



Koneru Lakshmaiah Education Foundation

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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Department of Civil Engineering Program: M.Tech –Construction Technology and Management Academic Year: 2021-2022

Course Code	Course Name	Description of Course Outcome
20CE5121	Construction Planning Scheduling and Control	Understand the concepts of project management for practical application
		Apply mathematical logic in the planning and scheduling of a project
		Apply concepts to estimate the project cost by using tools
		Apply concepts to maintain the construction documents in the project
		Plan, schedule, and control large-scale programs and individual projects by using Primavera/MS Project Tool
20CE5122	Sustainable Construction Materials and Methods	Understand concepts of sustainable construction practices
		Understand basics of sustainable construction materials
		Design the product's process to achieve sustainability features
		Calculate Life Cycle Assessment of building
		Investigate Sustainability aspects of the buildings by using LCA tools
20CE5123	Lean Construction Practices	Understand the elements of traditional construction management
		Understand the integrated applications of various IT tools and case studies
		Apply and analyse construction productivity measuring and improving techniques
		Implement lean principles in order to improve the customer value for sustainable project business
		Apply and analyse the lean practices
20CE5124	Building Information Modeling	Become familiar with the trends, concepts of Building Information Modeling
		Learn about Project BIM Execution Planning
		Design the BIM execution process by creating process maps
		Develop BIM information exchanges
		Developing BIM Model using Revit Software and submission of project report
20CE5225	Mechanized Construction and Machinery	Understanding the basic concepts of Equipment Management and tools
		Understand various construction equipment and study the efficient utilization of the same using scientific principles
		Apply the knowledge for the selection of appropriate equipment
		Understand the operation of Earthwork and various functions of machinery used for Earth moving, compaction, etc.
		Write field report on machinery operation, cost and productivity by using project management tools like primavera/Candy/SAP etc
		Understand the concept of project and Identification of best Project by understanding the different feasibility studies

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20CE5226	Project Formulation Appraisal	Estimating the cash flows by considering the time value of money.
		Identify the best project by analyzing facts related economic, commercial and financial aspects.
		Understand in detail about Private sector partnership in construction projects.
20CE5227	Construction Laws and Regulations	Understand the concept of construction laws and regulations.
		Study the current trend toward alternative project delivery systems via contractual arrangements such as design-build and construction management at risk
		Investigate how to avoid the possibilities of construction disputes via alternative dispute resolution (ADR)
		Understand the Labor regulations and review construction contracts and specifications
20CE5228	Quality Management and Safety Management Systems in Construction	Understand the concepts of quality management and the factors influencing construction quality
		Understand quality planning and programs in construction industry
		Acquire knowledge of quality management systems and ISO 9000 family of standards.
		Understand and analyses quality circle (QC) concepts for possible implementation to solve construction productivity and quality problems
20CE51E1	Material Procurement Management	Understand the significance of material management
		Integrate important materials functions to both products and services & use MRP, ERP,& PLM managing materials
		Apply various purchasing method and inventory controlling techniques into practice.
		Use the Material Management tools like TALLY, ERP, SAP in materials planning, procurement, inventory, control, cost control etc.
20CE51E2	Green Buildings	Understand Necessity and importance of Sustainable/ Green Buildings, Grasp the construction practices of a sustainable Buildings.
		Understanding the Green Building Rating Systems, Water & Energy efficiencies, Reduction in waste material during construction and Building Design
		Understanding Air Conditioning and HVAC system design, Salient features of CII Godrej Green Business Center
		Understanding Indoor Environment Quality and Occupational Health, Reasons for poor IAQ, Measures to achieve Acceptable IAQ levels,
20CE51F1	Construction Personnel Management	Understand Overview of manpower planning and roles of HR
		Understand Detail about the organizations and structure variance for organizations
		Understand human relations and organizational behavior for working in an organization
		Understand welfare measures and laws related to welfare measures and Detail overview of management and development methods
20CE51F2	Pre-Engineering Construction and Technology	Understand the type of prefabricated elements and its importance
		Understand the precast construction procedure
		Understand the modular construction practices and its limitations and advantages
		Apply knowledge in the choice of production setup and manufacturing methods
20CE52G1	Statistical Methods in Construction	Apply discrete and continuous probability distribution including requirements mean and variance and making decisions
		Use the concepts of standard deviation, coefficient variance in different types samples and apply the tests
		Perform the correlation analysis in various civil engineering projects
		Apply simulation techniques for analysis and mitigation of construction project risks
20CE52G2	Project Risk Management	Identify the stages involved in a project and analyze the obligatory services to be taken up while performing a construction activity
		Cultivate an idea on effective resource utilization and identify factors affecting job productivity


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		Apply the professional skills acquired in managing a construction project.
		Gain the ability to attain an equilibrium among Innovation, Technology and Economic feasibility
20CE52H 1	Emerging Construction Technologies	Understand the modern construction techniques used in the sub structure construction
		Understand the concepts used in the construction of special structures
		Apply mechanism/technique for strengthening and repair methods for different cases.
		Demonstrate knowledge and understanding of the principles and concepts relevant to super structure construction for buildings
20CE52H 2	Resource Management and Control in Construction	Understand overview of the resource planning and management of resources in construction
		Understand in detail about the labor management and optimization
		Understand equipment management and effective utilization of the material resources
		Understand detail about the allocation and levelling of resources with time management

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