



DEPARTMENT OF ARCHITECTURE

COURSE PLAN – PART I			
Name of the programme and specialization	B.ARCH - ARCHITECTURE		
Course Title	CONCRETE TECHNOLOGY		
Course Code	AR 204	No. of Credits	3
Course Code of Pre-requisite subject(s)	-		
Session	January 2023	Section (if, applicable)	NA
Name of Faculty	Bhagyasri K	Department	Architecture
Official Email	bhagyasri@nitt.edu	Telephone No.	9884472866
Name of Course Coordinator(s) (if, applicable)	-		
Official E-mail	-	Telephone No.	-
Course Type (please tick appropriately)	<input checked="" type="checkbox"/> Core course		
Syllabus (approved in BoS)			
<p>Introduction - classification of concrete mixes - Grades of concrete - Advantages and disadvantages of concrete. Concrete Making Materials - Cement-Method of Manufacturing of Cement - properties and specific uses of various types of cement. Test on cement - fineness - setting time - consistency - soundness - compressive strength. General classification of aggregate - properties of aggregate - shape, texture, porosity and absorption, soundness- test on aggregates. Grading of Aggregates. Water - Quality of Water for mixing and curing - use of sea water for mixing concrete. Basic consideration - factors influencing mix proportion - Mix Design by ACI method and I.S. code method - Design of high strength concrete - test on concrete. Information on Admixtures Plasticizers. Introduction - Batching of materials - Mixing of Concrete materials - Transportation of concrete - Placing of concrete - curing of Concrete. Properties of Concrete - Introduction - strength of Concrete - stress and strain characteristics of concrete. Thermal properties of concrete - Micro cracking of concrete- RMC. Introduction - lightweight concrete - Fiber reinforced concrete - Polymer composites concrete - Air entraining concrete - Ferro cement - sulphur concrete - Mass concrete - Guniting. Quality control in Concrete - Sampling and testing of concrete - Factors causing variations in the quality of concrete.</p>			
COURSE OBJECTIVES			
<ol style="list-style-type: none"> 1.To understand concrete as a material and its constituents 2.To learn the stages of production of concrete 3.To be able to assess the performance of concrete 4.To understand the behaviour of concrete under different environmental conditions 5.To learn how to engineer different types of concrete based on requirements 			



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MAPPING OF COs with POs				
Course Outcomes				Programme Outcomes (PO)
1. Understanding of the fundamentals of concrete production and quality control at all stages				
2. Ability to identify how different constituents and their proportions can alter the properties of concrete				
3. Ability to test concrete for its strength & other properties at fresh and hardened state				
4. Ability to design the mix of concrete for any construction project based on site, economics & other considerations				
5. Understanding of engineered concrete types and ability to select the type of special concrete required for special projects				
COURSE PLAN – PART II				
COURSE OVERVIEW				
Over the course students will be informed on all constituents of concrete, their respective properties & manufacture, proportioning of concrete, properties and testing of fresh & hardened concrete. Also students will be made to analyse different types of special concrete based on materials, purposes and techniques.				
COURSE TEACHING AND LEARNING ACTIVITIES				
S.No.	Week/Contact Hours	Topic	Mode of Delivery	
1	Week 1 - 3	Concrete introduction + Cement	PPTs/ lectures	
2	Week 4 - 6	Aggregate + Water	PPTs/ lectures	
3	Week 7 - 10	Tests on concrete + Mix design	PPTs/ lectures	
4	Week 11 - 13	Processing + Properties of concrete	PPTs/ lectures	
5	Week 14 - 15	Types of special concrete	Seminar/Assignment	
COURSE ASSESSMENT METHODS				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Cycle Test 1	24/02/2023 tentatively	1 hr	20%
2	Assignment 1 - Group	Between week 4 & week 8	-	15%
3	Cycle Test 2	24/03/2023 tentatively	1 hr	20%
4	Assignment 2	Week 14	-	15%
CPA	Compensation Assessment*	Week 16	1 hr	-
5	Final Assessment *		3 hrs	30%
*mandatory; refer to guidelines on page 4				



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

- Online feedback from students at the end of the semester based on
- Knowledge gathered during the semester.
 - Teaching & learning compatibility with the faculty.

COURSE POLICY (including compensation assessment to be specified)

Faculty is available for communication at cabin 205, given webmail and contact number. Any clarification regarding the subject can be communicated at working hours.

Plagiarism will not be tolerated in assignments. If found evidence, will be awarded.

One compensation assessment for absentees in tests shall be conducted. Only genuine cases of absence will be considered (with necessary documentation, for the reason of absenting).

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 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

For a student to secure a minimum of E grade, he/ she has to secure a minimum of 40% in the cumulative assessment in theory courses. Also, a student must score a minimum of 20% in the final assessment to complete the course.

FOR APPROVAL

Course Faculty

[K.BHAGYASRI]

CC- Chairperson

(DI.D. KANNAMMA)

HOD

(DE. THIRUMARAN)



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Guidelines

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

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