



DEPARTMENT OF ARCHITECTURE

COURSE PLAN – PART I			
Name of the programme and specialization	B.Arch, Architecture		
Course Title	COST EFFICIENT CONSTRUCTION TECHNIQUES		
Course Code	AR 553	No. of Credits	3
Course Code of Pre-requisite subject(s)	Nil		
Session	July 2022	Section (if, applicable)	
Name of Faculty	Pudhuma Bharathi K	Department	Architecture
Official Email	pudhuma@nitt.edu	Telephone No.	9488647938
Name of Course Coordinator(s) (if, applicable)			
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	<input type="checkbox"/> Core course	<input checked="" type="checkbox"/> Elective course	
Syllabus (approved in BoS)			
Cost effective techniques: Need, Planning aspects, construction aspects, maintenance and longevity aspects.			
Choice of materials in Indian conditions, indigenous building materials, organic and inorganic building materials, alternative building materials, use of industrial and agricultural wastes - Survey of such materials development by research organizations like CBRI, SERC etc.			
Significance of construction technology: Relevance of improving of traditional technology, relevance of innovative technology/alternate technology, survey of such technologies by various research institutes.			
Critical analysis (in terms of initial investment, maintenance cost and longevity of buildings) of the local adaptation of the innovative technologies by various agencies.			
COURSE OBJECTIVES			
To understand the need for cost efficient techniques and sensitize towards issues related to providing roof for the roofless To make students familiar with alternatives to conventional materials and techniques which are particularly cost effective. To study conventional and alternative materials and techniques for various building components like foundation, wall, roofs, etc and compare the cost of materials, equipment, skill of labour, etc To study works of architects and organisations working in alternative construction			
MAPPING OF COs with POs			



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Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
Students who successfully complete this course will be able to:	
1. To identify appropriate local cost-efficient materials and alternative techniques suitable to a context and project, to be aware of the environmental impacts and compare and contrast the advantages and disadvantages of various materials and construction techniques	NA
2. To demonstrate understanding of processes involved in manufacture of the materials and alternative methods of construction	NA
3. To analyze cost of materials, techniques, labour involved	NA
4. To design with cost-efficient principles and demonstrate understanding of application of alternative materials and techniques in every building component and understand its implications to the architectural design.	NA
5. To evaluate the cost-efficient solutions through study of important case studies and relevant works of architects and organizations	NA

COURSE PLAN – PART II

COURSE OVERVIEW

This course will help the students to know about traditional, new alternative techniques for making cost of building more affordable, easier and appropriate to the context. They will also learn about the various organisations and people who have contributed through their innovations and significant work in this field.

COURSE TEACHING AND LEARNING ACTIVITIES

(Add more rows)

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1 (1 hr)	Introduction- Need, History & Outline	lecture w/ slides and discussions
2	Week 2 (3 hrs)	Cost Effective Design Principles	
3	Week 3 (3 hrs)	Materials & Organizations	
4	Week 4 (3 hrs)	Foundations	
5	Week 5 (3 hrs)	Walls	
6	Week 6 (3 hrs)	Openings	
7	Week 7 (3 hrs)	<i>1st Assessment</i>	
8	Week 8 (3 hrs)	Roofing	
9	Week 9 (3 hrs)	Toilets & Tanks	
10	Week 10 (3 hrs)	Finishes, Furniture, Paving	



11	Week 11 (3 hrs)	2 nd Assessment	
12	Week 12 (3 hrs)	Energy, Water & Waste	
13	Week 13 (3 hrs)	Baker & Fathy	
14	Week 14 (3 hrs)	Case Studies	
15	Week 15 (3 hrs)	Case Studies	
16	Week 16 (3 hrs)	3 rd Assessment	
17	Week 17 (3 hrs)	Compensation Assessment	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Assignment	7 th week	-	20
2	Test	10 th week 18.10.22	1.5 hours	20
3	Assignment	16 th week/	-	20
CPA	Compensation Assessment*	29.10.2022	1.5 hours	20
4	Final Assessment *	As per time table	3 hours	40

*mandatory; refer to guidelines on page 4

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

Students submissions (assignments, etc) will be assessed and feedback will be given to the respective individuals/ groups.

Feedback survey from students is received in the end of the semester

COURSE POLICY (including compensation assessment to be specified)

Late submissions will get negative marks.

Compensation will be given for Test for valid reasons only and with prior permission from the course instructor.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- At least 75% attendance in each course is mandatory.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final



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assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION, IF ANY

1. Field visits related to the syllabus will be planned.

2.

FOR APPROVAL

Course Faculty: K. Pudhuma Bharathi CC- Chairperson

L. Saikal
9/09/22 HOD
(DR. L. SAIKALA)

Sh/01/09/22



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.