

### Pedagogical Tools

The choice of pedagogical tools is based on the principle of 'active learning based on strong conceptual understanding'. These tools comprise classroom lectures, case studies, field visits, term papers, assignments, tutorials, lectures by practitioners and experts, seminars and discussion forums, and engagement with institutions/agencies working in urban development and related areas. In particular, case studies drawn from real-world urban development management challenges are designed and integrated into the curriculum.

### Internships and Placements

A Placement Cell exists for exploring placement opportunities for students. The University facilitates placement of students in industry and suitable organizations, both for major projects and final placements.

Students undertake intensive internship with municipal corporations and parastatals and urban development consulting organizations.

Some of the key recruiters are Housing and Urban Development Corporation Ltd (HUDCO), National Institute of Urban Affairs (NIUA), WRI, IIT Delhi, NIUA, IPE Global, Tata Trusts, Centre for Economic and Social Studies, Centre for Environment Education, Consortium for DEWATS Dissemination (CDD) Society, Five M Energy Private Limited, GEM Enviro Management Pvt. Ltd, ICLEI South Asia, Indo-German Energy Forum (IGEF)-Deutsche, Gesellschaft für Internationale Zusammenarbeit (GIZ), GmbH, Intercontinental Consultants and Technocrats Pvt. Ltd, IPEGlobal, KPMG, Mehta & Associates, Nagrika Policy Research Foundation, NK Buildcon, SaciWATERs, Simplex Infrastructures Ltd, TERI, Urban Management Center, Cushman & Wakefield, Veolia India Private Limited, India Infrastructure Publishing, Janaagraha, BDO and CEEW.

### About Department of Sustainable Engineering

Given the global depletion of natural resources due to unsustainable consumption pathways societies have adopted, emerging economies like India are at crossroads to choose a trajectory which ensures inter-generational equity, inclusiveness and sustainability in their growth journey. The Department of Sustainable Engineering (DSE) at TERI SAS, aims to address the challenges relating to energy and environmental resource management through teaching, research and capacity building. The DSE creates a cadre of trained professionals committed to bring positive change through scientific, technological and policy innovations for strengthening resilience in communities. The DSE offers interdisciplinary post-graduate and doctoral programmes in renewable energy engineering & management, and urban development & management to equip students with knowledge and skill sets to create solutions for sustainable development pathways in urban and rural habitats. The Department undertakes research in areas such as renewable energy, energy efficiency, energy & environmental modelling, green building, energy policy, green architecture, sustainable urban mobility, power system and grid integration, energy storage, etc. climate adaptation & mitigation, ecosystem management, and smart cities with focus on services, infrastructure & governance. The DSE encourages collaboration with industry, government, academic & research institutions, and multi-lateral organisations to deliver practice informed research and teaching.

### About TERI School of Advanced Studies

Academic programmes at the TERI SAS are focused around the challenges of providing the advanced studies rising global population with a limited and degraded natural resource base. In moving towards sustainability, the implicit understanding is that there is no panacea or straight road, with recognized and established methodologies, tools or specializations leading to such development.

The solutions therefore do not lie in a specific subject discipline, but must be appropriate and relevant to the context or the practical problem being addressed. Developing such an understanding among its students is best achieved through exposure to a variety of subjects, tools, and methodologies offered in interdisciplinary mode. This has been the guiding philosophy behind the programmes offered by the TERI SAS and is practised by building a theoretical understanding in courses covering a variety of traditional disciplines, such as ecology, natural and social sciences, governance, policy, law, and engineering.

Over a period of two years, students converge upon a few areas of focus based upon their interest, having been exposed to a new way of thinking that looks at problems not from the lens of a subject specialist, but from the perspective of one who recognizes the complex linkages between man and his environment.

Apart from doctoral research, the TERI SAS offers M.Sc. degree programmes in Environmental Studies and Resource Management, Environmental and Resource Economics, Geoinformatics, Water Science and Governance, Climate Science and Policy, and Biotechnology; MBA in Sustainability Management; and M.Tech. programmes in Renewable Energy Engineering and Management, Water Resources Engineering and Management and Urban Development Management.

The institute offers two M.A. programmes, one in Public Policy and Sustainable Development, and the other in Sustainable Development Practice. TERI SAS is one of a select group of 22 institutions chosen worldwide by the MacArthur Foundation, USA, to run the Sustainable Development Practice programme. The institute uses modern pedagogical tools, richly supplemented by field visits, live industry projects, and hands-on applications. It provides the very best in equipment and instruments, which includes state-of-the-art computer facilities, well-equipped laboratories, video-conferencing facilities, and access to South Asia's most comprehensive library on energy and environment.

TERI SAS has established excellent partnerships and collaborative arrangements with a number of institutions overseas, including Yale University, USA; The Freie University of Germany; Utrecht University, The Netherlands; North Carolina State University, USA; University of Technology, Australia and Linnaeus University, Sweden.

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Deemed to be University  
Under Section 3 of the UGC Act  
Accredited with  
'A' grade by NAAC

# M.Tech (Urban Development Management)



## M.Tech (Urban Development Management)



*Of late there has been a growing realization that India should emerge as an economy driven by knowledge. Given the rapid progress that intellectual enterprises are making worldwide, higher education must benefit from a continuous accretion of knowledge through research. This is what TERI SAS is attempting to do through all its programmes, for the benefit of not only Indian citizens but people from other countries as well who would pass through the portals of this institution. This University offers education supported by rigorous research.*

## MTech (Urban Development Management)

### Programme Overview

India is projected to add 300 million new urban residents by the year 2050 to the already existing large base of 377 million urban residents. The management of such a great magnitude of population growth in urban areas is a challenge which comprises of a constant struggle of coping up with the crumbling urban infrastructure, deficiencies in urban services, financial woes at municipal level, governance issues and an unprecedented impact on environment.

These complexities of urban growth and its management from the perspective of sustainable development requires a multi-disciplinary approach and expertise. There is a severe shortage of professionals having the required technical and managerial skills for such tasks and their demand is increasing rapidly. In addition the existing urban institutions and governance of cities require extensive capacity building to provide for urban development which is sustainable, equitable and enhances the live ability of urban residents. India has moved to the paradigm of smart cities where the government is investing vast amount of financial resources into the urban infrastructure which makes the need for skilled manpower much more pertinent.

The MTech programme in Urban Development Management (UDM) at the TERI SAS was launched in July 2013 with all the above-mentioned requirements in perspective. Therefore, the programme focuses on sustainable urban development with a distinctive multi-disciplinary approach. It equips the students with cutting-edge technical skill like data modelling, managerial capabilities, and deeper understanding of socio-economic, environmental, and legal issues associated with making cities smart and sustainable. The alumni had been professionally contributing to key schemes such as Smart Cities Mission and Swachh Bharat Mission of the Government of India.

The uniqueness of the programme is in promoting learning through research-based teaching, engagement of practitioners, and a diverse pedagogy ranging from classroom teaching, tutorials, discussions about various case studies, and most importantly fieldwork. Apart from classroom teaching the programme also exposes students to urban local bodies, parastatals and urban development consultants through two intensive internships. The programme helps in building capacities for understanding and developing sustainable solutions for the real-world problems of cities.

## M.Tech (Urban Development Management)

### Programme Structure

MTech UDM is a two-year full-time programme of 74 credits which includes taught courses as well as two extensive and enriching internships. Major Project Part-1 of 12 credits in the first half of the third semester is a 12 week internship with Urban Local Bodies (ULBs) and parastatal organisations, while Major Project Part-2 for the entire duration of 4th Semester is an internship of 16 weeks with other public and private organisations engaged in the urban development sector such as research, consulting, advocacy, development, and financial institutions.



### Programme Outline

\*All course titles are tentative and subject to approval by the Academic Council, TERI SAS

Year	Courses	Credits	Duration*
<b>First Year</b>			
1st Semester	8 Core Courses + 1 Compulsory Audit	23	15 weeks
2nd Semester	6 Core Courses	17	15 weeks
<b>Second Year</b>			
3rd Semester	12 Credits from Major Project Part 1+ 2 credits from 1 Core Course and 4 Credits from 2 Elective Courses + 1 Compulsory Audit	18	15 weeks
4th Semester	16 Credits from Major Project Part 2	16	15 weeks

\*Does not include mid and end-semester breaks and evaluation schedules (based on major and minor tests and assignments)

### Semester 1

Course No.	Course Title	Type	Number of Credits
MEU 123	Urban Finance	Core	3
MEU 143	Urban Governance	Core	3
MEU 161	Theories of Urbanisation	Core	3
MEU 163	Sustainable Provision and Management of Urban Services	Core	3
MEU 173	Stochastic Modelling	Core	4
MEU 177	Qualitative Research Methodology for Urban Studies	Core	2
MEU 179	Geoinformatics for Urban Development	Core	3
NRE 106	Communication Skills and Technical Writing	Core	2

## M.Tech (Urban Development Management)

### Semester 2

Course No.	Course Title	Type	Number of Credits
MEU 121	Urban Ecology and Environment	Core	3
MEU 152	City and Regional Planning and Management	Core	3
MEU 154	Regeneration and City Competitiveness	Core	2
MEU 167	Urban Development Policies and Programmes	Core	3
MEU 184	Real Estate Development	Core	3
NRG 103	Project Management	Core	3

### Semester 3

Course No.	Course Title	Type	Number of Credits
MEU 102	Major Project Part 1	Core	12
MEU 112	Energy Efficient Buildings	Elective	2
MEU 144	Sustainable Urban Transport	Elective	2
MEU 162	Urban Disaster Management and Climate Resilient Cities	Elective	2
MEU 168	Urban Housing Policy and Practice	Elective	2
MEU 178	Urban Water Supply and Wastewater	Elective	2
MEU 183	Urban Systems Modelling	Core	2

### Semester 4

Course No.	Course Title	Type	Number of Credits
MEU 104	Major Project Part 2	Core	16

### Eligibility

A Bachelor's degree B.E./B. Tech in any branch/discipline, B. Arch., B. Planning/Masters or equivalent degree in Science.

### Selection Process

Admissions will be based on an online test and interview. CUET-PG score also accepted. Candidates with valid GATE score are exempted from TERI SAS common entrance test.

### Sponsored Candidates

Sponsored candidates from government departments, urban local bodies, parastatals (owned or controlled wholly or partly by the government), consultancy and real estate development firms, community-based organizations, and non-government organizations with BE/BTech in any branch/discipline, B. Arch., B. Planning, or Master's or equivalent degree in any discipline, and a minimum of three years of work experience in urban development or management.