



CONSTRUCTION METHODS AND EQUIPMENT MANAGEMENT

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IIT Guwahati

TYPE OF COURSE : New | Core | PG

COURSE DURATION : 8 weeks (18 Jan' 21 - 12 Mar' 21)

EXAM DATE : 21 Mar 2021

INTENDED AUDIENCE : Post graduate students of Construction Technology and Management Specialization, Undergraduate students of Civil Engineering , People working in Construction Industry

INDUSTRIES APPLICABLE TO : Construction Equipment Companies like Larsen and Toubro, Caterpillar, Liebherr, Hyundai Construction Equipment India

COURSE OUTLINE :

The key element for successful execution of any project is planning, which also includes planning of equipment. Due to recent advancement in mechanization, different models of machines are available in the market for a particular job. Hence the task of selection of right machine for the right job is quite challenging for project planner. Therefore, understanding of machine capabilities is very important for optimal selection and utilization of equipment. This course provides comprehensive information on guidelines for selection of equipment, estimation of cost and productivity of various equipment and determination of optimum replacement time of equipment. Knowledge on estimation of cost of equipment is very important, as accurate information on equipment cost is needed for preparation of bids. Further, a deep insight into excavation, pile driving methods, cranes and concreting equipment is provided, the information on which is very much essential for people working in construction industry

ABOUT INSTRUCTOR :

Dr. G. Indu Siva Ranjani holds a PhD degree in Civil Engineering (Building Technology and Construction Management) from Indian Institute of Technology Madras, India. She is recipient of Gold medal and Shree Gayathri Devi Award for securing highest CGPA in the Ph.D. Civil Engineering programme in July 2011 at IIT Madras. Presently she is working as Assistant Professor at Indian Institute of technology Guwahati, India. She has handled courses at IIT Guwahati related to both Construction Management and Construction materials. Some of the management related courses handled by her, to be mentioned are Construction methods and Equipment management, Quality and Safety management and Construction Technology and Management. Similarly, in materials domain, she has handled courses on Construction materials and Advanced Concrete Technology. Her major research interests are Lightweight concrete, sustainable construction materials and energy efficient structures. She has also proposed new materials for the production of foamed concrete. Her work has been published in peer reviewed journals and cited more than 500 times in leading scientific journals throughout the world. She has so far guided 15 MTech, & one PhD project.

COURSE PLAN :

Week 1: Introduction to course and Planning Process for Equipment

Week 2: Cost of Owning and Operating Construction Equipment

Week 3: Equipment Life and Replacement Analysis

Week 4: Engineering fundamentals of moving earth

Week 5: Earthmoving and Excavating equipment

Week 6: Piles and Pile driving equipment

Week 7: Lifting Equipment

Week 8: Concreting Equipment