

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Estimation and Construction Management
2.	Course Number	CE4101
3.	Status of the Course	Core
4.	Structure of Credits	3-1-0-4
5.	Offered To	UG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Civil & Environmental Engineering
8.	To take effect from	July 2018
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: This course introduces basic concepts on engineering economics, quantity and cost estimates of Civil Engineering works, construction management, planning and control of Civil Engineering projects.	
12.	Course Content: Engineering Economics: Interest rates and equivalence, cash flows, nominal and real interest rates, annual and future worth of cash flows, arithmetic and geometric gradient, comparison of alternatives, rate of return, cost-benefit analysis, depreciation, equipment costing; Estimation: Purpose and types of estimates, units of items of work, methods of building estimates, quantity take-off (of earthwork, brickwork, formwork, plastering and painting, reinforced concrete work, steel work, road work etc.), specifications and cost estimate, rate analysis; Planning and Control: WBS and bar charts, networks and relationships, critical path method, floats, resource levelling, PERT, earned value analysis; Construction Management: Construction contracts, safety and quality.	
13.	Text book(s): 1. Dutta B N, <i>Estimating and Costing in Civil Engineering: Theory and Practice</i> , UBS Publishers' Distributors Pvt. Ltd (2016). 2. Jha K N, <i>Construction Project Management: Theory and Practices</i> , Pearson Education India (2015).	
14.	Reference(s): 1. Chakraborti M, <i>Estimating, Costing, Specification and Validation in Civil Engineering</i> , by author (2017). 2. Oberlender G D, <i>Project Management for Engineering & Construction</i> , McGraw-Hill Education (2014). 3. IS 1200, <i>Methods of Measurement of Building and Civil Engineering Works</i> , Bureau of Indian Standards, New Delhi (1974). 4. CPWD, <i>Delhi Schedule of Rates</i> , Central Public Works Department, Government of India, New Delhi (2016).	