

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

DEPARTMENT OF CIVIL ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.TECH - CIVIL ENGINEERING		
Course Title	CONSTRUCTION MANAGEMENT		
Course Code	CEPE13	No. of Credits	3
Course Code of Pre-requisite subject(s)	Nil	Semester	IV
Session	Jan. 2022	Section (if, applicable)	NA
Name of Faculty	Mrs. K. Shenbagavalli	Department	Civil Engineering
Email	kshenba@nitt.edu	Telephone No.	7339072500
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail	-	Telephone No.	-
Course Type	<input type="checkbox"/> Core course <input checked="" type="checkbox"/> Elective course		
Syllabus (approved in Senate)			
<p>Introduction: Project forms, management objectives and functions; organizational chart of a construction company; manager's duties and responsibilities; public relations; Leadership and team - work; ethics, morale, delegation and accountability.</p> <p>Man and Machine: Man-power planning, training, recruitment, motivation, welfare measures and safety laws; machinery for Civil Engineering., earth movers and hauling costs, factors affecting purchase, rent, and lease of equipment, and costbenefit estimation.</p> <p>Planning, scheduling and Project Management: Planning stages, construction schedules and project specification, monitoring and evaluation; Bar-chart, CPM, PERT, network- formulation and time computation.</p> <p>Contracts: Types of contracts, Formation of contract – Contract conditions – Contract for labour, material, design, construction – Drafting of contract documents based on IBRD/ MORTH Standard bidding documents – Construction contracts – Contract problems – Arbitration and legal requirements</p> <p>Computer applications in construction management: Software for project planning, scheduling and control</p>			
COURSE OBJECTIVES			
<ol style="list-style-type: none"> 1. To know the managerial duties and responsibilities 2. To learn about man power planning and estimation of equipment cost 3. To understand project planning and scheduling concepts 4. To know the types of construction contracts and their drafting 5. To learn the application of computer software in construction management 			

COURSE OUTCOMES (CO)			
Course Outcomes			Aligned Programme Outcomes (PO)
On completion of the course, the students will be able to:			
1. Perform the role of a manager efficiently with precise knowledge of the roles and responsibilities			7, 8, 9, 10, 11
2. Estimate the man power requirement and can recruit suitable candidates for construction jobs			1, 2, 4, 5, 9, 11
3. Analyze and compare the cost estimates of different construction equipment			1, 2, 4, 5
4. Compute construction schedules, network diagrams and time estimates of projects			1, 2, 3, 10, 11
5. Evaluate and make tenders and contract documents of their own			6, 8, 9, 11
6. Use the computer software to monitor real-time projects			5, 11, 12
COURSE PLAN – PART II			
COURSE OVERVIEW			
This course entails the students to learn about the fundamentals of different construction methods for different components of a structures, diagnosis and repair of damages, strategies to select appropriate machines available for different construction activities.			
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Schedule (3 Hours/Week)	Topic	Mode of Delivery
1.	Week 1	Management objectives and functions, organizational chart of a construction company.	Lecture by C&T / PPT
2.	Week 2	Manager's duties and responsibilities; public relations; Leadership and team - work;	
3.	Week 3	Ethics, morale, delegation and accountability	
4.	Week 4	Man-power planning, training, recruitment, motivation, welfare measures and safety laws	
5.	Week 5	Machinery for Civil Engineering, earth movers and hauling costs	
6.	Week 6	Factors affecting purchase, rent, and lease of equipment, and cost benefit estimation	
7.	Week 7	Assessment & Assignmnets	
8.	Week 8	Planning stages, construction schedules and project specification, monitoring and evaluation	
9.	Week 9	Bar-chart, CPM network- formulation and time computation.	
10.	Week 10	PERT, network- formulation and time computation.	
11.	Week 11	Tutorials on CPM & PERT	

12.	Week 12	Contracts: Types of contracts, Formation of contract – Contract conditions – Contract for labour, material, design, construction	Lecture by C&T / PPT
13.	Week 13	Drafting of contract documents based on IBRD/MORTH Standard	
14.	Week 14	Construction contracts – Contract problems – Arbitration and legal requirements	
15.	Week 15	Software for project planning, scheduling and control - Introduction	

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Assessment -1	Week 7	1.5 hr	20
2	Assessment -2	Week 11	1.5 hr	20
3	Assignment	At the end of each unit	-	20
CPA	Compensation Assessment*			
4	Final Assessment	As per Schedule	3 hr	40

REFERENCES

1. Dharwadkar, P.P., Management in Construction Industry, Oxford IBH, New Delhi, 1992.
2. Patrick, C., Construction Project Planning and Scheduling, Pearson, 2012.
3. Brien, J.O. and Plotnick, F.L., CPM in Construction Management, Mcgraw Hill, 2010.
4. Punmia, B.C., and Khandelwal, K.K., Project Planning and control with PERT and CPM, Laxmi Publications, 2002.
5. A Guide to the Project Management Body of Knowledge (PMBOK Guide) - Sixth Edition

COURSE EXIT SURVEY

- Direct feedback from the students by face-to-face meeting individually and as the class as a whole.
- Feedback from the students during class committee meetings
- Exit survey from the students at the end of the session

COURSE POLICY

- Attending all the assessments (Assessment 1 to 5) is MANDATORY for every student.
- If any student is not able to attend Assessment-1 / Assessment-2 due to genuine reason, student is permitted to attend the respective assessment as compensation assessment (CPA) with the same weightage. Prior permission and required document must be submitted for absence.
- At any case, CPA will not be considered as an improvement test. A minimum of 30% should be scored in the end assessment for a pass.
- Every student is expected to score minimum 40% (i.e., 40 marks) to pass the course. Otherwise the student would be declared fail and 'F' grade will be awarded.

MODE OF CORRESPONDENCE (email/ phone etc)

- All the correspondence regarding the course will be communicated through webmail or

intimated during class hours.

- Queries/ Clarifications (if necessary) may be e-mailed to kshenba@nitt.edu or can be communicated directly during Institute working hours.

ATTENDANCE

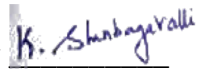
- Every student should maintain a minimum attendance of 75% during the contact hours and assessment.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade

ACADEMIC HONESTY & 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.

FOR APPROVAL

Course Faculty



(K. Shenbagavalli)

CC-Chairperson



Dr. Sunitha V

HOD


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