GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021)
Semester - V

Course Title: ARCHITECTURAL PRACTICE & MANAGEMENT
(Course Code: 41056302)

Diploma Programme in which this course is offered	Semester in which offered
63 – Architecture	Fifth

1.   RATIONALE

This course integrates the study of management practice within the context of Architecture as a profession. The start of a project always needs a facilitator (owner), creator (architect), and a person to execute (contractor). There is an assigned job for each of these and at times these may even overlap. There are different stages between the preface and execution and each of these stages may require a different set of documents. This course challenges the students to consider the management practice issues that Architects must consider and promotes strategic evaluation of project design and process. Overall, it provides the necessary skill sets that architects use in the development of a successful practice. It also gives an insight into the two publications under the Architect's Act 1972 namely Architects Regulations and Architectural Competition Guidelines. This course is designed in view of the above outlook and for developing the competency mentioned below, accordingly.

2.   COMPETENCY

The course content should be taught and curriculum should be implemented with the aim to develop required skills in students so that they are able to acquire following competency:

- **Efficiently manage an architect's office coordinating with various activities at different stages by adhering to council's professional codes and guidelines**

3.   COURSE OUTCOMES (COs)
Students will be able to:
1. State the role and responsibilities of an architect in an architectural firm.
2. Prepare a draft copy of contract and tender documents for a given building project.
3. Explain the process of arbitration and valuation.

4.   TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P/2)	Examination Scheme				
				Theory Marks		Practical/Studio Marks		Total Marks
L	T	S	C	CA	ESE	CA	ESE	
3	0	0	3	30	70	00	00	100

(*):Out of 30 marks under the theory CA, 10 marks are for assessment of the micro-project to facilitate integration of COs and the remaining 20 marks is the average of 2 tests to be taken during the semester for the assessing the attainment of the cognitive domain UOs required for the attainment of the COs.

Legends: L-Lecture; T – Tutorial/Teacher Guided Theory Practice; P -Practical; C – Credit, CA - Continuous Assessment; ESE -End Semester Examination.

5. SUGGESTED PRACTICAL EXERCISES

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
	Not Applicable		

S. No.	Sample Performance Indicators for the PrOs	Weightage in %
	Not Applicable	

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

S. No.	Equipment Name with Broad Specifications	PrO.No.	
	Not Applicable		

7. AFFECTIVE DOMAIN OUTCOMES (ADOs)

The following *sample* Affective Domain Outcomes (ADOs) are embedded in many of the above-mentioned COs and/or PrOs. More could be added to fulfill the development of this competency.

   a) Work as a leader/a team member.
   b) Follow ethical practices.
   c) Participates in group discussions.

The ADOs are best developed through the laboratory/field-based exercises. Moreover, the level of achievement of the ADOs according to Krathwohl's 'Affective Domain Taxonomy' should gradually increase as planned below:

   i. 'Valuing Level' in 1st year
   ii. 'Organization Level' in 2nd year.
   iii. 'Characterization Level' in 3rd year.

8. UNDERPINNING THEORY

Only the major Underpinning Theory is formulated as higher level UOs of *Revised Bloom's taxonomy* in order development of the COs and competency is not missed out by the students and teachers. If required, more such higher level UOs could be included by the course teacher to focus on attainment of COs and competency.

Unit	Unit Outcomes (UOs)	Topics and Sub-topics

Unit – I Architect and Office Management	1a. Develop awareness about the Architect's Act, 1972, the Architects Regulations 1989.
	
	 1b. Clarify the various aspects of the functioning of an Architect's office.
	
	 1c. Describe the aspects involved in Architectural Competitions.
	
	 1d. Explain the basic guidelines
		1.1 Architect's Act, 1972
		    1) Definition of an architect
		    2) Architects Regulations 1989 – Extent of duties of Architect to society, client, brothers in profession and employees/associates/consultant.
		
		 1.2 Introduction to an architect's office
		    1) Office and its management
		    2) Structure of an Architect's office

Unit	Unit Outcomes (UOs)	Topics and Sub-topics
	related to fees and payments.	3) Office Correspondence with Client, Competent Authority, Materials suppliers & Contractors 4) Clients' expectation on the architect's skills and the number of drawings. 1.3 Architectural Competitions 1) Nature & Purpose of Competitions 2) Types of competitions 3) Requirements of competitions 4) Duties of Assessors in competitions 5) Architectural Copyrights 1.4 General Accounting-Profit & Loss Accounts and Architect's Fees 1) Condition of engagement 2) Standard terms for comprehensive Architectural Services 3) Scale of Professional fees & Charges 4) Mode of payment
Unit– II Contracts	2a. Define a contract 2b. State the essential Requirements of a valid contract 2c. State the types of contracts 2d. Describe the Forms of Contract 2e. Explain the conditions for termination of contracts 2f. Explain the Miscellaneous terms related to contracts	1) Definition of contract 2) Essential Requirements of a valid contract 3) Types of contract 4) Forms of contract 5) Termination of contracts 6) Responsibilities of different agencies 7) Miscellaneous terms – Earnest Money, Security deposit, Mobilization Fund
Unit – III Tenders	3a. Classify tenders 3b. Describe the procedures to open and scrutinize the received tenders. 3c. Draft a typical tender notice. 3d. State the conditions of acceptance & revocation of tender.	1) Classification of tenders 2) Opening & Scrutiny of tenders 3) Acceptance & revocation of tender 4) Tender form 5) Tender notice 6) Unbalanced Tender

Unit	Unit Outcomes (UOs)	Topics and Sub-topics
Unit – IV Arbitration	4a Define the arbitration 4b State the matters for reference to arbitration 4c State the kinds of arbitration 4d Differentiate kinds of arbitration 4e Explain the appointment of arbitrator. 4f State the powers and Disabilities of an arbitrator. 4g Describe process, favorable conditions and advantages of arbitration 4h Explain the situations of arbitration agreement and revocation	1) Define Arbitration 2) Matters for reference to arbitration 3) Kinds of arbitration- Ad-hoc, Institutional, Fast track, Statutory, online. 4) Define arbitrator. 5) Appointment of an arbitrator. 6) Powers & Disabilities of an arbitrator 7) Process, Favorable conditions and advantages of arbitration 8) Arbitration agreement & revocation Process of arbitration.
Unit – V Valuation	5a. Explain the concepts and aspects associated with valuation 5b. Identify the different forms of values 5c. Outline the role of a valuer 5d. Illustrate the factors affecting the changes in the market value 5e. State various methods of valuation	5.1 Introduction 　1) Concept of Cost, Price & Value 　2) Define valuation 　3) Purposes of valuation 5.2 Forms of value 5.3 Role of valuer 5.4 Factors affecting Changes in market value of a property 5.5 State Methods of valuation

9. SUGGESTED SPECIFICATION TABLE FOR QUESTIONPAPER DESIGN

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Architects Office & Management	14	7	7	8	**22**
II	Contracts	8	4	4	6	**14**
III	Tenders	6	4	4	4	**12**
IV	Arbitration	8	4	4	6	**14**
V	Valuation	6	2	2	4	**8**
	Total	**42**	**21**	**21**	**28**	**70**

Legends: R=Remember, U=Understand, A=Apply and above (Revised Bloom's taxonomy)
Note: This specification table provides general guidelines to assist students for their learning and to teachers to teach and question paper designers/setters to formulate test items/questions assess the attainment of the UOs. The actual distribution of marks at different taxonomy levels (of R, U and A) in the question paper may vary slightly from the above table.

10.   SUGGESTED LEARNER ACTIVITIES
Students will carry out activities like:
 i. Individual assignments on topics relevant to the subject by way of library/internet base.

ii. Prepare a tree chart showing the hierarchy of an Architect's Office
iii. Undertake a visit to an Architect's Office and prepare a plan of it showing different parts of the office with designation of the persons working in those parts and details of furniture and equipment in each part.

11. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are sample strategies, which the teacher can use to accelerate the attainment of the various outcomes in this course:

a) Massive open online courses (*MOOCs*) may be used to teach various topics/subtopics.
b) Guide student(s) in undertaking micro-projects.
c) Different types of teaching methods that are to be employed by teachers to develop the outcomes.
d) About *20% of the topics/sub-topics* which are relatively simpler or descriptive in nature is to be given to the learners for *self-learning*, but to be assessed using different assessment methods.

12. SUGGESTED MICRO-PROJECTS

Only one micro-project is planned to be undertaken by a student that needs to be assigned to him/her in the beginning of the semester. In the first four semesters, the micro-project is group-based. However, in the fifth and sixth semesters, it should be preferably be *individually* undertaken to build up the skill and confidence in every student to become problem solver so that s/he contributes to the projects of the industry. In special situations where groups have to be formed for micro-projects, the number of students in the group should *not exceed three.*

The micro-project could be industry application based, internet-based, workshop-based, laboratory-based or field-based. Each micro-project should encompass two or more COs which are in fact, an integration of PrOs, UOs and ADOs. Each student will have to maintain a dated work diary consisting of individual contributions in the project work and give a seminar presentation of it before submission. The total duration of the micro-project should not be less than *16 (sixteen) student engagement hours* during the course. The student ought to submit a micro-project by the end of the semester to develop the industry-oriented COs.

A suggestive list of micro-projects is given here. This has to match the competency and the COs.Similar micro-projects could be added by the concerned course teacher:

a. Study the sample contracts made between "Architect and Owner" and between "Architect and Contractor" and prepare a report or a presentation on strengths and weaknesses of these contracts.
b. Study the sample tender documents and prepare a report or a presentation on strengths and weaknesses of these tender documents.
c. Visit an architect's office and prepare a report.

13. SUGGESTED LEARNING RESOURCES

S. No.	Title of Book	Author	Publication with place, year and ISBN
1	Professional Practice	Dr. Roshan H Namavati	Lakhani Book depot, (1st January, 2016) ISBN: 9789385492662
2	Estimating, Costing & Valuation	S.C.Rangwala	Charotar Publications (18th edition, 2023), ISBN : 9789385039737
3	Architect's (Professional Conduct) Regulations,	CoA	Council of Architecture (www.coa.gov.in)

S. No.	Title of Book	Author	Publication with place, year and ISBN
	1989		
4	Architectural Competition Guidelines	CoA	Council of Architecture (www.coa.gov.in)
5	Architects Professional Liability	CoA	Council of Architecture (www.coa.gov.in)

14.   SOFTWARE/LEARNING WEBSITES

1. Official website of Council of Architecture, India (www.coa.gov.in)
2. https://etenders.gov.in/eprocure/app
3. https://archive.nptel.ac.in

15. PO-COMPETENCY-CO MAPPING

Semester V	Architectural Practice & Management (Course Code: 4345002)								
	POs and PSOs								
Competency & Course Outcomes	PO 1 Basic & Discipline specific knowledge	PO 2 Problem Analysis	PO 3 Design/ develop ment of solutions	PO 4 Engineer ing Tools, Experim entation & Testing	PO 5 Engineer ing practices for society, sustainab ility & environ ment	PO 6 Project Manag ement	PO 7 Life-long learnin g	*PSO 1 Planni ng & Design	*PSO 2 Executi on
Competency	Efficiently manage an architect's office coordinating with various activities at different stages by adhering to council's professional codes and guidelines								
a) State the role and responsibilities of an architect in an architectural firm.	3	1	1	-	1	3	3	3	3
b) Prepare a draft copy of contract and tender documents for a given building project.	1	2	2	-	1	3	3	3	3
c) Explain the process of arbitration and valuation.	1	2	1	-	1	3	3	3	3

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO/PSO.

*PSO1: Planning & Design: Prepare architectural designs and all types of drawings with appropriate material specifications and application techniques as per specific
project requirements.
#PSO2: Execution: Suggest appropriate building materials as per the requirement.

16. COURSE CURRICULUM DEVELOPMENT COMMITTEE
GTU Resource Persons

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1	Shri Bhaskar J. Iyer (HOD in Arch, Coordinator & Associate Dean)	Government Polytechnic for Girls, Ahmedabad	9879474833	bhaskariyer2004@gmail.com
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