Master in Architecture (Architectural Education & Research)
Objective, Teaching Scheme & Syllabus

Nature of Study:

Master of Architecture (Architectural Education & Research), abbreviated as M. Arch (AER), is a Master's level degree course in architecture offered by the department of architecture, School of Built Environment, IKGPTU Mohali Campus-II. It offers specialization in architectural education & research.

This course aims to develop an effective, passionate, and motivated teachers in the field of Architectural Education, who demonstrate an innovative, reflective, and research-based approach to teaching. The course focuses on the development of holistic learning among future educators. Architecture Education is expected to feed the society with a human resource that is not just trained in Architecture Skills, but contextual and proficient for being a step ahead in steering the dynamics of creating a built environment for better living.

Vision

The vision of M. Arch (AER) prepares students as a better teacher and help architectural institutions to produce quality architects.

Mission

M. Architecture in Education and research is specially designed for a number of B.Arch students who are interested in teaching and want to contribute to expanding knowledge discipline of architecture education. Our mission is to equip our students with the best of pedagogy skills.

Program Objectives:

The objective is to offer a professional course to Architects who wish to be associated with teaching, also the course is to impart professional training in strengthening their expertise in studio-based & theory-based subjects in addition to attitude values in the students & bridge the gap between theory and practice.

Learning Outcomes:

The objectives of the program are translated into a number of learning outcomes. M. Arch (AER) Course address the Physiological, Philosophical, and Social aspects of Architecture education.

- Students will develop a good understanding of architectural pedagogy. This course is an integration of inputs from Architecture as well as from the field of education.
- To fill the gap between academics and the profession.

- Problem-solving skills, professional judgment, and ability to take the initiative and make appropriate decisions in complex and unpredictable circumstances.
- An ability to evaluate research and a variety of types of information and evidence critically.
- During the course, the students will be provided with ample opportunities to interact with the subject experts, relevant organizations.
- The course enables the students to gain real-time experience through their involvement in the ongoing or live classroom experience.

Highlights of the Scheme

M. Arch (AER) is a two-year course consisting of four semesters in regular mode & three years consisting of six semesters in the part-time mode & mix mode.

I. Regular mode - 02 years (PG Diploma Exit after 01 years)

II. Part-time mode - 03 years (PG Diploma Exit after 1.5 years)

III. Mix Mode - PG Diploma after 01 years of study in regular mode and M. Arch (AER) in another 1.5 years in Part-Time mode. the second year in part-time mode.

The teaching curriculum involves a thorough understanding of fundamentals, contemporary trends, and teaching methods in Architecture Pedagogy, with an enhanced emphasis on design. The curriculum helps to develop aspects of critical thinking & inquiry, creativity & innovation, research and investigation, collaboration & civic engagement, and environmental awareness among others. Students learn under supervised teaching experience, engagement through an active and diverse curriculum, and independent research projects in consultation with faculty members. Rigorous exercises are carried out on current trends in Architecture, Research, and Pedagogical processes so that the students develop a knowledge base and a personality well equipped to train the budding Architects.

The broad course structure is as follows:

The **first semester** is focused on the Architecture education scenario in India. It introduces the fundamentals of various aspects of architecture education, such as contemporary architecture, educational technology, research methodology-I, professional electives, and provision of MOOC'S courses. The studio focuses on understanding the current status of architecture education & its background and also focusing on social perception towards architects and architecture.

The **second semester** focuses on curriculum design and consists of related subjects, such as contemporary architecture II, the psychology of teaching and learning, architecture research methodology. It offers electives as well as MOOCs out of which students are expected to choose one. (as recommended by UGC under choice-based credit system).
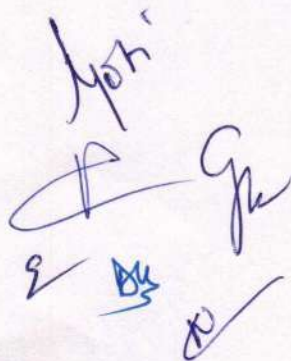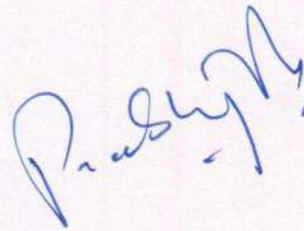
The **third semester** focuses on the Role & Responsibility of Statutory Bodies related to education. Subjects offered in this semester are dissertation – I, instructional methods, professional electives, and open electives.

In the **fourth semester**, students would be required to undertake a thesis and institutional internship.

Each course is divided into four sections consisting of the detail, objective, units, and suggested readings. The subject syllabus is broken into progressive sections through the units, However, it may be noted that the syllabus covered is not exhaustive and the individual subject teacher may augment the syllabus as per the requirement. It is kept dynamic intentionally to address the changing needs of the program. In such cases, prior concurrence of the Head of the Department is necessary. However, the focus of teaching will revolve around looking critically and objectively at the 'Best Practices' being used at the local and global level

The syllabus is designed to develop the strong communication, interpersonal, advocacy, and analytical skills of the student. The subject faculty are encouraged to assess the student's progress throughout the semester through seminars, debates, group discussion /individual presentations, term papers, written exams (open or closed book), take-home exams, report submissions, viva voce, etc.

Options of delivering M.Arch (AER) Course in various mode

A- In regular mode
B- In Part time mode
C- In mix mode

(Note- The academic regulation for PG Program in Architecture defines the mid level exit and re-entry options to the students)

Sr. No.	Subject	Credit	A: Regular mode				B: Part Time mode						C: PG diploma in Regular mode and Stage-II in Part time mode				
			1 July (Stage-I)	2 Jan (Stage-I)	3 July (Stage-II)	4 Jan (Stage-II)	1 July (Stage-I)	2 Jan (Stage-I)	3 July (Stage-I)	4 Jan (Stage-I)	5 July (Stage-II)	6 Jan (Stage-II)	1 July (Stage-I)	2 Jan (Stage-I)	3 July (Stage-I)	4 Jan (Stage-II)	5 july (Stage-II)
1	Studio	18	6	6	6	-	4	4	4	3	3	-	6	6	3	3	-
2	Contemporary Arch	3	3	-	-	-	3	-	-	-	-	-	3	-	-	-	-
3	Architecture Appriciation	3	-	-	3	-	-	-	-	-	3	-	-	-	3	-	-
4	Education Technology	3	3	-	-	-	3	-	-	-	-	-	3	-	-	-	-
5	Research Method	3	3	-	-	-	-	-	3	-	-	-	3	-	-	-	-
6	Psychology of Teaching	3	-	3	-	-	-	3	-	-	-	-	-	3	-	-	-
7	Arch Research Method	3	-	3	-	-	-	-	-	3	-	-	-	3	-	-	-
8	Instruction Methods	3	-	-	3	-	-	-	-	-	3	-	-	-	3	-	-
9	Professional Elective / MOOC	9	3	3	3	-	3	3	3	-	-	-	3	3	3	-	-
10	Open Elective / MOOC	3	-	-	3	-	-	-	-	-	3	-	-	-	-	-	3
11	Education Tour/ summer training/Vacation work	1	-	-	1	-	-	-	1	-	-	-	-	-	1	-	-
11	Teaching / institution Practice	5	-	-	-	5	-	-	-	5	-	-	-	-	-	5	-
12	Dissertation-I (Term Paper)	3	-	3	-	-	-	-	3	-	-	-	-	3	-	-	-
13	Dissertation-II (Thesis)	12	-	-	-	12	-	-	-	-	2	10	-	-	-	2	10
	Total	72	18	18	19	17	13	10	14	11	14	10	18	18	13	10	13

(signatures)

IK Gujral Punjab Technical University Kapurthala

FIRST YEAR
1st and 2nd SEMESTER MASTER OF ARCHITECTURE (ARCHITECTURAL EDUCATION AND RESEARCH)

1st SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam/ Viva-Voce
				L	Sem / Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	UC/MARCH-101/20	Studio-I	2	-	-	4	06	60:40	6	Viva Voce/ Ext. Jury
	2	UC/MARCH-102/20	Contemporary Architecture-I	2	2	-	-	04	40:60	3	03
Edu. & Res	3	UC/MARCH-103/20	Educational Technology	2	2	-	-	04	40:60	3	03
	4	UC/MARCH-104/20	Research Methodology-I	2	2	-	-	04	40:60	3	03
PE (Choose one)		UC/MARCH/ PE-106-10/20	Professional Elective- I	2	2	-	-	04	40:60	3	03
	5	UC/MARCH/ MOOC-111-20	MOOC-I						-		Certificate from concerned/ imparting agency
		Total						22		18	

2nd SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam/ Viva-Voce
				L	Sem / Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	UC/MARCH-201/20	Studio – II	2	-	-	4	06	60:40	6	Viva Voce/ Ext. Jury
	2	UC/MARCH-202/20	Dissertation - I	2	2	-	-	04	40:60	3	03
Edu. & Res	3	UC/MARCH-203/20	Psychological of Teaching Learning	2	2	-	-	04	40:60	3	03
	4	UC/MARCH-204/20	Architecture Research Methodology-II	2	2	-	-	04	40:60	3	03
PE (Choose one)		UC/MARCH-206-10/20	Professional Elective- I	2	2	-	-	04	40:60	3	03
	5	UC/MARCH-211-20/20	MOOC-II						40:60		Certificate from concerned/ imparting agency
SEC	6	----	*Educational Tour/ Summer Training/ Vacation Assignment	-	-	-	-	-	-	-	Evaluation will be done in 3rd sem
		Total						22		18	

Elective I: 1. **Fundamentals** of built environment and resource conservation   2. Recent trends in sustainable architecture   3. Architectural Software
Elective II: 1. Architecture appreciation   2. Geomatics techniques for architects   3. Building Industry

IK Gujral Punjab Technical University Kapurthala

SECOND YEAR

3rd and 4th SEMESTER MASTER OF ARCHITECTURE (ARCHITECTURAL EDUCATION AND RESEARCH)

3rd SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam/ Viva-Voce
				L	Sem / Tut	P/ FW	Stu	Total	Int : Ext		
PC	1	UC/MARCH-301/20	Studio – III	2	-	-	4	06	60:40	6	Viva Voce/ Ext. Jury
	2	UC/MARCH-302/20	Architecture Appreciation	2	2	-	-	04	60:40	3	Viva Voce/ Ext. Jury
Edu. & Res	3	UC/MARCH-303/20	Instructional methods	2	2	-	-	04	40:60	3	03
		UC/MARCH-304/20	*Educational Tour/ Summer Training/ Vacation Assignment	-	-	-	-	-	100	1	Viva Voce/ Int. Jury
PE (Choose one)	4	UC/MARCH-305-10 /20	Professional Elective- I (Ref Table-)	2	2	-	-	04	40:60	3	03
		UC/MARCH-321-30 /20	MOOC-III (Ref Table-)						-		Certificate from concerned/ imparting agency
OE (Choose one)	6	UC/MARCH-311-15 /20	Open Elective- I (Ref Table-)	2	2	-	-	04	40:60	3	03
		UC/MARCH-331-40 /20	MOOC-IV (Ref Table-)						-		Certificate from concerned/ imparting agency
		Total						22	-	19	

4TH SEMESTER

Course Type	S. No	Course Code	Course Title	Load Allocations					Marks %	Credits	Duration of Univ. Exam/ Viva-Voce
				L	Sem / Tut	P/ FW	Stu	Total	Int : Ext		
	1	UC/MARCH-401/20	Teaching Practice (Institutional Internship)	-	2	-	6	8	60:40	5	Viva Voce/ Ext. Jury
	2	UC/MARCH-402/20	Dissertation-II	-	2	-	10	12	60:40	12	Viva Voce/ Ext. Jury
		Total						20		17	
		Grand Total								72	

Note: Table-1 (Abbreviation Used)

Abbreviation Used in the teaching scheme			
PC	Professional Core	L	Lecture
Edu. Research	Education & Research	Sem/Tut	Seminar/ Tutorial
SEC	Skill Enhancement Courses	P/FW	Practical/ Field Work
PE	Professional Electives	Stu	Studio
OE	Open Elective	Int.	Internal
MOOC	Massive Open Online Courses	Ext.	External

Table no-1 Codes assigned to MOOC's of M. Architecture (AER).

Sr. No.	Track	MOOC (Stream)	1st SEM UC/MARCH/ MOOC-	2nd SEM UC/MARCH/ MOOC	3rd SEM UC/MARCH/ MOOC-	
			MooC -I	MooC-II	MooC- III	Mooc-IV
1	T1	Education/Teaching	111	211	321	331
2	T2	Allied Architecture/Design / Arts /Planning	112	212	322	332
3	T3	Energy/Environment	113	213	323	333
4	T4	Building Science & Applied Engineering / Building Services / Building Technology	114	214	324	334
5	T5	Computer Science/ Programming/ Data Sciences/ Software's/ Interruptive Technologies	115	215	325	335
6	T6	Management/ Business/ Entrepreneurship	116	216	326	336
7	T7	Humanities/Social Sciences	117	217	327	337
8	T8	Journalism/Mass Communication / Media	118	218	328	338
9	T9	Finance/Commerce/Economics Accounts	119	219	329	339
10	T10	Legal Services/Administration/ Personal Development / Health & Happiness / Miscellaneous	120	220	330	340

Table no-2 Codes assigned to Professional/Open Electives in M. Architecture (AER).

	PROFESSIONAL ELECTIVE-I UC/MARCH	PROFESSIONAL ELECTIVE -II UC/MARCH	PROFESSIONAL ELECTIVE –III UC/MARCH	OPEN ELECTIVE-I UC/MARCH
	Traditional Indian Architecture	Climate & Architecture Climatology	Futuristic Architecture	Creative Writing – I
Code	105	205	305	311
	Ecology	Fundamental of Built environment & Resource Conservation	Green Buildings & Rating Systems	Health Education – I
Code	106	206	306	312
	Principles of Human Settlement	Smart Cities	Housing Policies	Human resource development & organization behavior
Code	107	207	307	313
	Building Industry	Geo special Technologies	Risk Management	Sociology & Psychology V/S Architecture
Code	108	208	308	314
	Architecture Appreciation & Criticism	Guidance & Counseling	E- Resources/ E- Learning	Thought Processes/ Mind Management
Code	109	209	309	315
	Digital Architecture/Advance Computer software	Environment & social issues in Architecture	Architecture Journalism & Photography	Life Skills
Code	110	201	310	316

Syllabus of
Masters of Architecture AER
(Architecture Education & Research)

Batch 2020 onwards

By

Masters of Architecture AER
IK Gujral Punjab Technical University

IK Gujral Punjab Technical University

Masters of Architecture AER (M. Arch. AER 1st Semester)

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.

Instruction to the Faculty

Stress must be laid on individual/ collective research & its presentation in the form seminar in the class & finally getting it published.

Detailed Syllabus:

UNIT-I (Architecture Education)

- Review of Architecture Education in India:
  A self-learning exercise is to be introduced in the 'Architecture education scenario in India'. The students encouraged through group discussions to raise the issues and then chose any specific issue and do deeper investigation/research on it. The literature available needs to be reviewed and presented in the class during group discussion.
- Nature and Future scope of Architecture Education in the country

UNIT- II

Society's perception of Architecture and Architect: A survey needs to be conducted with a proper sample size to understand the core issues. Related to and presented in the lass.

Classroom research on improving the teaching-learning methods(Understand the traits of a good teacher and fundamentals of Classroom management).

Evaluation Criteria for Examination/ Question Paper Setting:

Selection of topic and its Understanding (introduction and submission of Synopsis) Preliminary Seminar, Final Seminar, Report Submission Only Seminar Presentations, and written reports to be evaluated for internal/external assessment.

Note: Students would be required to choose one topic from each Unit in consultation with the subject In-charge& thoroughly research it before presenting it in the class as a seminar & try to publish it thereafter. A book review on the topic of architecture education and related issues should be undertaken as part of an internal assessment.

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Masters of Architecture AER (M. Arch. AER 1st Semester)

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

Detailed Syllabus:

UNIT- I (Introduction)

- Educational Technology and its Components
- Systems approach & Multimedia approach in Educational Technology
- Definition, the distinction between hardware and software approach, combination approach, Technology of education, and technology in education.

UNIT- II (Smart Classroom Interaction)

- Concept, Process, and Elements of Communication
- Psychology of Communication and its application in Educational Technology
- Models of Communication, Factors, and Barriers
- Classroom Interaction, Classroom Interaction Analysis -Flander Interaction category system.

UNIT-III (Latest Trends in Educational Technology)

- Personalized system of instruction (PSI) -Programmed Learning
- CCTV, Computer Assisted Instruction (CAI)
- Modern trends in multimedia
- Virtual Reality & Virtual Environments/classroom
- Educational Satellite, Interactive Video, Tele and Video conferencing - Web 2.0 in Education, E-learning, e-teaching, digital conferences
- Course management soft wares

UNIT-IV (Digital Architecture)

- Virtual Classrooms and laboratories: Concepts and consideration for the virtual classroom and virtual laboratories.
- Use of Digital Resources: Open courseware- NPTEL, MIT, YouTube, courses, etc. National Knowledge networks, E-Repository, Digital libraries.
- Effective Integration of Digital Courses, Digital Tools

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.

Methodology:

Stress must be laid on individual/ collective research & its presentation in the form seminar in the class & finally getting it published.

Detailed Syllabus:

Overview of Indian architecture in terms of major factors & drivers of architectural form, space, climate & cultural, social, political influences, and use of materials and construction techniques related to it.

UNIT-I

Medieval Architecture, Islamic Period, Colonial Period/ Pre-independence period
Post Colonial Period/ Post-independence era

UNIT-II

Vernacular/ Tradition Indian Architecture and their impact on a contemporary scenario.

UNIT-III

Globalization &it's impact of architecture through case/net/library studies of eminent architects work.

UNIT-IV

Live study of contemporary buildings of the immediate surroundings: the focus on the architecture of the northern region in general & Chandigarh in particular

Assignment

Students would be required to choose one topic from each Unit in consultation with the subject In-charge& thoroughly research it before presenting it in the class as a seminar & try to publish it thereafter.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department/ university library, on web portals/online (i.e. E-resource). The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University

Masters of Architecture AER (M. Arch. AER 1st Semester)

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

Detailed Syllabus:

UNIT- I

- **Introduction to Research Methodology:** Research problem and research design; formulation of hypotheses and statement of the research problem; ethical issues in research – authenticity, plagiarism, manipulation of data in research.
- **Research Methods:** Research techniques and tools; types of research methods: quantitative and qualitative; interpretive-historical; descriptive – survey analysis, case study, content analysis, co-relational, ex-post-facto, experimental, simulation, logical argumentation.

UNIT- II

- **Data Analysis:** Statistical methods - sampling techniques – probability sampling (simple random sampling, systematic sampling, stratified random sampling, cluster, and multi-stage sampling) and non-probability sampling (convenience of incidental, volunteer sampling, judgment or purposive sampling, quota or chunk sampling, snowball sampling); tools for collection of data – questionnaires, observation schedules, interview schedules, standardized tests, focused group discussion; Computer Processing.

UNIT- III

- **Data Interpretation:** Interpretation and presentation of results; overview of descriptive statistics (Measures of central tendency and dispersion); overview of inferential statistics (Co-relational Techniques - rank-order correlation, Karl Pearson's correlation coefficient, chi-square)

UNIT-IV

- **Developing a Research Proposal**: Format of the research proposal; individual research proposal; institutional proposal
- **Report writing:** Structure and components of scientific & technical report and thesis – different steps in the preparation, layout, language, quality of illustrations, and tables (bibliography, referencing, and footnotes).

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 1ˢᵗ Semester)

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.

Detailed Syllabus:

UNIT- I (Fundamentals of Built Environment)
- Built Environment definition and context
- Urban and Rural context of Built Environment
- Regenerative Development
- Review of Urban forms, Patterns, and spaces in different periods of history viz ancient river valley civilization, Greek, Roman, Medieval, Renaissance, Baroque, in India, and their influencing factors.
- Elements of urban Environment —urban form, townscape, urban spaces, streetscapes, and building forms.

UNIT-II (Application of Software)
- Application of Software of Arc GIS and other software for spatial planning and study.

UNIT- III (Concept and need for conservation)
- Concept and need for conservation.
- Conserving land, water, flora, and fauna in Indian traditional system and architecture, Understanding the traditional technologies and method of conservation in Indian Context and their implication

Masters of Architecture AER (Two year program)

UNIT-IV (Fundamental of planning and design)

- Fundamental of planning and design of resources conserving architecture.
- Innovative and appropriate design concepts, architecture and construction technologies with case studies of Indian and foreign context

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 1st Semester)

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/MARCH/ 111-20	MOOC- MOOC - I		3	Certificate from concerned/ imparting agency

The list of Approved MOOC courses is attached for reference.

Masters of Architecture AER (Two year program)

2nd Semester

IK Gujral Punjab Technical University
Masters of Architecture AER

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 2nd Semester)

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.

Instruction to the faculty
- Stress must be laid on individual/ collective research & its presentation in the form seminar in the class & finally getting it published.

Detailed Syllabus:

UNIT-I

Various models of architecture education prevalent world over.
Creative Teaching: An exercise to expose the students to understand the basic teaching methodologies suitable for Architecture, schools (formal or informal) at the National and International levels for enhancing creativity. The literature available needs to be reviewed and presented in the class.

Analysis of the curriculum of any major school of thought in architecture education at national as well as international levels needs to be undertaken and understood.

UNIT- II

Pedagogical analysis of a unit from B. Arch syllabus to make the teaching-learning process efficient and effective - meaning & definition, phases of pedagogical analysis, importance/significance in Architecture Pedagogy, merits/demerits, practical on pedagogy.
Programming the teaching schedule - meaning & definition, need & importance, preparing teaching schedule process, merits/demerits, practical planning of teaching lessons for

- Professional Core Subjects
- Building Science and Applied Engineering subjects
- Elective subjects

Planning and assessment methods
Assessment and Evaluation Technique.

Evaluation Criteria for Examination/ Question Paper Setting:

Finally, assignments are to be presented in the form of a seminar in the following stages:

Selection of topic and it is Understanding (introduction and submission of Synopsis) Preliminary Seminar, Final Seminar, Report Submission. Only Seminar Presentations, and written reports to be evaluated for internal/external assessment.

Students would be required to choose topics from each Unit in consultation with the subject in In charge& thoroughly research it before presenting it in the class as a seminar & try to publish it thereafter.

A book review on the topic of architecture education and related issues should be undertaken as part of an internal assessment.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 2nd Semester)

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.

The student internal work shall be evaluated under different headings as detailed below:-

1. Preliminary Report   20% of Internal Marks
2. Draft Report   30% of Internal Marks
3. Final Report + Published Paper   50% of Marks (40% + 10%)

Instruction to the faculty

Orientation and Research, along with discussions with the supervisor and site visits as required

Evaluation Criteria for Exam / Question Paper Setting:-

Students coming up with the publication of the papers during the course shall be considered for additional weighted out of the 10% marks result as a part of the final report.

The student work shall be evaluated through a system work done by the student along the presentation made at the end of the semester by an external evolution jury. The detailed system of the dissertation shall be workout separately.

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 2nd Semester)

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

Detailed Syllabus:

UNIT- I (Teaching Models)

- Fundamental Teaching Model: Theory of teaching; Psychological teaching models; Historical teaching models
- Instructional Objectives: instructional and behavioural objectives; Task analysis
- Entering Behaviour: definition of entering behaviour; Classes of entering behaviour; instructional use of entering behaviour

UNIT-II (Learning)

- Varieties Of Learning And Conditions Of Learning: Gagne varieties of learning: verbal information; intellectual skills- discrimination, concepts principles and problem-solving; Conditions of learning.
- Meaning and Definition, Domains of Learning: Cognitive, Affective and Psychomotor
- Learning Process and Its Aspects, Factors Affecting Learning
- Learning Theories and Their Educational Implications: Behaviourist, Cognitivist and Humanist

UNIT- III (Motivation)

- Motivation: A definition of motivation: the concept of motivation; types of motivation - intrinsic and extrinsic.
- Theories of motivation; Maslow needs hierarchy; Herzberg two factor theory; McClelland three need theory; vroom's expectancy theory; Adam equity theory.
- Techniques of motivating students

UNIT-IV (Creativity)

- Meaning nature and concept of creativity, Constitutes of creativity, Characteristics of creativity, Originality, Flexibility, Creativity & Intelligence.
- Theories of creativity, traditional and modern views of creativity, Creativity techniques
- Assessment of creativity, Encouraging and promoting creativity- Nickerson creativity technique, Creativity, and architecture: trends and scope.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 2nd Semester)

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.

Detailed Syllabus:

UNIT- I (Introduction)

- Basic research issues and concepts
- Orientation to research process Types of research
- Historical, qualitative, correlational, experimental, simulation and modeling, Logical and argumentation, case study and mixed methods
- Illustration using research samples

UNIT- II (Research Process)

- Elements of the Research process:
- Finding a topic- writing an introduction
- Stating a purpose of study identifying key research questions and hypotheses
- Reviewing the literature, using theory defining, delimiting and stating the significance of the study,
- Advanced methods and procedures for data collection and analysis
- Illustration using research samples

UNIT-III (Researching & Data Collection)

- Library and Archives
- Internet: New information and the role of the internet
- Finding and evaluating sources
- Methods of data collection - From primary sources

- Observation and recording, interviews, structured and unstructured, questionnaires, open-ended and closed-ended questions, and the advantages, sampling, Survey.
- Problems encountered in collecting data from secondary sources.

UNIT-IV (Report Writing)
- Research writing in general
- Components: referencing
- writing the bibliography
- Developing the outline
- presentation.

Core References:
The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:
A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 2ⁿᵈ Semester)

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.

Detailed Syllabus:

UNIT-I

- To understand and appreciate the basic philosophy and Influence of socio-cultural factors in the architecture of the Traditional Indian buildings which influenced the architecture of their respective regions for a significant period.
- Context of building and organization of space, about the function and climatic factors in various zones in India.
- To study and comprehend traditional Indian Architecture created in response to Geological and Geographical need in the past and their impact on the local Architecture.

UNIT- II

- To understand and appreciate the **various building materials** in the traditional Indian architecture in context to the function and climatic needs and its influence on the human psyche. Stress should be laid on understanding the features of the building that survived through the test of time.
- To understand and comprehend the various **construction technologies** used for the traditional Indian buildings, about the change in function and scale of the building.

UNIT-III

- To study, understand, and appreciate the basic philosophy in architectural designing of **historical buildings in the world** which has influenced the architecture of their

Masters of Architecture AER (Two year program)

respective regions for a significant period. The context of building and organization of space, about the function and climatic factors should be analysed.

- To study and comprehend **traditional world Architecture** created in response to Geological and Geographical needs in the past.

- To study, understand, and appreciate the **contemporary buildings** which have influenced the architecture of their respective area. The context of building and organization of space, about the function and climatic factors should also be analysed.

Methodology:

All exercises, as far as possible should be conducted through case studies.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 2nd Semester)

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/MARCH-211-20 /20	MOOC-II		3	Certificate from concerned/ imparting agency

The list of Approved MOOC courses is attached for reference.

Course Code	Course Name	Credits	Int: Ext	Duration of Exam
	* Educational Tour I/Summer Training-I / Vacation Assignment-I			Int. Viva Voce

The education tour to one day to one or two-week duration be encouraged to be undertaken by the students under faculty supervision. During or after the semester the term report shall be submitted to the class coordinator for assessment.

The students are encouraged to undertake summer training in a design/construction office. alternatively, students should also be encouraged to do an online course of similar duration during the summer vacation.

Vacation assignments are being assigned by the HoD in consultation with the class coordinator before the commencement of the vacation and submitted in the following semester to the class coordinator for assessment.

3rd Semester

IK Gujral Punjab Technical University
Masters of Architecture AER

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.

Instruction to the faculty

Stress must be laid on individual/ collective research & its presentation in the form seminar in the class & finally getting it published.

Detailed Syllabus:-

UNIT-I

To carry out a detailed study to understand the student's knowledge at the entry-level in architecture subjects offered by Various boards of secondary education at Union/ State level must be studied for this purpose in light of eligibility criteria as laid down by the CoA.

Study the process & validity of various Architecture Aptitude Tests in India (the study must focus on the outcome & suitability of such tests).

To understand Architecture Education as part of the broader education system in the country and also to view it concerning the Global scenario.

Role & Responsibility of Statutory Bodies related to education such as

- Ministry of Human Resource Development.
- University Grant Commission (UGC)
- All council of Technical Education (AICTE).
- Council of Architecture (CoA) etc.
- Global bodies regulating Arch Education/Profession.

UNIT- II

Study of various Govt. initiatives in the context of National Skill Development & Make in India flagship programs & how Architecture Institutions can contribute in this direction.

The study of entrepreneurship by the architecture graduates must also be looked upon along with the diversity they opt for. success stories are discussed.

To make students understand the fast-paced dynamics of the architecture profession, which needs to be incorporated in Architectural Education.

To identify the skill sets of students at the culmination of the course. Research must be carried out to identify the crucial skill for successful practice.

Evaluation Criteria for Examination/ Question Paper Setting:

Assignments carried out during the semester to be presented in the form of Research Report / Seminar using various aids which will be evaluated for internal evaluation.

External / Final Evaluation will be done through jury viva voce of the work done during the semester.

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3rd Semester)

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.

Detailed Syllabus:-

UNIT-I

o To understand and appreciate the basic philosophy and Influence of socio-cultural factors in architecture of the Traditional Indian buildings which influenced the architecture of their respective regions for a significant span of time.

o Context of building and organisation of space, with reference to the function and climatic factors in various zones in India.

o To study and comprehend traditional Indian Architecture created in response to Geological and Geographical need in the past and their impact on the local Architecture.

UNIT- II

o To understand and appreciate the **various building materials** in the traditional Indian architecture in context to the function and climatic needs and its influence on the human psyche. Stress should be laid on understanding the features of the building that survived through the test of time.

o To understand and comprehend the various **construction technologies** used for the traditional Indian buildings, with reference to the change in function and scale of the building.

UNIT-III

o To study, understand and appreciate the basic philosophy in architectural designing of **historical buildings of the world** which have influenced the architecture of their respective regions for a significant span of time. Context of building and organisation of space, with reference to the function and climatic factors should be analysed.

- To study and comprehend **traditional world Architecture** created in response to Geological and Geographical need in the past.

UNIT- IV

- To study, understand and appreciate the **contemporary buildings** which have influenced the architecture of their respective area. Context of building and organisation of space, with reference to the function and climatic factors should also be analysed.

Methodology: All exercises, as far as possible should be conducted through case studies.

Evaluation Criteria for Exam Question Paper Setting:-

Total eight questions are to be set two from each unit & students are required to attempt total four questions i.e. one from each unit.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3rd Semester)

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

Detailed Syllabus:-

UNIT- I
- The paradigm shift in curriculum. Model of curriculum Management.
- Learning Process. Shift from Traditional Teaching to Producing competency bases learning.
- Learning Environment Classroom Management.
- Teacher as a manager of the learning process. Designing strategies to minimize role conflict.
- Use of Technology in teaching.

UNIT- II
- Teaching Strategies for Direct Instruction-Events of Instruction.
- Methods of Teaching: Lecture Methods and Question-Answer Sessions. Guidelines for conducting Question Answer sessions.
- Team Teaching.
- Demonstration Method: Guidelines to use Demonstration Method for producing learning.

UNIT-III
- Panel Discussion.
- Learning in Group Buzz Group. In Basket. Organizing in basket exercises.
- Case study: Guidelines for writing a case study.
- Seminar and Symposium.
- Self Directed Learning: Teacher Mediation. Reciprocal Teaching. Social Dialogue vs Class Discussion.

UNIT-IV

- Learning produced through Role Play: Role of a teacher in Organising and conducting a simulation.
- Designing and Conducting Games.
- Forced filed Analysis.
- Tutorial Method. Assignment Method: Guidelines for designing Assignments.
- Assessing Learners. Preparing Tests and Item Writing. Marks and Grading Systems.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:-

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3rd Semester)

Course Code	Course Name	Credits	Int : Ext	Duration of Exam
UC/MARCH-304/20	* Educational Tour I/Summer Training-I / Vacation Assignment-I	1	100	Int. Viva Voce

The education tour to one day to one or two-week duration be encouraged to be undertaken by the students under faculty supervision. During or after the semester the term report shall be submitted to the class coordinator for assessment.

The students are encouraged to undertake summer training in a design/construction office. alternatively, students should also be encouraged to do an online course of similar duration during the summer vacation.

Vacation assignments are being assigned by the HoD in consultation with the class coordinator before the commencement of the vacation and submitted in the following semester to the class coordinator for assessment.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3rd Semester)

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.

Detailed Syllabus:-

UNIT- I

- Concept, Purpose, Assumptions, Need, and Principles of Guidance and Counselling.
- Individual and group counselling and guidance.
- Approaches to counselling: Directive, Non-directive, and eclectic counselling.
- Counsellor – Characteristics, Functions, and Ethics.
- Skills of Counselling – Building trust, Listening, Observation, and Empathy.
- Various theories of Counselling

UNIT- II

- Educational guidance with special emphasis on underachievers and drop-outs, Learning Disabilities.
- Vocational guidance, Occupational information, Placement and follow up Services, aptitude, and personality testing.
- Personal Guidance.
- Importance of non-testing techniques for student appraisal.
- Interview, Observation, Case Study, Anecdotal record, and cumulative record as techniques of student appraisal.

UNIT-III

- Organization of guidance services at various levels of education.
- Problems of organizing guidance services in India.
- Evaluating the guidance program.
- Recent trends of Guidance and Counselling in India.

UNIT-IV

- Characteristics of a good test. Importance of Psychological testing, standardization of test.
- Intelligence, Personality, Aptitude, and interest tests for student appraisal.
- Administration and Interpretation of Psychological tests: Intelligence tests – Verbal, Non-verbal and performance, Personality, Interest Inventory, and Attitude/Value scale
- Administration and interpretation of the Teaching Aptitude Test.
- Practical work and case studies will be done in Practical Training during the fourth semester.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Evaluation Criteria for Exam / Question Paper Setting:-

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

IK Gujral Punjab Technical University

Masters of Architecture AER (M. Arch. AER 3rd Semester)

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

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

Detailed Syllabus:-

UNIT- I

Decision Making

UNIT- II

Critical thinking

UNIT- III

Communication and Interpersonal skills

UNIT-IV

Self-awareness and empathy, Coping with emotions and stress

Evaluation Criteria for Exam / Question Paper Setting:-

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Core References: The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3ʳᵈ Semester)

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-308/19	Open Elective- I **GREEN BUILDINGS**	2 - L, 2 - S	3	03 Hours

Course Objective

To make students appreciate and learn the role and importance of Green Buildings in promoting sustainability and components involved in their planning and designing

Course Outcomes: At the end of the course, the students will able to Identify major challenges facing the planet earth and human society. Perform detail performance evaluation of a building based on green rating standards

Detailed Syllabus:-

UNIT- I

- Green Buildings – Introduction, definition, objective, scope, role, and importance
- Climatic Zones in India – Typologies, characteristics, climatic conditions, approach to climatic responsive buildings for each zone with examples
- Green Building's Design – Approach, components, design parameters, orientation, integrated approach to building design

UNIT- II

* Energy Efficient Buildings, Zero Energy and Energy positive buildings

* Town Planning Practices, Green Building, and Sustainability

* Rating and Coding Systems – IGBC, GRIHA, LEED, ECBC (Energy Conservation Building Code)

* Study of Selected Examples of Sustainable Architecture – Vernacular, Historical and Contemporary

* Understating the role and importance of the soft skills Eco-Tech, Design Builders software's

UNIT- III

- Site and Site Planning – Importance, principles, and approaches to designing green buildings
- Building Envelop – Role, function, principles, evaluation, efficiency
- Day Lighting – Role, Importance, principles for design, and lighting design.
- Energy efficiency – Need importance, typologies, active and passive systems for promoting energy efficiency
- Water management - Role, importance and approach to minimize consumption

UNIT-IV

Masters of Architecture AER (Two year program)

- Green Building and wellness – Indoor Air Quality
- Landscaping – Role, importance, and approach for landscaping
- Building Materials and Green Buildings
- Life Cycle Assessment
- Future of Green Buildings, Global Trends, Government policies, and programs

Evaluation Criteria for Exam / Question Paper Setting:-

A total of eight questions are to be set two from each unit & students are required to attempt a total of four questions i.e. one from each unit.

Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University

Masters of Architecture AER (M. Arch. AER 3rd Semester)

Course Code	Course Name	L/S, T, P	Credits	Exam Duration
UC/MARCH-309/19	Open Elective- I Digital Architecture	1 - L, 3 - S	3	03 Hours

Course Objective

The objective of this subject is to expose students to various advanced CAD technologies and analysis and understanding of Various software and its proper utilization.

Course Outcomes: At the end of the course, the students will able to develop an understanding of the various digital software used in Architecture.

Detailed Syllabus:-

UNIT- I

Introduction, History, and Scope of Digital Technologies in Architecture, Digital design media

UNIT- II

CAD Models: Presentation, visualization, drafting, modelling

UNIT- III

CAD vs. BIM

UNIT- IV

Roles of Computing in Architectural Design and Architecture Education.

Evaluation Criteria for Exam / Question Paper Setting:-

The evaluation of students shall be based on the written questions to be set from the course and the practical conducted based on a specific problem given to know the students' understanding of the Computers related to course content.
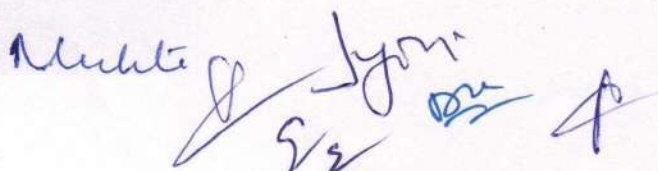
Core References:

The assigned Faculty is required to provide updated references/E-resources related to the content of the subject by ensuring the availability of the same In the department library, on web portals/online i.e. E-learning. The Faculty is also advised to keep on updating the reference list and submit the latest one in the Library & Academic department of the Campus.

Masters tef Architecture AER (Two year program)

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3rd Semester)

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration.of Exam
UC/MARCH-321-30 /20	MOOC-II		3	Certificate from concerned/ imparting agency

The list of Approved MOOC courses is attached for reference.

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 3rd Semester)

Course Code	Course Name	L, Sem/Tut, P/FW, Stu	Credits	Duration of Exam
UC/MARCH-331-40 /20	MOOC-IV		3	Certificate from concerned/ imparting agency

The list of Approved MOOC courses is attached for reference.

Masters of Architecture AER (Two year program)

4th Semester

IK Gujral Punjab Technical University
Masters of Architecture AER

Masters of Architecture AER (Two year program)

IK Gujral Punjab Technical University

Masters of Architecture AER (M. Arch. AER 4th Semester)

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. In an 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.

Instruction to the faculty

The students will engage themselves in full-fledged teaching experience and academic works within or outside the institute with simultaneously working on their thesis dissertation II

Evaluation Criteria for Exam / Question Paper Setting:-

The students will be assessed according to the teaching tool preparations, teaching content, teaching style, innovative methods used, and overall impact as a teacher. The students will have to maintain a logbook to keep track of works done and will be assessed based on every class by their respective supervisors. The feedback may also be looked upon.

IK Gujral Punjab Technical University
Masters of Architecture AER (M. Arch. AER 4ᵗʰ Semester)

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.

The student internal work shall be evaluated under different hands as detailed below:-

4. Preliminary Report   20% of Internal Marks
5. Draft Report   30% of Internal Marks
6. Final Report + Published Paper   50% of Marks (40% + 10%)

Methodology:

Orientation and Research, along with discussions with the supervisor and site visits as required

Evaluation Criteria for Exam / Question Paper Setting:-

Students coming up with the publication of the papers during the course shall be considered for additional weighted out of the 10% marks result as a part of the final report.

The student work shall be evaluated through a system work done by the student along the presentation made at the end of the semester by an external evolution jury. The detailed system of the dissertation shall be workout separately.

Masters of Architecture AER (Two year program)