MAR ---: Theory of Landscape Architecture**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch.</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: II</b>
1	Course Code	<b>MAA 213</b>
2	Course Title	<b>Theory of Landscape Architecture</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	<b>Compulsory</b>
6	Course Objective	1.The objective of this course is to familiarize the students with basic concepts of Landscape Architecture. 2.To sensitize the students with the status of landscape resources available in the world.
7	Course Outcomes	CO1: To <b>understand</b> the role of Landscape Architecture. CO2: To <b>demonstrate</b> the principal and element of landscape architecture. CO3: To <b>analyse</b> the importance of Site Planning principal with social aspect. CO4: To <b>assess</b> different drafting methods and techniques. CO5: To <b>describe</b> the Indian forest and their management.
8	Course Description	To understand the various landscape design techniques and acquire a practical knowledge of landscape.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction, principal and element</b>
		a.Introduction of landscape architecture. Discuss the role and scope of landscape architecture now a day in India. b.Introduction of elements of Landscape architecture - Natural elements, design elements c.Introduction of principal of landscape architecture.
	<b>Unit 2</b>	<b>Importance of site planning</b>
		a.Understanding site planning principles b.Understanding the process of conceptual design, design development and construction documentation. c.Preparation of schematic design set.
	<b>Unit 3</b>	<b>Drafting Techniques</b>
		a.Graphics Techniques for making landscape drawings –

		representation of landscape architecture. b. Conventional symbols in landscape presentations. c. Selection criteria of plants on the basis of visual, functional, micro climate and ecological aspects.		
	<b>Unit 4</b>	<b>Overview of Indian forest</b>		
		a. Forest types of India; introduction to Forest Policy and management of forest resources. b. National Environment Policy. c. Overview of landscape resources at the national level.		
	<b>Unit 5</b>	<b>Soil and water management</b>		
		a. Wetlands: definition, wetland values and conservations. Wastelands management. b. Land reclamation and rehabilitation. Watersheds and the importance of watershed management. c. Vegetative and agronomic measures in soil and water conservation.		
10	Mode of examination	Theory		
11	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
12	Text book/s*	<b>Reference-Books</b> <ol style="list-style-type: none"> <li>Schaal, Hans Dieter (1993), New Landscape Architecture, Ernst and Sohn</li> <li>Dee, C. (2001) Form and Fabric: A Visual Introduction, London: Spon Press- Taylor and Francis Group.</li> <li>etal., A.a. (n.d) Building and Landscape.?</li> <li>G.B. Tobey (1973) A history of American Landscape architecture, American Elsevier Publishing Co., NY.</li> <li>Hill, P. (2004) Contemporary history of garden design, Birkhauser publishers.</li> <li>Jellicoe, G.a.S. (1995) The Landscape of Man, Thames &amp; Hudson Publication.</li> <li>Lehrman, J. (1980) Earthly Paradise- Garden and courtyard in Islam, Thames and Hudson.</li> <li>Maria, C.B.J. (n.d) Mastaedi Arain: Landscape Design Today, Spain.</li> <li>Newton, N.T. (n.d) Design on the Land: The Development of Landscape Architecture.</li> </ol> Repishti, P.a.F. (2003) Dictionary of today's landscape designers, Skira Editores P.A.		
13	Other References			

**MAR---: Conservation**

<b>School: SAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: II</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Conservation</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	<b>Compulsory</b>
6	Course Objective	To expose students to the multidisciplinary and interdisciplinary nature of sustainable integrated conservation as well as to stimulate and encourage intellectual enquiry and research of cultural heritage so as to ensure students develop basic knowledge on heritage protection required to function as responsible architects and urban planners in the historic environments.
6 7	Course Outcomes	CO1: Demonstrate an understanding of the history of the development the idea of conservation; CO2: Recognize and understand the range of threats to the heritage, both human and natural, as well as the various mitigating strategies; CO3: Explain the basis for the concepts, principles and ethics of conservation; CO4: To understand all the terminologies of conservation; CO5: <b>Interpret</b> information from objects by means of investigation and through policies.
8	Course Description	India is a country with its civilization dating back to thousands of years, and what is even more remarkable is that it has a vast repository of living heritage. Though the fast pace of urbanization is posing an unprecedented threat to this rare assemblage of built heritage that we have inherited. Our cities are losing their identities with this kind of development that shows no respect to the heritage. Architects as the designers and builders of the society could play a crucial role in bringing a change in the current situation.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction</b>
	a	Introduction to Conservation
	b	Understanding the concept of Conservation
	c	History of Conservation
	<b>Unit 2</b>	<b>Evolution of Conservation</b>
	a	Evolution of Conservation with respect to the Global practices
	b	Evolution of Conservation with respect to Indian Context
	c	Introduction to various terminologies in Conservation Practice
	<b>Unit 3</b>	<b>Terminologies in Conservation Practice</b>



	a	Understanding of Terms associated with Conservation like rehabilitation, redevelopment		
	b	Understanding revitalization, regeneration		
	c	Understanding the significance of Adaptive Reuse for Conservation		
	Unit 4	International Practices and Charters		
	a	Role of UNESCO and other international agencies		
	b	Study of International Charters such Venice charter, Burra charter etc.		
	c	Understanding Listings in the field of Conservation		
	Unit 5	Understanding Policies		
	a	National policy for conservation, best practices in the field of Conservation		
	b	Review of existing bylaws and conservation laws in India		
	c	Review of role of ASI, Various Agencies and their role in conservation		
	Mode of examination	Internal and External Jury		
1	Weightage Distribution	CA	MTE	ETE
0		50%	-	50%
1	Text book/s*	1: An introduction to conservation by Feildon B. M.		
1		2: Conservation of Building by I. H. Harvey. 3: A Critical Bibliography of Building Conservation By Smith I. H. 4:		
1	Other References	Internet		
2				

**MAR \_\_\_ : Theory of Urban Design**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: II</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Theory of Urban Design</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>3-0-0</b>
5	Course Status	<b>Compulsory</b>
6	Course Objective	<ol style="list-style-type: none"> <li>1. To introduce and enable understanding various aspects of urbanism through historical and theoretical perspectives.</li> <li>2. To understand issues of contemporary urban form.</li> <li>3. To study about urban design interventions</li> </ol>
7	Course Outcomes	<p>CO1: <b>Interpret</b> the nature of the city form through historical development theories &amp; examples of traditional attempts of urban design</p> <p>CO2: <b>Analyse</b> factors influencing the evolution of cities and the background of Urban Design and various forces that played a crucial role in the evolution of cities</p> <p>CO3: <b>Examine</b> the issues of Urban Design in the present-day context of the globalized city</p> <p>CO4: <b>Assess</b> comprehensive study of urban form and urban spaces and Explore spatial, functional and historical transformation in built environments</p> <p>CO5: <b>Appraise</b> urban morphology involving studies of human environmental relationship in multiple dimensions like perceptual, social, visual, functional, philosophical, cultural and temporal dimensions in particular.</p>
8	Course Description	The overall goal of the course is to help students formulate an understanding of the urban forms and spaces. City history and theory will be examined. The contemporary needs of the society and the role of spaces will be dealt along with the need for design control.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction</b>
		1a: Introduction to origin and evolution of cities and urbanism
		1b: Historic review of the development of the urban design discipline and principles.
		1c: Introduction to urban design, relationship between urban design, architecture and urban planning objectives and scope of urban design.
	<b>Unit 2</b>	<b>Urban Form, Pattern and Spaces in History</b>
		2a: Review of urban forms, patterns and spaces in different periods of history viz. ancient river valley civilization, Greek, Roman.
		2b: Review of urban forms, patterns and spaces in Renaissance, Baroque, post industrial revolution period in Europe and India and

		their influencing factors..		
		2c: Review of urban forms, patterns and spaces in India and their influencing factors		
	<b>Unit 3</b>	<b>Elements of Urban Environment</b>		
		3a: Introduction of Elements of urban design, urban morphology, urban form, urban mass, urban space..		
		3b: Some basic urban design principles and techniques. townscape		
		3c: Urban form, , Urban spaces, streetscapes, Building forms and facades, public art		
	<b>Unit 4</b>	<b>Concepts of Urban Design</b>		
		4a: Public perception; Imageability and townscape; Sense of place.		
		4b: Modern examples of urban settlements, town centers and urban spaces in India		
		4c: Modern examples of urban settlements, town centers and urban spaces ( International)		
	<b>Unit 5</b>	<b>Contemporary Processes in Urban Design</b>		
		5a: Salient urban design paradigms, principles, tools and techniques.		
		5b: Contemporary Processes in Urban Design- Place making in the Digital Age. Reconfiguring Public realm		
		5c: Case study / appraisal of an Urban center / central business district /Town center in view of the above issues related to Urban Design		
10	Mode of examination	Theory/Jury		
11	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
12	Text book/s*			
13	Other Reference	1. A.E.J. Morris, History of Urban Form before the Industrial Revolution, Prentice Hall 1996 2. Edmund Bacon, Design of Cities , Penguin, 1976 3. Gordon Cullen, The Concise Townscape, The Architectural Press, 1978 4. Kevin Lynch, Image of the City, MIT Press 1960. 5. Christian Norberg Schulz- Towards a Phenomenology of Architecture, Rizzoli New York, 1980 6. Jonathan Barnett, An Introduction to Urban Design 7. Gosling and Maitland, Urban Design, St. Martin's Press, 1984 8. William J. Mitchell, City of Bits: Space, Place and the infobahn, MIT Press, 1996. 9. Charles Correa, Housing and Urbanisation, Thames and Hudson, 1999 10. Donald Appleyard, Kevin Lynch, John R. Myer, The View from the Road, MIT Press 1965 11. Peter Calthorpe, The Next American Metropolis, Princeton Architectural Press, 1993 12. Thomas A, Horan, Digital Places: Building our city of bits, Urban Land Institute, 2000 13. Tridib Banerjee, Anastasia Loukaitou- Sideris, Companion to Urban Design, Routledge 2014 14: Design of cities Bacon, By Edmund. Publisher N Thames and Hudson Ltd. London.		

	<p>15: Emerging Concepts in Urban Space Design By Broadbent. G . Publisher Van Nostrand Reinhold N Y 16: Concept of Urban Design By Gosling D &amp; Mattes . 17: Urban Design The Architecture of Towns and Cities, By Sprieregen Paul D. 18: Pattern Language series by Christopher Alexander. Williams,D. (2007).</p>
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**MAR: Laws, Acts and Governance**

<b>School: SAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: II</b>
1	Course Code	<b>MAR</b>
2	Course Title	<b>Laws, Acts and Governance</b>
3	Credits	3
4	Contact Hours (L-P-S)	3-0-0
Course Status		Compulsory
5	Course Objective	After successful completion of this course, students should be able to acquire a comprehensive base of knowledge required to understand & apply the norms for undisputed architectural practice across the world.
6	Course Outcomes	CO1: To <b>build</b> knowledge of the profession and practice of architecture. CO2: Show <b>understanding</b> of profession of architecture, and required training for a career in architecture, through research projects, and testing. CO3: <b>Demonstrate</b> understanding of various laws and policies. CO4: To <b>interpret</b> the role of professional and statutory bodies. CO5: To <b>develop</b> understanding of different laws related to the profession.
7	Course Description	Professionals are required to discharge their obligations and commitments diligently and befitting with quality and standards of services. The laws of the land mandate that the professionals should provide services to the consumers in a required manner exercising duty of care and while doing so they should not commit any negligent act. In order to protect the interest of the consumers against the breach of duty, the deficient services have been defined by the statute and legal actions have been initiated on the erring professionals. The services rendered by architects have also been covered by the relevant laws of the country.
8	Outline syllabus	
	<b>Unit 1</b>	<b>Town Planning Acts of Urban Development ministry of States &amp; Central Government.</b>
		1a: An overview of the Town Planning Acts of Urban Development ministry of States & Central Government. The rules and regulations for Development Control and the principles behind the framing of these.
		1b: Regional Plan, Development Plans, at State, District, Urban agglomeration, Municipal Corporations & Councils, Improvement trusts, & Regional Development Authorities, CRZs, etc.
		1c: Procedures for formulations, Implementation and applying for Approvals at various levels.

	<b>Unit 2</b>	<b>Roles and Duties in Architectural Profession</b>		
		2a: Architects office and office Management. Interaction with the consultants.		
		2b: Design Management Issues. Role & Duties of Architect as an Employer or Employee.		
		2c: International Architectural practice and role of Various Statutory / Regulatory bodies in licensing like RIBA, AIA, etc.		
	<b>Unit 3</b>	<b>An overview of the Architects Act 1972 in India &amp; COA.</b>		
		3a: 1972 in India – Scope of work, Professional conduct, Scale of fees, etc.		
		3b: Architect’s Professional liabilities and responsibilities		
		3c: Architectural Competitions. Registration and continuation of registration of COA.		
	<b>Unit 4</b>	<b>Rules and Regulations</b>		
		4a: Development Control Rules, RP, DP, at State, District, Urban agglomeration, Local planning Authorities, CRZs, etc.		
		4b: Various Acts related to Planning: Fire Precaution Act; Heritage Law; Factory Act; Land Acquisition Act Etc.		
		4c: An overview of various Acts relevant to the Architectural profession: like Indian Contract Act, Environment related laws, etc.		
	<b>Unit 5</b>	<b>Regulations, Conditions and requirements of qualification, equivalence etc. for International practice.</b>		
		5a: Regulations for International practice in countries other than India like: USA, UK, Europe, Gulf countries, Asian countries etc.		
		5b: Conditions and requirements of qualification, equivalence etc. for International practice in countries other than India like: USA, UK, Europe, Gulf countries, Asian countries etc.		
		5c: Role & Duties of International Architectural practice		
9	Mode of examination	Theory		
10	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
11	Text book/s*	1: COA Handbook of Professional Documents 2009 2: Maharashtra Regional Town Planning Act 1966 3: Professional Practice By Roshan Namavati 2005 Lakhani Book Depot 4: Professional Practice By Madhav Deobhakta		
12	Other References			

**MAR --- : Design Studio – II (Conservation OR UD)**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2021-22</b>
<b>Branch: General</b>		<b>Semester: II</b>
1	Course Code	<b>MAR-</b>
2	Course Title	<b>Design Studio – II (Conservation or UD)</b>
3	Credits	8
4	Contact Hours (L-P-S)	0-0-8
5	Course Status	Compulsory
6	Course Objective	<p>To impart to the student a basic knowledge of urban design elements, site analysis, concept development, and applied principles and techniques of urban design.</p> <p>To develop awareness in physical context about implications of limited sources in design decision making.</p> <p>To generate and implement the language of city spaces, plazas, public buildings, contextual impact in Urban design.</p> <p>To recognize, design and develop the area selected through different Urban design elements</p> <p>To engage in architectural design in the context of the city.</p>
7	Course Outcomes	<p>After completion of this course the student will be able to</p> <p>CO1. <b>Understand</b> and critically appraise the city through the lens of Policies, Urban Design and allied domains.</p> <p>CO2. <b>Analyze</b> the complex urban systems and develop sustainable strategies for the city.</p> <p>CO3. <b>Tabulate</b> the appropriate graphical tools, research methods and representation techniques to demonstrate both analytical and proposed projects for the city.</p> <p>CO4: <b>Demonstrate</b> the advance Urban Design fundamentals of building massing, public space formulation, street/transport design and landscape through design project.</p> <p>CO5: Student should <b>formulate</b> the interconnectivity and interdependency of various elements of Urban Design through Design tools.</p> <p>CO6: <b>Summarize</b> the knowledge and understanding of skills learnt in the form of proposals.</p>
8	Course Description	<p>The aim of the course is to encourage intensive design work on important contemporary urban and development challenges, to develop both practical skills and critical thinking. To create an understanding of the role of various physical, social, economic and infrastructural components and decision-making processes; the contribution of related disciplines associated with the production of the city. The studio engages with a morphological and image structure survey / analysis of a selected part of a traditional urban area with detailed studies of urban landscape and streetscape. It should help in the formulation of urban intervention and frame</p>

		urban design proposals for the area. The presentation of final proposals would be with three-dimensional models and sketches.	
9	Outline syllabus		
	<b>Unit 1</b>	<b>Introduction to Urban Design</b>	
	A	Introduction to Urban Design, Urban design Vocabularies with examples from local cities	
	B	Introduction to different approaches in Urban Design	
	C	Introduction to all the tools required for documentation, Qualitative survey tools and techniques.	
	<b>Unit 2</b>	<b>Documentation of the Precinct</b>	
	A	Understanding the methods of documentation, Graphics for Urban design for representation purpose	
	B	Documenting the layers of a precinct, Principles of Urban conservation.	
	C	Understanding the Context and Master Plan Proposal	
	<b>Unit 3</b>	<b>Issue Identification</b>	
	A	Analyzing the precinct, Cultural, historical, social, political analysis and studies	
	B	Indian and International case studies related to the project: Drawing Inferences after SWOT Analysis	
	C	Identification of Issues	
	<b>Unit 4</b>	<b>Vision Statement</b>	
	A	Vision Statement	
	B	Concept of Urban renewal, regeneration, restoration, preservation, conservation charters and philosophies, Place making.	
	C	Convergence with Govt. Proposals	
	<b>Unit 5</b>	<b>Design Intervention</b>	
	A	Converting the vision statement into proposal	
	B	Presentation Techniques in Urban Design	
	C	Compiling the entire portfolio	
10	Mode of examination	Jury	
	Weightage Distribution	CA	ETE
		50%	50%
	Text book/s	1. A.E.J. Morris, History of Urban Form before the Industrial Revolution, Prentice Hall 1996 2. Edmund Bacon, Design of Cities , Penguin, 1976 3. Gordon Cullen, The Concise Townscape, The Architectural Press, 1978 4. Kevin Lynch, Image of the City, MIT Press 1960. 5. Christian Norberg Schulz- Towards a Phenomenology of Architecture, Rizzoli New York, 1980 6. Jonathan Barnett, An Introduction to Urban Design 7. Gosling and Maitland, Urban Design, St. Martin's Press, 1984 8. William J. Mitchell, City of Bits: Space, Place and the infobahn, MIT Press, 1996. 9. Charles Correa, Housing and Urbanisation, Thames and Hudson,	



		<p>1999 10. Donald Appleyard, Kevin Lynch, John R. Myer, The View from the Road, MIT Press 1965</p> <p>11. Peter Calthorpe, The Next American Metropolis, Princeton Architectural Press, 1993</p> <p>12. Thomas A, Horan, Digital Places: Building our city of bits, Urban Land Institute, 2000</p> <p>13. Tridib Banerjee, Anastasia Loukaitou- Sideris, Companion to Urban Design, Routledge 2014</p> <p>14: Design of cities Bacon, By Edmund. Publisher N Thames and Hudson Ltd. London.</p> <p>15: Emerging Concepts in Urban Space Design By Broadbent. G . Publisher Van Nostrand Reinhold N Y</p> <p>16: Concept of Urban Design By Gosling D &amp; Mattes .</p> <p>17: Urban Design The Architecture of Towns and Cities, By Sprieregen Paul D.</p> <p>18: Pattern Language series by Christopher Alexander. Williams,D. (2007). 'Sustainable Design: Ecology, Architecture &amp; Planning'. New Jersey: John Wiley &amp; Sons</p> <p>2. Krier, R.(1967). 'Urban Space'. Academy Editions: London</p> <p>3. Koenigsberger, et.al (1984), 'Manual of Tropical Housing &amp; Building: Part I - Climatic Design', Chennai :Orient Longman</p> <p>4. Martin. E. (1980). 'Housing, Climate and Comfort'. The Architectural Press: London</p> <p>5. Correa, C. (2010). 'A Place in the Shade: The New Landscape &amp; Other Essay'. India: Penguin Books</p> <p>6. Correa,C. (2000). 'Housing and Urbanization'. Thames and Hudson :London</p> <p>7. Rewal, R. (2000). 'Humane Habitat at Low Cost: CIDCO, Belapur'. New Mumbai</p> <p>8. Bacon, E. N. (1995). 'Design of cities'. Thames and Hudson</p> <p>9. Giedion, S. (1952). ' Space, Time and Architecture: The Growth of a New Tradition'. Harvard University Press</p> <p>10. Bentley, I. (2001). 'Responsive Environments'. London: Architectural Press</p> <p>11. Mumford, L. (1966). 'The city in history: Its origins, its transformations, and its prospects, with 64 plates'. Penguin Books in association with Secker and Warburg</p> <p>12. Rowe, C., &amp; Koetter, F. (2009). 'Collage City'. Birkhäuser: MIT Press</p> <p>13. Larice, M. &amp; Macdonald, E. (eds) (2013). 'The Urban Design Reader'. New York: Routledge.</p> <p>14. Carmona,M.et.al,(2002). 'Public Places Urban Spaces Dimensions of Urban Design'. London: Architectural Press</p> <p>15. Lynch, K. (1960). 'Image of the City' . MIT Press</p> <p>16. Spreiregen , P.D. (1965). 'Urban Design: The Architecture of Towns &amp; Cities'.the university of Michigan: McGraw-Hill</p>
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**MAJ --- : Digital Design Fabrication-Parametric**

School: SUSAP		<b>Batch: 2021-2023</b>
Program: M. Arch		<b>Current Academic Year: 2021-22</b>
Branch: General		<b>Semester: II</b>
1	Course Code	<b>MAJ</b>
2	Course Title	<b>Digital Design Fabrication-Parametric</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>0-0-3</b>
5	Course Status	<b>Compulsory</b>
6	Course Objective	<p>1.To provide a detailed <b>Knowledge</b> of “parametric design” and embedded logic behind it through series of tutorials of design exploration using Rhinoceros and Grasshopper.</p> <p>2. To <b>develop</b> understanding of key phenomena and concepts in the field of form finding are introduced and analyzed.</p> <p>3. The subject has been structured to <b>familiarize</b> students with effective and efficient use of Rhinoceros and Grasshopper as a Parametric designing tool.</p> <p>4. The aim of the course is to develop a <b>Knowledge and Understanding</b> of computational design beyond the specifics of techniques and tools, and a critical, self-awareness of our own approaches and metaphors for computation and design.</p>
7	Course Outcomes	<p>CO1: <b>Understanding</b> of what characterizes central technologies in parametric designing. Also, understand theories behind computational thinking.</p> <p>CO2: Students will be able to classify the forms of computational thinking and <b>Apply</b> their use in the field of design. Students will be able to experience parametric and relational thinking in design.</p> <p>CO3: Students will be able to gather information about various digital tools used in architectural design. Students will be able to <b>Analyze</b> necessary fundamental skills for digital design tools and practices.</p> <p>CO4: <b>Formulate</b> a prototype using fabrication material.</p> <p>CO5: <b>Develop</b> understanding of various computational design applications.</p>
8	Course Description	<p>This course is a hands-on exploration and apprenticeship in the art and process of parametric designing. The course will provide students with the knowledge to use computational tools like Rhino and Grasshopper in a more effective manner for designing. The course will assist students in developing computational thinking and logic.</p> <p>The future is present in the now. It is a magical time that we must take advantage of.</p>
9	Outline syllabus	

	<b>Unit 1</b>	<b>Introduction to Advance 3D Modeling using Rhino</b>		
		1a - Introduction to Rhino 1b - User Interface and basic working 1c - Nurbs transformational tools		
	<b>Unit 2</b>	<b>Design development process</b>		
		2a - Modifiers 2b - Creating 3D Model using Advance Modifiers 2c - Texture & Light		
	<b>Unit 3</b>	<b>Introduction to Grasshopper</b>		
		3a - Basics of Grasshopper 3b - Grasshopper-2 3c - Grasshopper with Rhino		
	<b>Unit 4</b>	<b>Using Grasshopper for the Form Finding</b>		
		4a - Understanding of Data-Tree 4b - Working with Plugins within grasshopper environment for design exploration 4c - Introduction to Kangaroo and Different systems types using grasshopper		
	<b>Unit 5</b>	<b>Advance Grasshopper and Rendering</b>		
		5a - Digital Fabrication Introduction 5b - Working with Prototypes & fabrication materials 5c - Final Project		
10	Mode of examination	Jury		
11	Weightage Distribution	CA	MTE	ETE
		50%	0%	50%
12	Text book/s*	<ol style="list-style-type: none"> <li>1. Simplified Complexity. Method for Advanced NURBS Modeling - by Giancarlo Di Marco</li> <li>2. Grasshopper: Visual Scripting for Rhinoceros 3D - by David Bachman</li> <li>3. AAD, Algorithms-aided Design: Parametric Strategies Using Grasshopper - by Arturo Tedeschi and Stefano Andreani</li> <li>4. Inside Rhinoceros 6 - by Ron K.C. Cheng</li> </ol>		
13	Other Reference			

# SEMESTER III

**MAA 204: Contemporary Architecture**

School: SU SAP		<b>Batch : 2021-23</b>
Program: M. Arch		<b>Current Academic Year: 2021-22</b>
Branch: General		<b>Semester: III</b>
1	Course Code	<b>MAA204</b>
2	Course Title	<b>Contemporary Architecture</b>
3	Credits	<b>2</b>
4	Contact Hours (L-P-S)	<b>2-0-0</b>
5	Course Status	<b>Elective</b>
6	Course Objective	After successful completion of this course, student should be able to: <ul style="list-style-type: none"> <li>• Develop an awareness of the reasons for contemporary architectural theories.</li> <li>• Acquire an in depth knowledge of contemporary architectural trends , study the works of architects practicing in definable style of contemporary architecture</li> </ul>
7	Course Outcomes	CO1: Identify Architectural trends within specified context CO2 : Illustrate the influencing factors in contemporary architecture CO3 : Explain the digital technologies and applications CO4 : Analyze the application and impact related to sustainability in environment CO5 : Hypothesize the examples of modern structures in the 20 <sup>th</sup> century.
8	Course Description	
	Outline syllabus	
	Unit 1	<b>Evolution of Architectural trends</b>
	1a	Formal and the informal built-form
	1b	Manifestations and significant theories
	1c	Styles as classified later in history
	Unit 2	<b>Influencing factors in contemporary Architecture.</b>

	2a	Modern structures of 20 <sup>th</sup> century , analysis and influence		
	2b	Advances in Construction Technology		
	2c	New materials of construction		
	Unit 3	<b>Influencing factors in the shaping of contemporary architecture</b>		
	3a	Advances in Digital Technology		
	3b	Use of digital technology in visualization		
	3c	Simulation and application techniques		
	Unit 4	<b>Analysis of contemporary design</b>		
	4a	Awareness and application of sustainability		
	4b	Impact on environment.		
	4c	Architectural expression		
	Unit 5	<b>Analysis of contemporary design</b>		
	5a	Analysis of contemporary design – study of examples of modern structures of 20 <sup>th</sup> century and analysis of the influences with respect to - awareness and application of sustainability and impact on environment.		
	5b	Analysis of contemporary design – study of examples of modern structures in this period and analyse the influences with respect to – Architectural expression influenced by vernacular and regional Architecture.		
	5c	Analysis of contemporary design –study of examples of modern structures and analyze the influences with respect to –Architectural expression influenced by world as a global village		
9	Mode of examination	<b>Theory</b>		
10	Weightage Distribution	CA	MTE	ETE
		30%	20%	50%
11	Text book/s*	The language of post modern Architecture, by Charles		
12	Other References			

**MAJ 201- Design Studio-III**

School: SUSAP		<b>Batch : 2021-23</b>
Program: M. Arch		<b>Current Academic Year: 2021-22</b>
Branch: General		<b>Semester: III</b>
1	Course Code	<b>MAJ 201</b>
2	Course Title	<b>Design Studio-III</b>
3	Credits	<b>12</b>
4	Contact Hours (L-P-S)	<b>2-2-6</b>
	Course Status	Compulsory
5	Course Objective	1. Exploring and designing for city level 2. Understanding the language of city spaces, plazas, etc in architectural design 3. Learn about the different elements of urban design
6	Course Outcomes	CO1:students should develop skills of drawing and representation CO2: to assimilate learning of graphics, construction, structures and computers to apply to basic design. CO3: Explore creative processes and idea generation and demonstrate critical evaluation of these processes in their projects. CO4:Appraise how design can impact, interact with, and improve environments CO5: Understand spaces with three-dimensional visualization through the use of block models and appropriate softwares.
7	Course Description	Architectural Design Project of a large magnitude in one of or similar categories of building typology emphasizing on need of Advance construction techniques and using modular co-ordination, pre-fabricated elements and technology.
8	Outline syllabus	
	<b>Unit 1</b>	Design Problem
	A	Introduction to Project
	B	Form and material based investigation
	C	Understanding spatial aspects based on activity, space, form and human scale
	<b>Unit 2</b>	Literature & Case Study
	A	Pre design study-Case study
	B	Pre design study -Literature Study, Site Analysis.
	C	Functional standards.
	<b>Unit 3</b>	Concept Development
	A	Concept formulation and idea investigation

	B	Preparation of design requirements, area requirements based on standards and their interrelation and circulation patterns.		
	C	Concept Formulation, Bubble Diagram and activity zoning.		
	<b>Unit 4</b>	Design Development		
	A	Design development- site development		
	B	Design development- floor Plans		
	C	Design development- sections and elevations		
	<b>Unit 5</b>	Design Presentation		
	A	Design sheets presentation		
	B	Model making on appropriate scale		
	C	Final portfolio submission		
	Mode of examination	Theory		
	Weightage Distribution	CA	MTE	ETE
		60%	0%	40%
	Text book/s*			
	Other References			



**MAJ 202 –Architectural Dissertation –I**

School: SUSAP		<b>Batch : 2021-23</b>
Program: M. Arch		<b>Current Academic Year: 2021-22</b>
Branch: General		<b>Semester: III</b>
1	Course Code	<b>MAJ 202</b>
2	Course Title	<b>Architectural Dissertation -I</b>
3	Credits	<b>5</b>
4	Contact Hours (L-P-S)	<b>2-2-2</b>
	Course Status	Compulsory
5	Course Objective	After successful completion of this course, student should be able to: Acquire a comprehensive base of knowledge required to understand & apply the principles, techniques and relevant guidelines for planning and design of resource-conserving architecture.
6	Course Outcomes	CO1: Identify a meaningful area/topic of study. CO2 : Construct a logical description CO3 : Summarize works of scholars.  CO4 : Apply skills learnt to prepare study report independently.
7	Course Description	Students may choose a topic related to architecture and allied subjects. The topics must be vetted by the faculty. Emphasis must be on critical understanding, logical reasoning and structured writing. By the end of the semester , students are expected to submit a written report of approximately 8000 words wherein standard referencing conventions and technical writing norms must be adhered to. Students are expected to present the progress of the study at various stages of the semester. Final assessment of the student work may be based on written report as well as oral communication. However, greater weight age may be given for writing skills and research content of the study .
8	Outline syllabus	
	<b>Unit 1</b>	<b>Introduction to Dissertation</b>
		a) Statement of the problem.
		b) Purpose of the study
		c) Significance of the study.
	<b>Unit 2</b>	<b>Literature Review</b>
		a) Identify and group together common areas.
		b) Compare, contrast and evaluate issues.
		c) Demonstrate why the topic and research is relevant to your

		field of study.		
	<b>Unit 3</b>	<b>Methodology</b>		
		a) Sample		
		b) Data collection		
		c) Data analysis		
	<b>Unit 4</b>	<b>Implications and Limitations of study</b>		
		a) Identifying the limitations and how important each limitation is.		
		b) Explaining the nature of limitations.		
		c) Suggesting how such limitation could be overcome		
	<b>Unit 5</b>	<b>Implications and Recommendations</b>		
		a) Specific measures or directions that can be taken		
		b) Critical suggestion regarding the best course of action in a certain situation		
		c) <i>Guide to resolve issues and result in a beneficial outcome</i>		
9	Mode of examination	Jury: Discussion based continuous evaluation, Research Report Presentation		
10	Weightage Distribution	CA	MTE	ETE
		50%	-	50%
11	Text book/s*			

**MAJ 203: Design Technology And Sustainability**

School: SAP		<b>Batch : 2021-23</b>
Program: M. Arch		<b>Current Academic Year: 2021-2022</b>
Branch: General		<b>Semester : III</b>
1	Course Code	<b>MAR 203</b>
2	Course Title	<b>Design Technology and Sustainability</b>
3	Credits	<b>3</b>
4	Contact Hours (L-P-S)	<b>2-2-0</b>
5	Course Status	Compulsory
6	Course Objective	The course aims to explore on interpretations of sustainability in and around architecture and urban design, at varying scales in built environment, to propose new ideas and dimensions, more conscious of resource use, ecological balance and minimizing environmental impact through design work and technological applications.
7	Course Outcomes	CO1: Interpretations of sustainability in architecture and urban design. CO2: Research and review of literature on any chosen domain in sustainable built environments CO3: Critical evaluation of selected case studies identifying design and technological issues and interventions CO4: Formulation of design ideas/proposal/interventions, technological applications and/or managerial strategies for a selected project/case and sustainability evaluation CO5: Development of the design proposal for execution/ implementation CO6: Presentation and reporting of the final design for sustainability
8	Course Description	The course investigates how the notion of sustainability is conceptualized, interpreted and implemented in the broadest sense - from the macro scale of urban form through the building scale, to the micro level of materials and technology. Case studies are identified, investigated and analysed. Students will propose their own solutions as part of the final project. The course will be collaborative and will develop as a forum where students and faculty will engage both in investigative analysis as well as design studies of a speculative nature.
9	Outline syllabus	
	<b>Unit 1</b>	<b>Current interpretation of sustainability</b>
	A	a) Introduction to the topic - Questioning and exploring some of the multitude of interpretations of 'sustainability' in built environment.
	B	b) Research the sustainability issue in any one aspect of built environment through a review of current literature, publications, web sites, assessment methods, products
	C	c) Presentation of interpretation of sustainability study
	<b>Unit 2</b>	<b>Critical Case study (strategies/ processes/projects/technologies)</b>
	A	a) Selection of any sustainable domain for research. Define scope of study. Collect relevant material.
	B	b) Compare, contrast and evaluate issues in the studies from sustainable point of view as interpreted

C	c) Presentation of such studies and lessons learnt		
<b>Unit 3</b>	<b>Design study for a selected process/project/technology</b>		
A	a) Description of the design case		
B	b) Identification of issues in sustainability		
C	c) Formulation of alternative applicable design ideas, interventions or strategies		
<b>Unit 4</b>	<b>Design ideas' Sustainability investigation</b>		
A	a) Selection of a design idea or proposal. Identifying its scope and limitations.		
B	b) Investigation of sustainability of chosen design/technology/managerial strategy		
C	c) Presenting the investigation report		
<b>Unit 5</b>	<b>Final Design Report</b>		
A	a) Presentation of proposed holistic idea /process/design/ technology with details		
B	b) Report compilation		
C	c) Report completion and submission		
Mode of examination	Jury		
Weightage Distribution	CA	MTE	ETE
	50%	-	50%
Text book/s*			
Other References	<ol style="list-style-type: none"> <li>1. Leon Glicksman, and Andrew Scott. <i>4.183 Sustainable Design and Technology Research Workshop</i>. Spring 2004. Massachusetts Institute of Technology: MIT OpenCourseWare, <a href="https://ocw.mit.edu">https://ocw.mit.edu</a>. License: <a href="https://creativecommons.org/licenses/by-nc-sa/4.0/">Creative Commons BY-NC-SA</a>.</li> <li>2. A.H. Hu, M. Matsumoto, T.C. Kuo, S. Smith (2019) <i>Technologies and Eco-innovation towards Sustainability II: Ecodesign Assessment and Management</i>, Springer, Singapore</li> <li>3. The Energy Research Institute <a href="https://www.teriin.org/">https://www.teriin.org/</a></li> <li>4. Centre for Science and Environment <a href="https://www.cseindia.org/">https://www.cseindia.org/</a></li> <li>5. <a href="https://www.epa.gov/sustainable-development">EPA Web site for Sustainable Development</a></li> <li>6. IGBC <a href="https://igbc.in/igbc/">https://igbc.in/igbc/</a></li> <li>7. Griha India <a href="https://www.grihaindia.org/#&amp;home">https://www.grihaindia.org/#&amp;home</a></li> <li>8. Sustainability assessment methodologies <a href="https://www.oecd.org/greengrowth/39925248.pdf">https://www.oecd.org/greengrowth/39925248.pdf</a></li> <li>9. Bringing Life to IDEas <a href="https://cpdm.iisc.ac.in/cpdm/ideaslab/sustainability.php">https://cpdm.iisc.ac.in/cpdm/ideaslab/sustainability.php</a></li> <li>10. Auroville Earth Institute <a href="http://www.earth-auroville.com/sustainable_development_en.php">http://www.earth-auroville.com/sustainable_development_en.php</a></li> <li>11. Building Material and Technology Promotion Council <a href="http://mohua.gov.in/cms/BMTPC.php">http://mohua.gov.in/cms/BMTPC.php</a></li> <li>12. Development Alternatives <a href="https://www.devalt.org/">https://www.devalt.org/</a></li> </ol>		

# SEMESTER IV

**MAA 213: Theory Of Landscape Architecture**

<b>School: SUSAP</b>		<b>Batch : 2021-2023</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2020-2021</b>
<b>Branch: General</b>		<b>Semester: IV</b>
1	Course Code	<b>MAA 213</b>
2	Course Title	<b>Theory Of Landscape Architecture</b>
3	Credits	<b>2</b>
4	Contact Hours (L-P-S)	<b>2-0-0</b>
5	Course Status	<b>Elective</b>
6	Course objective	The objective of this course is to familiarize the students with basic concepts of Landscape Architecture To sensitize the students with the status of landscape resources available in the world
7	Course Outcomes	CO1:The students shall be able to describe the role of landscape resources and biodiversity in landscape CO2:the students shall be able to explain how culture and other key elements of historical context have had an impact on designed and natural settings CO3: The students shall be able to analyze and discuss the role of natural systems in shaping the regional landscape, the role of landscape ecology in understanding these systems, and the role of impact assessment and landscape management in assuring sustainable landscape conservation and development. CO4: The students shall be able to Demonstrate an understanding of the relationships between natural processes and human interventions in the landscape, the range of scales from regional planning to garden design

		CO5: The students shall be able to describe the elements of landscape behavior and their relationship to the environment.
<b>8</b>	Course Description	This course provides students with basic knowledge of landscape architecture design theory and techniques. Concepts include site analysis, spatial considerations, planting design, user requirements and aesthetic principles.
<b>9</b>	Outline syllabus	
	Unit 1	MODULE 1
	a	Overview of landscape resources at the national level. Significance of biodiversity
	b	Settlements and Landscape: Siting and evolution of cities in relation to regional landscape resources. The role of landform
	c	Threats to urban landscape resources; urban environmental issues such as solid waste management
	Unit 2	MODULE 2
	a	The urban forest: its ecological social and environmental dimensions. Ways of studying urban vegetation. Its role in the urban landscape.
	b	Landscape heritage: Open space systems, cultural and sacred landscapes, their typology and role in the development of cities.
	c	Landscape resources specific to distinctive city types: for example: religious centres, historic cities, coastal or port cities, hill station etc.

Unit 3	MODULE 3
a	City development Plans, Zonal Plans and structure plan. Development controls and their role in the conservation and creation of urban landscape.
b	National Environment Policy. Developmental and Environmental issues associated with: mountain and hill areas; deserts and wastelands; river and aquatic systems, coastal and estuarine regions, etc.
c	The rural landscape: agriculture and forestry as competing uses, the impact of industry and power generation.
Unit 4	MODULE 4
a	Forest types of India; introduction to Forest Policy and management of forest resources.
b	Conservation Forestry, Agro-Forestry and Social Forestry.
c	Agricultural practices and the formation of traditional rural landscape. Illustrative examples from different climatic and geographic regions.
Unit 5	MODULE 5
a	Wetlands: definition, wetland values and conservations. Wastelands management.
b	Land reclamation and rehabilitation. Watersheds and the importance of watershed management.



c	Resource conservation, land capability classification; mechanical, vegetative and agronomic measures in soil and water conservation.		
Mode of examination	Theory		
Weightage Distribution	CA	MTE	ETE
	30%	20%	50%
Text book/s*	<ol style="list-style-type: none"> <li>1. Schaal ,Hans Dieter (1993) , New Landscape Architecture, Ernst and Sohn</li> <li>2. Dee, C. (2001) Form and Fabric: A Visual Introduction, London: Spon Press- Taylor and Francis Group.</li> <li>3. etal.,A.a. (n.d) Building and Landscape.?</li> <li>4. G.B.Tobey (1973) A history of American Landscape architecture, American elsevier Publishing Co.,NY.</li> <li>5. Hill, P. (2004) Contemporary history of garden design ,Birkhauser publishers.</li> <li>6. Jellico, G.a.S. (1995) The Landscape of Man, Thames &amp; Hudson Publication.</li> <li>7. Lehrman, J. (1980) Earthly Paradise- Garden and courtyard in Islam, Thames and Hudson.</li> <li>8. Maria, C.B.J. (n.d) MastaediArain: Landscape Design Today, Spain .</li> <li>9. Newton, N.T. (n.d) Design on the Land: The Development of Landscape Architecture .</li> <li>10. Repishti, P.a.F. (2003) Dictionary of today's landscape designers, SkiraEditores P.A.</li> </ol>		
Other References			

**MAJ 211– Architectural Design Thesis**

<b>School: SUSAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2020-21</b>
<b>Branch:</b>		<b>Semester: IV</b>
1	Course Code	MAJ 211
2	Course Title	Architectural Design Thesis
3	Credits	18
4	Contact Hours (L-P-S)	0-0-12
Course Status		Compulsory
5	Course Objective	<ol style="list-style-type: none"> <li>1. Identify a contextually challenging architectural design problem.</li> <li>2. Evolve strategy to evolve a good solution.</li> <li>3. Evolve present and defend the proposed design</li> </ol>
6	Course Outcomes	<p>CO1: Identify a socio economic environmental context in need of a good architectural design for a key project.</p> <p>CO2 : Construct a database design brief noted in the context and knowledge base.</p> <p>CO3 : Analyse and prioritize the process to arrive at design solution.</p> <p>CO4 : Develop and present the proposed design.</p>
7	Course Description	<p>The M. Arch program culminates in a thesis project. Under the guidance of a thesis Mentor. Students are required to formulate a cohesive thesis argument and project using supportive research and case studies and should demonstrate his ability and skills to do a critical enquiry through design. The nature of the work must be an original research or design project that involves additional learning of a substantive nature. The final proposal to be presented in appropriately rendered drawings, modules, 3D views and Report. The work must be documented with a written thesis completed to Institute specifications within the final term of the senior year.</p>
8	Outline syllabus	
	<b>Unit 1</b>	<b>Identification of the project , preparation of Synopsis</b>
		d) Introduction/Background
		e) Aims & Objective, Rationale of the topic
		f) Site Identification and justification
	<b>Unit 2</b>	<b>Literature Study , Case study</b>
		a) Identify and group together common areas.
		b) Compare, contrast and evaluate issues.

		c) Demonstrate why the topic and research is relevant to your field of study.		
	<b>Unit 3</b>	<b>Program formulation</b>		
		a) Detailed Design Program		
		b) Design Criteria / Approach specific to the topic chosen		
		c) Conceptual Design		
	<b>Unit 4</b>	<b>Design interventions</b>		
		a) Preliminary Design Drawings		
		b) Service Drawings		
		c) Landscape / Site Details		
	<b>Unit 5</b>	<b>Design Proposal and Report</b>		
		a) Detailed design proposal		
		b) Supporting literature study		
		c) All Drawings & Report		
9	Mode of examination	Jury		
10	Weightage Distribution	CA	MTE	ETE
		50%	-	50%
11	Text book/s*			
12	Other References			

**MAJ 212 – Architectural Dissertation –II**

<b>School: SUSAP</b>		<b>Batch : 2021-23</b>
<b>Program: M. Arch</b>		<b>Current Academic Year: 2020-21</b>
<b>Branch: General</b>		<b>Semester: IV</b>
1	Course Code	<b>MAJ 212</b>
2	Course Title	<b>Architectural Dissertation -II</b>
3	Credits	<b>2</b>
4	Contact Hours (L-T-P)	<b>0-4-0</b>
	Course Status	Compulsory
5	Course Objective	<p>1.To enable students to establish a strong theoretical foundation, clarity of thought and also to orient the students to structured research in a focused manner.</p> <p>2.The process of study shall enable students to conduct in-depth analysis and objective research on a topic of their interest .</p> <p>3.Students may be encouraged to select the topic which may eventually culminate in the Architectural Design Thesis in the subsequent semester.</p>
6	Course Outcomes	<p><b>CO1:</b> Define and Recognise the importance of planning and preparation of data required to undertake a research project.</p> <p><b>CO2 :</b>Develop a thorough understanding of the chosen subject area. Identify the critical data and material required to carry out the project.</p> <p><b>CO3 :</b> Demonstrate the ability to collate and critically assess/interpret data. To be performed either individually or as a teamwork</p> <p><b>CO4 :</b>Develop an ability to effectively examine and communicate knowledge in a scientific manner.</p> <p><b>CO5 :</b>Formulate the study and the inputs based on research findings.</p> <p><b>CO6 :</b>Compare the findings, assess the research as per the comments and discussions and finally submitting a complete research report/design.</p>
7	Course Description	<p>Students may choose a topic related to architecture and allied subjects. The topics must be vetted by the faculty. Emphasis must be on critical understanding, logical reasoning and structured writing.</p> <p>By the end of the semester , students are expected to submit a written report of approximately 8000 words wherein standard referencing</p>

		conventions and technical writing norms must be adhered to. Students are expected to present the progress of the study at various stages of the semester. Final assessment of the student work may be based on written report as well as oral communication. However, greater weight age may be given for writing skills and research content of the study .		
8	Outline syllabus			
	<b>Unit 1</b>	<b>Introduction to Dissertation</b>		
	a	Statement of the problem.		
	b	Purpose of the study		
	c	Significance of the study.		
	<b>Unit</b>	<b>Literature Review</b>		
	a	Identify and group together common areas.		
	b	Compare, contrast and evaluate issues.		
	c	Demonstrate why the topic and research is relevant to your field of study.		
	<b>Unit 3</b>	<b>Methodology</b>		
	a	Sample		
	b	Data collection		
	c	Data analysis		
	<b>Unit 4</b>	<b>Implications and Limitations of study</b>		
	a	Identifying the limitations and how important each limitation is.		
	b	Explaining the nature of limitations.		
	c	Suggesting how such limitation could be overcome		
	<b>Unit 5</b>	<b>Implications and Recommendations</b>		
	a	Specific measures or directions that can be taken		
	b	Critical suggestion regarding the best course of action in a certain situation		
	c	Guide to resolve issues and result in a beneficial outcome		
9	Mode of examination	Jury: Discussion based continuous evaluation, Research Report Presentation		
10	Weightage Distribution	CA	MTE	ETE
		50%	-	50%
11	Text book/s*			
12	Other References			