

POST GRADUATE PROGRAMME IN CONSTRUCTION OPERATIONS MANAGEMENT

One Year Part Time Week-end Programme offered from Pune

INTRODUCTION

This Programme of Studies is designed for three types of construction Professionals:

- i. The diploma holders and engineers: by completing this Programme, their qualification is upgraded to Post Graduate level and they become eligible to take on higher responsibilities.
- ii. Construction site supervisors and engineers, who wish to improve their capabilities, win promotions and perform higher level jobs.
- iii. All hopefuls who wish to learn and understand various aspects of construction management and project execution to become project/construction managers.

OBJECTIVE

- To develop competencies in Construction Management tools, techniques and skills.
- To acquire proficiency in controlling cost, quality and managing people.
- To gain knowledge on the dynamics of site organisation and execution of construction operations.

On completion of the Programme, the graduates should be in a position to manage construction businesses efficiently and effectively.

WHAT STUDENTS WILL LEARN

The Programme is designed for students to gain proficiency in tools, techniques and practices required for supervising and managing construction business/project, independently. Graduates of this Programme will be able to efficiently and effectively perform the following functions:

- Planning, scheduling and controlling of project time, resources and costs to ensure that work is executed on time within the budget and to the owner's satisfaction.
- Plan and procure inputs/resources economically on time, and to ensure their optimum utilization.
- Acquire proficiency in supervision of construction quality at sites.

- Organise construction site, integrate activities, develop human resources and safe working environments.
- Receive and understand instructions for H.O., prepare and submit reports as required, and maintain site records.

DURATION

Twelve months of on-campus Studies. Teaching days are Saturday (03:00 p.m. to 07:00 p.m.) and Sunday (09:30 a.m. to 01:30 p.m.).

SEATS

Thirty only.

ELIGIBILITY

- Graduate in any branch of Engineering/ Architecture with 3 year work experience.
- OR
- Diploma in Engineering from State Board of Technical Education with 5 year work experience.

ADMISSION PROCEDURE

Persons interested in admission may download the Prospectus and Application Form from NICMAR website, www.nicmar.ac.in It may also be obtained from any NICMAR campuses by post on payment of Rs. 1000 (Rupees one thousand only). The payment of fee should be made by a Demand Draft drawn in favour of "NICMAR - SODE" payable at Pune. Fill in forms, attach photocopies of the required documents and return to NICMAR School of Distance Education at Pune along with a processing fee of Rs.1000 by D/D.

- Make sure you meet the eligibility criteria.
- Fill in the application form in your own handwriting.
- Attach photocopies of degree/diploma, and other testimonials/ certificates.
- If the Application Form is downloaded from the website, it should be submitted alongwith Rs.1000/- in Demand Draft.
- Enclose 2 copies of passport size colour photographs and one stamp size photograph.
- Send the application along with enclosures by Regd. A.D. to the Dean, NICMAR School of Distance Education, Pune.

TUITION FEE

The total amount of tuition fee payable for this one year part time Programme is Rs. 1,20,000.

PAYMENT SCHEDULE

The Schedule of the payment of fees is given below:

| | |
|---|-----------------------|
| 1. At the time of admission and on the date specified in the Admission Letter | Rs. 60,000/- |
| 2. On commencement of Trimester 3 | Rs. 60,000/- |
| Total | Rs. 1,20,000/- |

FACULTY

The courses will be conducted by NICMAR faculty and experts drawn from industry.

ASSESSMENT

Taught Courses are assessed by examination method. Presentations/Workshops are assessed by practical tests.

Examinations are held Trimester-wise for the courses offered.

The Scheme is shown below:

| | |
|-----------------------------|-------|
| No. of courses | : 16 |
| Total no. of credits | : 44 |
| Total marks per full course | : 100 |

Each course of 100 marks consists of 60 marks of Term-end examination and 40 marks of Concurrence Internal Assessment (CIA).

AWARD

In order to be eligible for the Award of a final Certificate, the student must meet the following requirements.

- Pass in each Term-end Exam and obtain a minimum of 40 percent marks in each course
- Have paid full fees of the Programme.
- 80% attendance.

COURSES AND CREDITS

| Courses | Credits |
|--|-----------|
| TRIMESTER I | |
| COM 11 Essentials of Management | 4 |
| COM 12 Construction Technology Management | 2 |
| COM 13 Procurement Management | 3 |
| COM 14 Project Management | 4 |
| TRIMESTER II | |
| COM 21 Finance & Accounting Management | 4 |
| COM 22 Operations Management | 2 |
| COM 23 Materials & Equipment Management | 3 |
| COM 24 Quality, Safety & Environment Management | 4 |
| TRIMESTER III | |
| COM 31 Contracts Management | 4 |
| COM 32 Management of Site Work | 2 |
| COM 33 Energy Sector Construction Execution Management | 2 |
| COM 34 Real Estate & Facilities Management | 3 |
| TRIMESTER IV | |
| COM 41 Project Risk & Insurance Management | 2 |
| COM 42 Highways and Ports Sector Construction Execution Management | 2 |
| COM 43 Infrastructure Development & BOT Projects | 3 |
| COM 44 Computerised Project Management | 3 |
| TOTAL | 47 |

COURSE CONTENTS

CEM 11: Essentials of Management

- Fundamentals of management
- Dynamics of People and Organizations
- Models of Organizational Behaviour
- Leadership Strategies for Organizational Transformation
- Leadership and Empowerment
- Motivation and Behaviour
- Marketing Principles/ Project Marketing
- The Strategic Role of HRM
- Recruitment and Placement
- Training and Development
- Managing HR in Construction
- Skills in dealing with clients, construction workers, government inspectors, trade unionists.

CEM 12: Construction Technology Management

- Concrete Technology
- Trenchless Technology
- Modern Material Handling Techniques
- Alternative Building Materials
- Advances in Construction Techniques
- Approaches to Earthquake Resistance

CEM 13: Procurement Management

- Tender structure for different types of contracts
- Tendering procedure
- Specifications
- Preparation of pre-qualification documents
- Preparation of Tender Documents and invitation to bid
- Submission of bids
- Tender documents for LCB, NCB and ICB
- Procurement of tender documents

- Pre-bid conference and site investigation
- Bank guarantees and Performance Bonds
- Sub contracting & labour contracting system
- Letter of Acceptance and Contract signing

CEM 14: Project Management

- Project Management Concepts
- Project Planning and Scheduling
- Resource Planning
- Planning the Team and the System
- The Right Schedule
- The project Review Process – MIS
- Monitoring for Creating Focus
- Project Work Break Down Structures

CEM 21: Finance & Accounting Management

- Cost Accounting Fundamentals & Methods
- Standard and Marginal Costing
- Budgetary Control Systems
- Project Cost Control
- Cost Accounting Techniques for Projects
- Cost Audit in Projects
- Risk Analysis of Cost Estimates
- Time Value of Money
- Working Capital Management
- Corporate Finance – Funding the Business
- Internal Rate of Return

CEM 22: Operations Management

- Plant Layout & Material Handling on Mega Projects
- Outsourcing
- Productivity at Site
- Work Study Techniques
- Interdepartmental Co-ordination

CEM 23: Materials and Equipment Management

- Equipment Planning for Projects
- Hire/Purchase Decisions
- Monitoring Equipment Performance
- Logistics in Materials Procurement
- Inventory Control
- Managing Inventories in a Supply Chain
- Optimizing the Purchase Process

CEM 24: Quality, Safety & Environment Management

- Recent History of Quality Management
- Quality Assurance in Construction
- Applying Quality & Productivity Techniques in Construction.
- Policies on Occupational Health, Safety and Environment.
- Legislation & Enforcement of Safety and Health Policies.
- Environment & Large Projects – Issues of Concern.
- Occupational Health Surveillance.
- Preventive and Protective Safety & Health Measures.
- Health Promotion, Education and Training.

CEM 31: Contracts Management

- Estimation of Different Types of Construction Works
- Analysis of Rates
- Tendering & Bidding
- Indian Contract Law
- FIDIC Contract Conditions Contracts/EPC Projects
- Claims Management Negotiation Arbitration, Alternate Dispute Resolution

CEM 32: Management of Site Work

- The Site (Layout and Organisation)
- Site Inputs Planning, Site Work Planning
- Site Cost Control Techniques
- Site Quality Control Operations, including Concreting & Improving Site Productivity
- Site Mobilization, Layout, Site Organisation
- Execution and Monitoring
- Closing the Site

CEM 33: Energy Sector Construction Execution Management

- Indian Power Scenario
- Enabling Legal Framework for Investors –Electricity Act 2003
- Power Procurement –Tariff Policy
- Streamlined Environmental Clearance Procedures –EIA Notification
- Procurement of Transmission Services
- Network Plan by CEA
- Bid Process Committee (BPC) and initial project development & manage tariff bidding
- Regulator to adopt tariff arrived by tariff bidding
- Standard bidding documents notified
- Power and Oil & Gas Project Execution and Management

CEM 34: Real Estate & Facilities Management

- Real Estate Development-DC Regulations & Acts
- Estate Management
- Building Services Planning & Maintenance
- Land Acquisition-Procedures, Acts, Issues
- Property Management-Laws, Acts, Registration
- Facilities Management

CEM 41: Project Risk & Insurance Management

- Risk and Return
- Diversification and Investment Risk
- Risk Management on Projects
- Risk Management in International Contracts
- Risk and Insurance.
- Statistical and OR models for Construction

CEM 42: Highways and Ports Sector Construction

Execution Management

- Current status, Policies and Reforms initiated
- Execution of Roads and Highway Projects
- Concession agreements, tariff agreements including collection arrangements
- Ports: Survey and dredging operations; Construction of docks & Jetties, Fender Systems, Terminal pavements, Container terminals & oil terminals, Material handling systems.

CEM 43: Infrastructure Development & BOT Projects

- Infrastructure Development- Issues, Policies
- Regulatory Framework for Private Participation
- Foreign Investment in Infrastructure
- Types of BOT Models-BOT, BOO, BOLT
- Structuring BOT Projects

CEM 44: Computerised Project Management

- Resource Planning
- Project Work Breakdown Structure, OBS & Multiple Project Planning
- Project Controls
- Information Reporting System
- Application of latest Project Management Software Packages in Construction

National Institute of Construction Management and Research (NICMAR) is a leading educational Institute established by the Indian construction industry. NICMAR is an autonomous, non-government, non-profit academic body, incorporated in India on September 1983 as a 'Society' and a public charitable 'Trust'. It is recognized by Government of India as a Scientific and Industrial Research Organisation – SIRO. Major academic programmes of the Institute were started with technical assistance from UNDP and academic inputs from the faculty of MIT-USA, University of Michigan-USA, ILO, University of Management, Ahmedabad. The Institute enjoys Income Tax exemption u/s 11 of the Income Tax Act, 1961.

The Programmes cover a wide range of themes in areas like general management, construction, infrastructure, contracts, safety, projects, etc. Around 3000-3500 students graduate every year from the various programmes of the Institute.

NICMAR Academic Activities:

A. Full Time On-campus Programmes

- i. Two Year Post Graduate Programme in Advanced Construction Management, offered from Pune, Hyderabad and Goa.
- ii. Two Year Post Graduate Programme in Project Engineering and Management, offered from Pune
- iii. Two Year Post Graduate Programme in Real Estate and Urban Infrastructure Management, offered from Pune
- iv. One Year Post Graduate Programme in Health, Safety and Environment Management, offered from Hyderabad
- v. One Year Post Graduate Programme in Quantity Surveying, offered from Hyderabad.

B. Part Time Week-end Programmes Offered from Mumbai

- i. One Year Post Graduate Programme in Construction Management for Working Executives
- ii. One Year Post Graduate Programme in Quantity Surveying and Contract Management for Working Executives.

C. Part Time Week-end Programmes Offered from Pune

- i. One Year Post Graduate Programme in Construction Operations Management for Working Executives
- ii. One Year Post Graduate Programme in Construction Estimation, Safety, Quality and Contract Management for Working Executives.

D. Distance Education

The distance education programmes offered by NICMAR, are qualification programmes in various branches of Construction Management in the infrastructure development sector, and the construction industry. They are designed to cater to the professional growth, job proficiency and career promotion of executives engaged in managing civil works activities.

Distance Education Programmes offered by NICMAR are of varying levels and durations as indicated below:

- i. Post Graduate Programmes (2 years duration)
- ii. Graduate Programmes (1 year duration)
- iii. Certificates (6 months duration)

E. Executive Education

The Executive Education Programmes offered by NICMAR seek to up-grade the managerial and technical capabilities of working executives of companies, government departments and other organisations engaged in manufacturing, construction and infrastructure development work and service sector. A variety of such programmes are regularly conducted from different NICMAR campuses either on open-mode or in company-mode. Over 1000 professionals avail of such programmes every year.

Contact Based Programmes

- i. Executive Post Graduate Programme in Management
- ii. Executive Post Graduate Programme in Construction Management
- iii. Executive Post Graduate Programme in Project Management.

F. Research and Consultancy

NICMAR provides research & consultancy in the area of Feasibility Studies, Financial Analysis, Human Resource Management, International Construction Contracting, Productivity, Methodology Development, Project Management, Quality & Safety Management, Techno-economic Studies etc. NICMAR has conducted research work for various companies; government and non-government organizations.