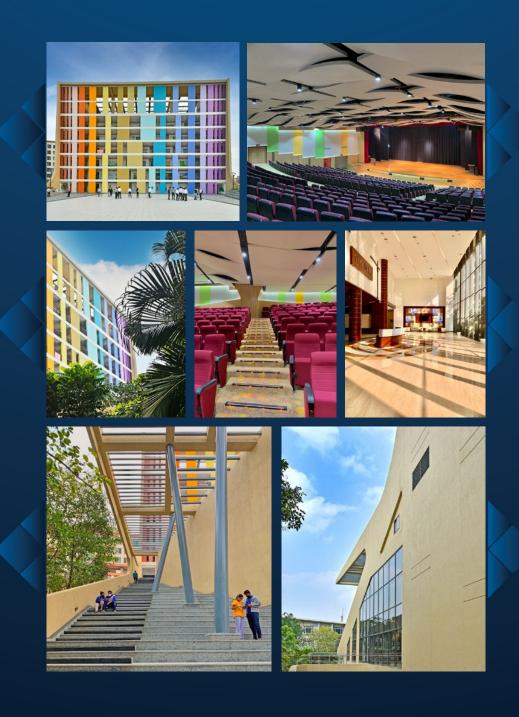


## School of Engineering

## M.Tech in Construction Technology and Management (CTM)





## **NICMAR University, Pune**



# M.TECH IN CONSTRUCTION TECHNOLOGY AND MANAGEMENT (MTECH IN CTM)

Programme Brochure (2024-26)



#### M.TECH. - CONSTRUCTION TECHNOLOGY AND MANAGEMENT

#### INTRODUCTION

School of Engineering, NICMAR University Pune has launched a two-year full-time on-campus new programme in Master of Technology (M. Tech.) in Construction Technology and Management (CTM) specialization that aligns well with the principles outlined in the National Education Policy (NEP) and National Higher Education Qualifications Framework (NHEQF). The program incorporates various components of the curriculum that facilitate comprehensive technical learning and skill development.

The philosophy behind the design of the M. Tech in Construction Technology and Management specialization at the School of Engineering is rooted in recognizing the multifaceted nature of the construction industry and the evolving needs of technical professionals within this sector. The program is designed with a holistic approach to not only equip professionals with a broad skill set for success in the construction field but also to cultivate advanced technical abilities, problem-solving skills, research acumen, and analytical thinking for addressing complex challenges in construction projects. In addition, it integrates technical expertise, management strategies, and humanities/life skills to prepare individuals for a successful career.

At its core, the program philosophy emphasizes the following principles:

**Technical Abilities:** Recognizing that success in the construction industry requires a diverse skill set, the program aims to equip students with well-rounded technical competencies. The programme delves deep into various construction techniques, construction methods, machinery utilization, geospatial practices, building information modelling, infrastructure and building design and execution. Through rigorous coursework and hands-on training, students develop a comprehensive understanding of advanced technologies and processes in construction, enabling them to tackle technical challenges effectively.

Problem-Solving Abilities through Practical Application and Experiential Learning: Problem-solving lies at the core of successful project management in construction. Students are trained to identify, analyze, and solve problems encountered in construction projects through a combination of theoretical learning and practical application. The program emphasizes hands-on learning experiences to complement theoretical knowledge. Laboratory sessions, field-based learning, internships, and projects are integral to gaining real-world experience and exposure to real projects in the construction industry. This approach ensures that graduates are well-versed in theory and capable of applying their knowledge effectively to the dynamics of real-life projects. These experiences enhance problem-solving skills and provide exposure to practical challenges faced in construction projects.

**Multidisciplinary Perspective:** Acknowledging the multidimensional nature of the construction industry, the program fosters a multidisciplinary approach. By integrating technical, management, and humanities/life skills courses, students develop a broader perspective considering construction's ethical, legal, and societal aspects. This interdisciplinary approach prepares graduates to address complex challenges and contribute effectively to the construction industry.

**Industry-Relevant Curriculum:** The curriculum is designed in alignment with construction industry standards and practices. By covering courses related to advanced construction techniques, the latest trends in construction materials, project management, estimations, contracts, project controls, geoinformatics, BIM, transportation infrastructures and legal issues, etc., the program ensures that graduates are equipped with the skills and knowledge needed to navigate the complexities of construction projects and meet industry demands.

Analytical Mind Development for Development of Technical Solutions to Onsite Project Issues: Analytical thinking is essential for effective decision-making in construction projects. The programme fosters the development of analytical skills through coursework in data analysis, quantitative methods, and risk assessment. Students learn to analyze complex data sets, develop designs, evaluate project risks, and make decisions to optimize project outcomes. The programme emphasizes practical problem-solving by challenging students to develop innovative technical solutions to on-site project issues. This hands-on approach fosters creativity, adaptability, and resilience in students as they navigate the complexities of on-site project execution.

Research Abilities through Research Project: As a part of the curriculum, students undertake individually, a six-month research project focussed on a live construction project. This immersive



research experience allows students to apply theoretical knowledge to real world scenarios, conduct indepth analysis and propose innovative solutions to practical challenges encountered on-site. Through this research endeavour, students develop critical research skills, gain practical insights and contribute valuable findings and research papers to the construction industry.

Continuous Adaptation, Innovation and Entrepreneurship: Recognizing that the construction industry is dynamic and constantly evolving, the program is designed to be adaptable and responsive to changes in technology, regulations, and industry trends, fostering an entrepreneurial mindset among students. Through ongoing curriculum updates and engagement with industry stakeholders, the program ensures that graduates not only stay abreast of the latest developments but also actively seek out opportunities for innovation and entrepreneurship. The programme introduces new construction materials, sustainable practices, and digital technologies for project design, execution, and management and equips the students with the skills and mindset to identify opportunities, take calculated risks and develop innovative ideas into successful ventures. This entrepreneurial approach not only benefits individual graduates but also contributes to the overall growth and competitiveness of the construction sector.

**Internships/Community Engagement and Service:** Internships and community engagement initiatives provide students with opportunities to apply classroom learning in real-world settings. Through internships with construction companies or relevant organizations, students gain practical experience, network with industry professionals, and understand industry standards and practices. Community engagement and service projects foster social responsibility and ethical considerations in construction practices.

By incorporating these components into the curriculum, the Construction Technology and Management specialization ensures that graduates are well-prepared to meet the demands of the construction industry and contribute effectively to its dynamic and evolving landscape. Furthermore, aligning with NEP, NHEQF emphasizes the program's commitment to providing a holistic education that prepares individuals for professional success and societal responsibility.

Overall, the philosophy behind the programme's design emphasizes the importance of providing a comprehensive education that prepares individuals not only for technical proficiency but also for leadership, innovation, and ethical decision-making in the construction industry. By adhering to these principles, the School of Engineering aims to produce well-equipped graduates to make meaningful contributions to the field of construction technology and management.

#### **SCHOOL OF ENGINEERING VISION**

To emerge as a globally recognized school for promoting innovation and sustainability, equipping students with the knowledge and skills to tackle complex modern-day challenges and transforming them into holistic professionals and responsible citizens.

#### **SCHOOL OF ENGINEERING MISSION**

We at the School of Engineering are committed to achieving the vision by,

M1 Provide transformative education by blending academic excellence with hands-on experience

**M2** Promote a culture of interdisciplinary research, Industry Interaction, sustainability, quality and ethical values.

**M3** Aim to nurture creative thinking in entrepreneurial and intrapreneurial endeavors.

**M4** Prepare industry-ready professionals by enhancing industry-institute interactions.

#### **Program Educational Objectives (PEOs):**

- 1. To develop an in-depth understanding of advanced construction trends and practices through technical courses, including design aspects, construction methods, techniques, equipment, and execution practices.
- 2. To develop proficiency in designing and executing construction projects effectively, including designing, planning, constructing, and maintaining infrastructure and building projects the project.
- 3. To develop a technical problem-solving ability to address complex challenges in construction projects, by analysing technical issues, devising innovative solutions, and implementing effective strategies to optimize project outcomes.
- 4. To develop a research-oriented ability to delve deep into industry-specific challenges, conduct empirical research, and propose innovative solutions to onsite construction issues.



- 5. To develop entrepreneurial skills through identifying gaps, and challenges, exploring emerging technologies, developing innovative solutions, and becoming agents of change to drive entrepreneurship within the construction industry.
- 6. To demonstrate a strong commitment to sustainable practices and ethical standards in construction project design and execution, considering environmental impacts, social responsibility, and regulatory compliance throughout the project lifecycle.

#### **PROGRAMME OUTCOMES (POs)**

**PO1:** Achieve a mastery of construction technology and management principles beyond the level expected in undergraduate programs, demonstrating a deep understanding of the specialization.

**PO2:** Critically evaluate project outcomes, identify areas for improvement, and implement corrective measures, leveraging mistakes as learning opportunities to enhance project performance.

**PO3:** Collaborate with interdisciplinary teams to integrate sustainable practices into construction projects, considering environmental impact, resource efficiency, and long-term viability in project planning and execution.

**PO4:** Independently conduct research and development work to address practical challenges prevalent in the construction industry, demonstrating proficiency in problem-solving.

**PO5:** Generate substantial technical reports and documents with clarity and precision, effectively communicating findings and recommendations.

**PO6:** Engage in lifelong learning to stay abreast of relevant knowledge and emerging technologies in construction, while upholding professional integrity, ethical conduct, and a sense of social responsibility for sustainable development.

#### PROGRAMME SPECIFIC OUTCOMES (PSOs)

**PSO1.** Apply advanced construction techniques, materials, and technologies to develop innovative solutions for on-site project challenges, demonstrating proficiency in implementing technical solutions effectively.

**PSO2.** Demonstrate the ability and sound knowledge of construction project management to accomplish a successful project.

#### **ELIGIBILITY**

- Bachelor's degree in Civil Engineering or Equivalent degree in relevant field.
- The candidate must have secured at least 50% marks (45% for the candidates from reserved category) or its equivalent CGPA are eligible to apply.

Final year eligible graduating students can also apply. However, such candidates must have completed (passed) their Graduation before the commencement of programme.

#### **ADMISSION PROCEDURE**

Selection of students is made by the selection committee. Those interested in admission to the programmes offered by the NICMAR University, Pune may apply online, pay fees and upload documents through our website. All specified documents must be submitted. Incomplete applications will not be considered.

#### **Application Fee:**

#### **PG Programmes:**

Single programme preference: INR 2,000/-Two programme preferences: INR 2,200/-Three programme preferences: INR 2,400/-

Candidates' preference of programme will be considered, but the allotment will be done at the sole discretion of the admission department, NICMAR University. Candidates should appear for the selection procedure on the given dates.

Admission process will be conducted online and candidates can attend online PG-NCAT and PI from their residence or any suitable place as per their convenience.



Applications are scrutinised and eligibility is established on the basis of the documents submitted. Eligible candidates will be invited to appear for the selection procedure, which comprises Post Graduate NICMAR Common Admission Test (PG-NCAT), Personal Interview (PI) and Rating of Application (RA).

Valid scores of the aspirants appearing for CUET PG / MH-CET / CAT / MAT / ATMA will be considered as an alternative for PG-NCAT (Written Test) for MBA & PGD programmes. Scores of GATE (Architecture & Planning / Civil Engineering for the M.Plan programme and Civil Engineering for the M.Tech programmes) will be considered as an alternative for PG-NCAT (Written Test).

For candidates appearing in NCAT & other additional entrance exams (as mentioned above), the highest score among such exams will be considered for final merit.

| Details                                                                                                                       | Total Marks                      |  |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--|
| Post Graduate NICMAR Common Admission Test (PG-NCAT)                                                                          | 150 marks                        |  |
| <ul><li>a) Quantitative and Analytical Ability</li><li>b) Data Interpretation</li><li>c) Verbal and General Ability</li></ul> | 60 marks<br>30 marks<br>60 marks |  |
| Personal Interview (PI)                                                                                                       | 50 marks                         |  |
| Rating of Application (RA)                                                                                                    | 50 marks                         |  |
| Total                                                                                                                         | 250 Marks                        |  |

The RA is calculated on the basis of weighted scores of the cumulative academic performance along with work experience (wherever applicable) obtained from the documents submitted to NICMAR University by the candidates.

Selection of candidates is done on the basis of merit. Admission offer letters are issued in the order of merit.

#### RESERVED CATEGORY

| Description of Caste/Tribe/Category/Class of Reserved Category | Percentage of<br>Reservation |
|----------------------------------------------------------------|------------------------------|
| Scheduled Castes and Scheduled Castes Converts to Buddhism     | 13.0%                        |
| Scheduled Tribes                                               | 7.0%                         |
| De-notified Tribes (A)                                         | 3.0%                         |
| Nomadic Tribes (B)                                             | 2.5%                         |
| Nomadic Tribes (C)                                             | 3.5%                         |
| Nomadic Tribes (D)                                             | 2.0%                         |
| Other Backward Classes                                         | 19.0%                        |
| Total                                                          | 50.0%                        |

#### **DOMICILE**

Out of the total approved intake capacity, forty percent of the seats are reserved for the students having domiciled in the State of Maharashtra.

#### FEES AND PAYMENT SCHEDULE

The details of the total amount of fees payable with payment schedule for this programme are given below:

At the time of admission

a. Tuition Fee : Rs. 2,50,000/b. Security Deposit : Rs. 10.000/-Total : Rs. 2,60,000/-

2. Within 7 days of the commencement of Semester II : Rs. 2,50,000/-3. Within 7 days of the commencement of Semester III : Rs. 2,50,000/-4. Within 7 days of the commencement of Semester IV : Rs. 2,50,000/-

**Grand Total** : Rs.10,10,000/-



#### Note: Hostel and mess charges are additional.

The tuition fee includes classroom teaching, workshops as per the programme structure and other charges i.e. fees for examinations, evaluation, project work and assessments, library and students' welfare fund. The University provides a free group accident insurance and group mediclaim policy that covers all students.

The security deposit (Rs. 10,000/-) is refundable on completion of the programme (after adjustment of dues, if any from the student).

The following conditions apply for the payment of fees and other dues.

#### For 1<sup>st</sup> Instalment (at the time of admission):

• The fees and other dues payable at the time of admission are as mentioned in the admission offer letter.

#### For 2<sup>nd</sup> Instalment Onwards:

- Fees are payable as per the notification given to the students by the department concerned.
- The fees are payable as per the schedule given, failing which, fees paid after this schedule will be subject to a late fine of Rs.100/- per day for First one Month, Rs. 200/- per day for Second Month, Rs. 300/- per day for Third Month. However, after Third Month, the University may cancel the registration of the student in his/her programme if no valid ground is established for the delay.

The fee above includes the cost of course material, two 'NICMAR University T-Shirts' and one tie.

The NICMAR University reserves the right to revise any/all of the components of the above policy, including payment schedule and refund policy without any prior notice.

#### POLICY FOR CANCELLATION OF ADMISSION AND REFUND OF FEE

The NICMAR University, Pune has a policy of considering refund of the first instalment of tuition fee paid by the student at the time of acceptance of offer, against cancellation of admission. The University strictly follows UGC guidelines in respect of refund of fees. All request applications duly signed by the student must necessarily be received by the Admission Department, NICMAR University, Pune. All such requests in writing must be sent by hand/post/courier only. Any request for refund by e-mail/telephone/fax, etc. if not accompanied by a formal request in writing in the hard copy format within the time stipulated below will not be considered.

If a student chooses to withdraw from the programme of study in which he/she is enrolled, the University shall follow the following five-tier system for the refund of fees remitted by the student.

| Sr.<br>No. | Percentage of Refund of Fees | Point of time when notice of withdrawal of admission is received in the University                        | Deadline                 |
|------------|------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|
| (1)        | 100%                         | 15 days or more before the formally-notified commencement of the academic session.                        | on or before 30.06.2024  |
| (2)        | 90%                          | Less than 15 days before the formally-notified commencement of the academic session.                      | 01.07.2024 to 14.07.2024 |
| (3)        | 80%                          | 15 days or less after the formally-notified commencement of the academic session.                         | 15.07.2024 to 29.07.2024 |
| (4)        | 50%                          | 30 days or less, but more than 15 days, after the formally-notified commencement of the academic session. | 30.07.2024 to 13.08.2024 |
| (5)        | 0%                           | More than 30 days after the formally-notified commencement of the academic session.                       | 14.08.2024 onwards       |

<sup>\*</sup>The security deposit, which is not part of the fees chargeable, shall be refunded in full (after adjustment of dues, if any from the student).

Note 1: In case of (1) in the table above, Processing Charges of Rs.5,000/- will be deducted from the refundable amount (as per refund policy of UGC).

Note 2: The refund policy will be strictly followed by NICMAR University, time to time as per UGC guidelines and updates.



#### **HOSTEL AND LIVING EXPENSES** [2024-25]

Hostel accommodation is available at NICMAR University, Pune. There is a separate hostel for girl students. All students have to abide by the Code of Conduct issued by NICMAR University, Pune.

The hostel accommodation within the campus is allotted purely on the first paid, first served basis (on the basis of hostel & food fees received in the NICMAR University, Pune). However, taking into the account the limited number of rooms available in the campus hostels, students requiring accommodation, who could not be accommodated inside the campus hostels, will be assisted in search of appropriate accommodation in the vicinity of the campus, if requested by the students and subject to availability of such accommodation.

The campus has four hostels which altogether provide 1139 single occupancy rooms for boys and 194 shared occupancy rooms for girl students. The details are as follows:

| Sr.<br>No. | Hostel                | Capacity | Type of Occupancy  | Charges<br>(Rupees Per<br>Month) | Remark         |
|------------|-----------------------|----------|--------------------|----------------------------------|----------------|
| 1.         | Millennium Hostel     | 502      | Single             | 7000/-                           | For boys       |
| 2.         | Silver Jubilee Hostel | 323      | Single             | 7000/-                           | For boys       |
| 3.         | Ultima Hostel         | 314      | Single             | 7000/-                           | For boys       |
| 4.         | Millennium Hostel     | 194      | Shared<br>(Double) | 5880/-                           | For girls only |

Note: Single occupancy in a two-bedded room for girls (if available) - Rs. 7000/- per month.

Food package charge is Rs. 350/- per head per day. The package includes breakfast with tea, buffet lunch, evening snacks with tea and buffet dinner.

The mess facilities are run by a Contractor hired by NICMAR University, Pune under the supervision of the Sr. Manager – Estate Administration. The Senior Manager according to the suggestions by the Students' Mess Co-ordinator prepares the menu on weekly basis.

#### **Payment Schedule**

Hostel and food fees are payable semester-wise within 7 days of the commencement of the semester. In case of delay, a fine of Rs. 75/- per day will be payable for the first 7 days, after which, the fine will be Rs. 125/- per day. The hostel and food fees once paid are non-transferable. Mess facility is mandatory for all students staying in NICMAR University, Pune.

Typically, the total living expenses including hostel & food fees expenses at Pune are approximately Rs. 18,000/- to Rs. 20,000/- per month.

Note: Hostel Accommodation and Food charges are inclusive of all taxes applicable.

#### **REGULAR TEACHING FACULTY**

Faculty is the foundation on which NICMAR University programs are designed to grow. Therefore, careful attention is paid to attracting the best talent from the academic world and the industry. Expert faculty members of the University teach the courses, eminent practicing managers from leading engineering and construction firms from all over the country, and visiting experts from Indian and foreign universities and international organizations.

#### STUDENT DEVELOPMENT

NICMAR University has several schemes to provide full or partial financial support to various student activities. The University firmly believes that co-curricular and extracurricular activities significantly contribute to the all-round development of its students.

#### **ABOUT NICMAR UNIVERSITY, PUNE**

NICMAR University, Pune is established under State Private University Act. (Government of Maharashtra Act. No. XXXVI of 2022). University is situated at Balewadi, 14 kilometres away from the Pune Central Railway Station and 7 kilometres from the Savitribai Phule Pune University and along the Mumbai-Bangalore expressway. It has over 4,71,853 square feet built up area and more 1,25,000



square feet area under construction on a 10-acre plot of land built using the latest materials and technologies and is equipped with state-of-the-art facilities. The campus buildings blend harmoniously with the landscaped greenery all around.

The University is having barrier-free environment for the independence, convenience and safety of all persons including people with disabilities. The physical infrastructure of the campus includes classrooms, seminar rooms, tutorial rooms, mini auditorium, workshops, engineering laboratories, student common room, multi-purpose hall, placement GD room, placement PI room, placement corporate room, faculty cabins, offices, placement office, student lounge, boys' and girls' hostels, executive hostel, warden and lady warden residence, a library with stack areas, reference section and documentation centre, scholar's cabins, computerised catalogues, inter-campus online library, computer centres, 24-hour internet and e-mail facility, a guest house, a modern and well-equipped kitchen, students, faculty and staff dining halls.

Other facilities include a photocopying centre, solar water heating, sewage treatment plant, vermiculture, rain water harvesting system, lift facilities for all hostels, cafeteria, generator backup to all the buildings, doctor, dispensary, first-aid kits, community hall, indoor and outdoor recreation infrastructure i.e., football ground, basketball court, tennis court, badminton court, volleyball court, gymnasium (separate for boys & girls), recreation hall with table tennis, carrom boards, chess boards, T.V. with dish connection, students' parking facility (two wheeler), stationery and general store, xerox services, laundry facility, multipurpose open court (students' play area of 10000 sq.ft. approx.), auditorium having 1000 seating capacity, classroom, syndicate room, computer lab, amphitheatre, and basement parking etc. The campus is equipped with CCTV and round the clock security services.

#### ANTI-RAGGING POLICY OF NICMAR UNIVERSITY, PUNE

As per the directives issued by the Hon'ble Supreme Court of India and the University Grants Commission (UGC), ragging is a cognizable and punishable offence and is totally banned in or out of the University. The University shall take necessary action in accordance with the UGC Regulations for Curbing the Menace of Ragging in Higher Educational Institutions, 2009, against those found guilty of ragging and/or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.

The University gives paramount importance to the safety and security of every student and follows a zero-tolerance policy against Ragging. Helpline Numbers: 020–66859248/9322069331/1800-180-5522. Any student found indulging in ragging or any related activity will be dealt with strictly by appropriate disciplinary action as prescribed under Clause 9 of the Anti-Ragging Regulation of UGC.

Please visit: https://www.antiragging.in/ for UGC regulations against ragging.

#### **SUPPORT SERVICES**

#### i. Department of Information Technology

Computer centre at NICMAR University Pune, has sufficient number of computers with a state-ofthe-art AR VR studio (Augmented Reality and Virtual Reality), Learning Management System(LMS), leading application packages like Microsoft Project Management, Oracle suite of Project Management packages including Contract Management, Enterprise Portfolio Project Management, Professional Project Management, and Contractor and Risk Analysis; Autodesk suite of Building Information Modeling comprising 24 software products including, AutoCAD, Revit, Navisworks, Infraworks etc.; Project Wise 365 and 15 software products from Bentley Systems India Pvt. Ltd., Risk Management Software packages including, @Risk, Evolver, Stat Tools, Top Rank, Neural Tools, Precision Tree, CANDY, Microsoft Dynamics ERP, Highrise Construction ERP; Orell Digital Language Software package is available for students to develop proficiency in English; TURNITIN for plagiarism check, Prochain for Critical Chain Project Management, VisiLean for Lean Construction & BIM Management, CalQuan for quantity calculation and cross section drawing for linear projects and HDM-4 for checking engineering and economic viability of road projects, etc.; Internet and e-mail facilities are to all students. The centres are open from 9.00 a.m. to 5.30 p.m. Students get hands on practice under the able guidance of gualified and experienced faculty members. The campus of NICMAR University at Pune is equipped with Video Conferencing System, interactive screens, Construction 4.0 lab and virtual classroom platforms such as MS Teams, Webex and Zoom to run online classes and other online activities. Biometric Attendance.



#### ii. Library

The NICMAR University library is designed to support the students, faculty & research scholars. It is a specialized library in the area of Construction Management, Project Management, Real Estate Management & Infrastructure Development. In addition, the library provides knowledge resources in a variety of Management & Engineering subjects such as: Information Technology, Engineering, Environment, Social Sciences, all areas of Management, Smart Cities, Entrepreneurship, Architecture, Planning, Taxation, Law etc.

The Library is the hub of the academic life of the NICMAR University campus. Housed in spacious halls on the first floor of academic block, the library is well stocked with textbooks, technical journals, periodicals and electronic resources. It holds a collection of more than 28000 titles, comprising over 25700 Books, Periodicals, Standards, Cases, Technical Notes, Bound Volumes of Periodicals, Theses & Audio-Visual Materials. It also subscribes to electronic resources which include Scopus – The Citation Database, PROQUEST ABI Inform Complete (9800+ Titles), ASCE Journals (41 Titles), ASCE Proceedings (875 Titles), SCIENCEDIRECT – Business Management & Accounting (121 Journals), TAYLOR & FRANCIS Online (80 Journals), SAGE – Urban Studies & Planning (42 Journals), SAGE – Management (22 Journals), PROQUEST e-Book Central – Business & Engineering (68,500+ Books), ELSEVIER E-Books (155 Titles), PEARSON E-Books (54 Titles), and McGRAW HILL E-Books (35 Titles). Other titles include 'All India Reporter', 'Economic & Political Weekly' and Economic & Business databases of M/s CENTRE FOR MONITORING INDIAN ECONOMY (CMIE) including ProwessIQ, Industry Outlook, Economic Outlook, States of India and the CapEx. It also subscribes to the Anti-plagiarism software 'Turnitin – Originality Check' for the faculty.

#### iii. Internet and E-mail

Dedicated 1+ Gbps Internet bandwidth for 24X7 is provided to students through Wired LAN & WiFi with a backup provision. Each student is provided with the University e-mail ID for academic communications alongwith Office 365 Access.

#### iv. Classrooms

NICMAR University has large, medium and syndicate capacity classrooms which are well-equipped with public audio system, Interactive Display Panel, LCD projectors, computers with internet connections and are fully air-conditioned.

#### v. Extra-curricular Activities

Students' training at NICMAR University, Pune goes beyond the confines of classroom and curriculum. In order to foster a holistic development of students, the University supports and encourages its students to plan, organise and participate in various co & extracurricular activities. The Student Council represents the general body of students and organises various technomanagerial, sports and cultural events, and celebrates all the major festivals throughout the year, involving the student clubs and student volunteers.

#### Some salient features are as follows:

- Well-equipped, state-of-the-art facilities exist for indoor and outdoor sports such as badminton, table tennis, basketball and football etc.
- Students are encouraged to participate in intra and inter-college co-curricular, cultural and sports competitions.
- Various intra and inter-college events like Udbhav, Sanskriti, Chakraview, Technikala, NICMAR
  Premier League, Spardha, E-Summit, Academic Conclave, and Reverbs, etc. are organised for
  the development of co & extra-curricular skills of students.
- Students also bring out in-house magazines, newsletters and similar publications.
- Students of NICMAR University pursue their varied hobbies and interests after academic hours through different special interest clubs actively functional on the campus. Various activities are organised by the Music club, Photography club, Dance club, Technical club, Movies and Dramatics club, Sports club, Literary club, R & D club, Start-up club, Design club and Fashion club throughout the year. All these clubs are managed by students.
- Separate well-equipped gymnasia are available for girls and boys, assisted by qualified sports supervisors.
- An international sports stadium is just across the road and students can access swimming pools, gymnasia, field tracks and other facilities on payment basis.



Thus, the University leaves no stone unturned to ensure that the students have a memorable and enriching campus life contributing to their all round development.

#### **NICMAR UNIVERSITY EDUCATIONAL LOAN PARTNERS**

The banks/financial organisations mentioned below offer educational loans to the students desirous of pursuing NICMAR University's programmes.

- HDFC Credila Financial Services Ltd. [Toll Free No.: 1800-209-3636/Ph. No.: 9765491467]
- ICICI Bank [Ph. No.: 8956019228 Or SMS ELOAN to 5676766]
- Saraswat Co-operative Bank Ltd. [Ph. No.: 020-27292957/58 OR Give a missed call on this number: 9029050027]
- IDFC First Bank Ltd. [Toll Free No.: 1860-500-9900/Ph. No.: 9096923798/9049873109]
- State Bank of India, SPBB, Baner, Pune [Email: sbi.13295@sbi.co.in]
- Bank of Baroda [Give a missed call on this number 8467001122 Or Toll free number 1800223344/45 Or Ph. No.: 7709977826/8007352007/9948505144]
- Canara Bank [Email: rahcopne@canarabank.com]
- Bank of Maharashtra [Ph.No.: 89992 15408/96232 93296/8888969602]
- Credenc Web Technologies Pvt. Ltd. [Website: https://www.credenc.com/, Ph. No.: 7738486004, Email: contact@credenc.com]
- propelld [Website: https://www.propelld.com/, Mr. Sagar Kaushik, Ph. No.: 8147495172]
- **kuhoo** [Website: https://www.kuhoo.com/, WhatsApp No.: 74000 03839, Ph.No.: 74000 03940]

Applicants may contact the branches of these banks/financial organisations for further details and information.

#### DISCIPLINE AND CODE OF CONDUCT

Students shall be courteous and formal in conduct with faculty and staff at all times, failing which appropriate disciplinary action shall be taken against the erring student. A Code of Conduct for the students is issued at the time of admission and it is mandatory for all students to abide by.

## Two-Year PG Programme by NICMAR University, Pune M.Tech (Construction Technology and Management) Structure and Course wise Credit Distribution

|           | Semester 1            |           |                                                                              |   |   |   |    |
|-----------|-----------------------|-----------|------------------------------------------------------------------------------|---|---|---|----|
| Sr.<br>No | IVNE CODE COURSE NAME |           | L                                                                            | Т | Р | С |    |
| 1         | Course                | 247091ORB | Organizational Behaviour                                                     | 1 | 0 | 0 | 1  |
| 2         | Course                | 247091HRC | Human Resource Management                                                    | 1 | 0 | 0 | 1  |
| 3         | Course                | 247091PPL | Project Planning and Control in Construction                                 | 2 | 0 | 0 | 2  |
| 4         | Course                | 247091QSC | Quantity Surveying, Estimation and Costing                                   | 3 | 0 | 0 | 3  |
| 5         | Course                | 247091ACT | Advances in Construction Technology 2 0                                      |   | 0 | 2 |    |
| 6         | Course                | 247091RCT | Recent Trends in Concrete Technology 2 0                                     |   | 0 | 2 |    |
|           | Course                | 247091PPS | Principles and Practices of Structural Engineering for Construction Managers | 2 | 0 | 0 | 2  |
| 7         | Course                | 247091CAM | Cloud Adoption and Management<br>Techniques                                  | 2 | 0 | 0 | 2  |
| 8         | Course                | 247091CDL | Critical Thinking, Design Thinking,<br>Leadership and Teamwork               | 2 | 0 | 0 | 2  |
| 9         | Workshop              | 247091CPW | Construction Workshop Practices                                              | 0 | 0 | 1 | 1  |
| 10        | моос                  | 247091IKS | Indian Knowledge System                                                      | 2 | 0 | 0 | 2  |
|           | Semester 1 credits    |           |                                                                              |   |   |   | 20 |



|                    | Semester 2                                |           |                                                             |    |   |    |    |  |
|--------------------|-------------------------------------------|-----------|-------------------------------------------------------------|----|---|----|----|--|
| Sr.<br>No.         | Туре                                      | Code      | Code Course Name                                            |    | Т | Р  | С  |  |
| 11                 | Course                                    | 247092COE | Construction Economics                                      |    | 0 | 0  | 2  |  |
| 12                 | Course                                    | 247092FIM | Finance Management                                          | 2  | 0 | 0  | 2  |  |
| 13                 | Course                                    | 247092TBA | Tools for Business Analytics                                | 2  | 0 | 0  | 2  |  |
| 14                 | Course                                    | 247092PPY | Public Policy for Young Professionals                       | 2  | 0 | 0  | 2  |  |
| 15                 | Course                                    | 247092CCM | Contracts Management of Projects                            | 2  | 0 | 0  | 2  |  |
| 16                 | Course                                    | 247092CQS | Construction Quality and Safety                             | 3  | 0 | 0  | 3  |  |
| 17                 | Course                                    | 247092GTP | Geospatial Techniques in Practice                           | 2  | 0 | 0  | 2  |  |
| 18                 | Programme<br>Elective                     |           | Elective 1 (Specialization)                                 | 2  | 0 | 0  | 2  |  |
| 19                 | Workshop                                  | 247092GIS | Geoinformatics (ArcGIS) / AR - VR                           | 0  | 0 | 1  | 1  |  |
| 20                 | МООС                                      | 247092SRC | Sustainability related course                               | 2  | 0 | 0  | 2  |  |
|                    | Semester 2                                | credits   |                                                             |    |   |    | 20 |  |
| 21                 | SI                                        | 247093SMI | Summer Internship                                           | 0  | 0 | 0  | 6  |  |
|                    | ,                                         |           | Semester 3                                                  |    |   |    |    |  |
| Sr.<br>No.         | Туре                                      | Code      | Course Name                                                 | L  | Т | Р  | С  |  |
| 22                 | Course                                    | 247093DET | Deep Excavation and Tunnels                                 | 2  | 0 | 0  | 2  |  |
| 23                 | Course                                    | 247093LAE | AE A Professional's Approach to Law and Ethics              |    | 0 | 0  | 2  |  |
| 24                 | Course                                    | 247093BIC | Building Information Modelling in Construction              |    | 0 | 0  | 2  |  |
| 25                 | Course                                    | 247093CRM | Construction Risk Management                                | 2  | 0 | 0  | 2  |  |
| 26                 | General<br>Course                         | 247093PIM | Project Management for Professionals                        | 2  | 0 | 0  | 2  |  |
| 27                 | General<br>Elective                       | 247093END | Entrepreneurship Development/Foreign<br>Language/ Sanskrit/ | 2  | 0 | 0  | 2  |  |
| 28                 | Programme<br>Elective                     |           | Elective 2 (Specialization)                                 | 2  | 0 | 0  | 2  |  |
| 29                 | Programme<br>Elective                     |           | Elective 3 (Specialization)                                 | 2  | 0 | 0  | 2  |  |
|                    | Semester 3 credits (including Internship) |           |                                                             |    |   | 22 |    |  |
|                    | Semester 4                                |           |                                                             |    |   |    |    |  |
| Sr.<br>No.         | Туре                                      | Code      | Course Name                                                 | L  | Т | Р  | С  |  |
| 30                 | Course                                    | 247094PRW | Project Work                                                | 18 | 0 | 0  | 18 |  |
| 31                 | Course 247094CEM Community Engagement     |           | 2                                                           | 0  | 0 | 2  |    |  |
| Semester 4 credits |                                           |           |                                                             |    |   |    | 20 |  |
|                    | Total Credits                             |           |                                                             |    |   |    | 82 |  |



#### Electives

| Specialization |           |                                                    |    | Specialization  |                                                       |  |  |
|----------------|-----------|----------------------------------------------------|----|-----------------|-------------------------------------------------------|--|--|
|                | Transport | ation Infrastructure                               |    | Building Design |                                                       |  |  |
|                | Code      | Elective 1 (Choose any one)                        |    | Code            | Elective 1<br>(Choose any one)                        |  |  |
| 1              | 247093BED | Bridge Engineering Design Practices                | 1  | 247093SBD       | Sustainable Building Design Practices in Construction |  |  |
| 2.             | 247093CEM | Construction Equipment Management                  | 2. | 247093CEM       | Construction Equipment Management                     |  |  |
|                |           | Electives 2 and 3 (Choose any two)                 |    |                 | Electives 2 and 3 (Choose any two)                    |  |  |
| 3              | 247094MRT | Metro Rail Transportation Systems and Construction | 3  | 247094PCT       | Prefabrication and Precast Construction Techniques    |  |  |
| 4              | 247094ASE | Airports and Seaports Engineering                  | 4  | 247094BLS       | Integrated Building Services                          |  |  |
| 5              | 247094REI | Renewable Energy<br>Infrastructure                 | 5  | 247094DPS       | Design and Practices of Structural Steel Buildings    |  |  |
| 6              | 247094SCM | Supply Chain<br>Management and<br>Logistics        | 6  | 247094SCM       | Supply Chain Management and Logistics                 |  |  |

#### **ASSESSMENT**

#### **Course Examination**

The course examination comprises two parts: The semester-end examination and the internal assessment. The weightage for the same is given below.

| Evaluation               | Weightage (%) |
|--------------------------|---------------|
| Semester End Examination | 50            |
| Internal Assessment      | 50            |

The semester-end examination is only for the courses with an L component and shall be of one/two hours.

#### **Internal Assessment**

Internal assessment is the continual assessment of a candidate's performance during the course study and it will be done by the concerned faculty member. For a course with a Term-end examination, 50% weightage is assigned to internal evaluation. This internal evaluation of candidates should be carried out by at least three components, of which the Unit test component is mandatory. For all courses, the Unit test will carry 40% weightage of marks (20 Marks). This will be conducted during the tenth week of the semester, and the syllabus will cover the portion up to the tenth week. The fifth week of the semester will be Internal Assessment 1 (IA1), and the last week of the term will be Internal Assessment 2 (IA2). The syllabus for IA1 will be till the fifth week, and the syllabus for IA2 will be from the Unit test till the last week of the semester (i.e.,15<sup>th</sup> week). For IA1 and IA2, the faculty can select any of the below components. The Controller of Examination (CoE) will conduct the unit test.

The IA1 And IA2 may have the following components:

- Class-participation
- Case analysis and presentation
- Quizzes/ Class test/Surprise test/Assignments (announced/unannounced)
- Term papers/Decision sheets/Project reports
- Research Paper Presentations/Viva
- Individual assignments/Group assignments/Presentations/Decision sheets
- Field project
- Role Play/Simulation
- Any other school/program/course-specific component



#### Summer internship and project work

The summer internship is assessed by the internal faculty only. Summer internship carries 50 marks and is assessed during the third semester. The weightage assigned is 50% for each report writing and presentation.

Students' project work (Seminar and Interim assessment) is evaluated by the assigned guide and an internal faculty (this is done at the end of the 2<sup>nd</sup> and 3<sup>rd</sup> semesters). The final viva voce is evaluated by the guide and an industry expert or other institute faculty members. The seminar and interim assessment are 50 marks, whereas the final viva voce is 100. In seminar and interim assessment, the weightage for contents is 60% and for presentation 40%, whereas in the case of viva voce, 80% weightage is for the content, and 20% weightage is for the presentation.

#### **Failure Cases**

NICMAR University's programmes are highly demanding, and students of a high caliber are admitted through a rigorous evaluation. Consequently, every student is expected to complete the procedure in all subjects and submit their project work promptly unless there are legitimate grounds for delay. A student is declared 'Pass' in a course if they score at least 40% marks each in internal and semester-end examinations.

If any student fails to obtain the minimum passing marks in the internal or semester-end examination, they will be declared fail. Such a student will have to re-appear for examination by paying the re-examination fee of Rs. 2000/- per course and obtaining the minimum passing marks to gualify.

Similarly, non-submission of project work on time is not acceptable. A candidate is not considered to have completed the programme unless they submit the project report and is judged as satisfactory by the guide and given the required ratings by the examiner/s appointed for the purpose.

If the students wish to get their examination paper/s re-evaluated, this can be done on payment of the re-checking/re-assessment fees of Rs. 1000/- per course.

#### **Grading System**

Evaluation will be done on a semester basis. A Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) will be calculated at the end of every semester. Students should clear all the courses to meet the requirements of the programme.

**Disclaimer:** The NICMAR University reserves the right to revise any/all of the components of the above policy, including payment schedule and refund policy without any prior notice.

The University reserves the right to revise the contents of the brochure from time to time without any prior notice. All matter is subject to NICMAR University, Pune jurisdiction only.

