School of Engineering
Department of Civil Engineering

M. Tech. Admission Announcement

(For the Session Starting from August 2020)
Monsoon 2020

The Department of Civil Engineering in School of Engineering at Shiv Nadar University (SNU) invites applications for admissions in the Master of Technology (M. Tech.) in Civil Engineering program.

Program

The Department of Civil Engineering Department (CED), School of Engineering, Shiv Nadar University offers a two-year Master of Technology (M. Tech.) degree program. No specific specialization name is offered in this program, instead, students are required to enroll advanced courses in the thrust areas and specialized/elective courses offered in their particular area of research interest in Civil Engineering. Students joining this program will be awarded the M. Tech degree on the successful completion of 55 credits in 2 years.

This M. Tech program is designed to produce high quality professionals who can meet industry requirements, including in leading research and development (R & D) organizations and academic institutions. Keeping in mind the breadth of the Civil Engineering domain, this program is focused towards building analytical capabilities and project-based research-focused experiential learning to enable students to understand and resolve a wide variety of practical problems.

Eligibility

Educational Qualification of Applicant
A minimum score of 60% or 6.5 CGPA in B.E. / B. Tech. or equivalent in relevant discipline from a recognized Technical Institute or University. AND M.S./M.Sc. students are also eligible under special circumstances (if their academic training and research interests lie in Geoinformatics, Urban Studies and Disaster Management, Air/Water quality and related Environmental Engineering areas). Such applicants must have good academic credentials with a minimum score of 60% or 6.5 CGPA and a strong aptitude for research and they will be considered equivalent to B.E./B. Tech. applicants. Final year students can apply while awaiting their results. Only students with valid GATE score or a cGPA $\geq$ 8.0 in their qualifying degree shall be eligible for financial assistantship.

Selection Process

Eligibility criteria mentioned above are minimum standards and the applications not meeting the same will be rejected. Shortlisted candidates will be required to demonstrate their knowledge and preparation through an on-campus written test and/or interview to be held in July 2020 (see *Important Dates* on page 7). The written tests and interviews will be conducted at the Shiv Nadar University (SNU) campus in Dadri, Greater Noida, Uttar Pradesh. Selections will be based on past academic performance, written examination and/or interview. Candidates from IITs and NITs with a CGPA >=8.0 will not have to appear the written test (if conducted), but they will have to appear the interview only. Candidates who have qualified GATE in 2019/2020 and have scored total marks >= 50 will not have to appear in the written test.

Please note that not all candidates meeting the minimum eligibility criteria may be shortlisted. Applicants waiting for the qualifying examination results are also eligible to apply.

Sponsored candidates from industry are encouraged to apply. The written test will be waived if they have at least 2 years of experience in the industry. GATE score is not mandatory for them. They will not get any teaching assistantship, but they will be eligible to receive tuition fee and hostel charges waivers.

Subjects for Written Test

Same as Civil Engineering syllabus of GATE Examination for 2020. Please refer **CE: Civil Engineering in http://gate.iitd.ac.in/syllabi.php.**

Total Seats

Applications are sought for 10 seats in the department. Please note that the University reserves the right to admit lower number of students if the Admission Committee does not find required number of suitable candidates.

M. Tech. Student Categories

i. Regular (full-time): Students who join full-time for their M. Tech degrees and receive assistantships from Shiv Nadar University.

ii. Sponsored (full-time): Students sponsored by a recognized R&D organization, academic institution approved by UGC/AICTE, government organization or private industry. At the time of application, the candidate must have been an employee of his/her organization for at least two (2) years, engaged in a professional work in the discipline in which admission is sought. ***Sponsorship letter must be attached with the application.***

Financial Assistance

University offers Teaching Assistantship that include a monthly stipend of ₹ 16000 and waivers in tuition fees (90% waiver) and Hostel fees (70% waiver) to qualified students. The assistantship is available for applicants with valid GATE score or applicants with $\geq$ 8 cGPA in their qualifying degree in the absence of GATE score.
Other applicants not fulfilling the above criteria who have secured admission in the program shall not receive any financial assistantship.
Sponsored candidates shall not receive any financial assistantship. ***Sponsorship letter must be attached with the application.***

Specialized Research Areas

Geotechnical Engineering: Geotechnical earthquake engineering; soil dynamics; constitutive modeling of frictional materials; physics of granular materials; poromechanics; computational geomechanics; soil-foundation-structure interaction; electronic cone penetrometer testing and direct-push sampling (CPT-DPT) for geotechnical and geoenvironmental subsurface investigation; geoenvironmental engineering.
Structural Engineering: Sustainable design and construction; structural performance assessment and rehabilitation; structural health monitoring; smart material and structures; damage quantification and prediction using piezo vibration characteristic; analytical formulation of integrated sensor-structure system; non-destructive evaluation and system identification; seismic hazard analysis; wave propagation; vibration control systems; stochastic earthquake analysis.
Environmental Engineering: Water and wastewater treatment; air quality monitoring and modeling; solid and hazardous waste management; engine exhaust characterization and its fate analyses; health

risk exposure assessment due to environmental contaminants.
Transportation Engineering: Road safety law and policy; motor vehicle safety; road traffic injuries; transportation research (safety and pollution); human tolerance biomechanics; motor vehicle safety; road traffic injuries; sustainable urban transport; safer cities and low carbon transport.
Water Resource Engineering: Hydraulic structures; experimental analysis of hydraulic flow; channel control; hydraulic engineering; river engineering; advanced hydrology.
Geoinformatics: Application of GIS and remote sensing in air-water-soil interactions; low-cost sensing systems for sustainable urban development including early warning systems for disaster management, urban morphology; impact of climate change on infrastructure.

Descriptions of Civil Engineering Department and the research interests of our faculty members can be found at:

https://civil.snu.edu.in/
https://civil.snu.edu.in/people/faculty

Faculty members are also engaged in interdisciplinary work with research groups across schools at SNU.

Program and Course Structures for M.Tech Program

The total minimum credits required for completing the M. Tech. Program in Civil Engineering is 55.

Table 1: Program Structure and Courses in Semester I

Sl. No.	Course Title (Code)	L: T: P	Credits
1.	Specialized/Elective Course – I*	3: 0: 0	3
2.	Specialized/Elective Course – II*	3: 0: 0	3
3.	Specialized/Elective Course – III*	3: 0: 0	3
4.	Specialized/Elective Course – IV*	3: 0: 0	3
5.	Research Methodology – I (CED891)	2: 0: 0	2
6.	Seminar (CED699)	2: 0: 0	2

*The specialized/elective course may be of 4 credits if there is any tutorial or laboratory component in any of these courses, i.e. the courses having 3L: 1T: 0P or 3L: 0T: 1P are of 4 credits.

Table 2: Program Structure and Courses in Semester II

Sl. No.	Course Title (Code)	L: T: P	Credits
1.	Specialized/Elective Course – IV*	3: 0: 0	3
2.	Specialized/Elective Course – V*	3: 0: 0	3
3.	Specialized/Elective Course – VI*	3: 0: 0	3
4.	Specialized/Elective Course – VII*	3: 0: 0	3
5.	Research Methodology – II (CED892)	2: 0: 0	2

*The specialized/elective course may be of 4 credits if there is any tutorial or laboratory component in any of these courses, i.e. the courses having 3L: 1T: 0P or 3L: 0T: 1P are of 4 credits.

Table 3: Program Structure and Courses in Semester III

Sl. No.	Course Title (Code)	L: T: P	Credits
1.	M.Tech. Thesis** (CED799)	0: 0: 12	12

Table 4: Program Structure and Courses in Semester IV

S. No.	Course Title (Code)	L: T: P	Credits
1.	M.Tech. Thesis**(CED800)	0: 0: 12	12

Students have two options for their M. Tech. Thesis (CED799 and CED800), either they may work on two separate projects (or research problems) during their third and fourth semesters, or they may work on a continuous single major project (or research problem) for these two semesters.

Table 5: List of specialized/elective courses (subject to change)

Sl. No.	Course Title	L: T: P	Credits
1.	Solid Mechanics	3: 0: 0	3
2.	Structural Dynamics	3: 1: 0	4
3.	Advanced Structural Analysis	3: 0: 0	3
4.	Plates and Shells	3: 0: 0	3
5.	Advanced Reinforced Concrete Design	3: 0: 0	3
6.	Constitutive Modeling of Geomaterials	3: 0: 0	3
7.	Fracture Mechanics	3: 0: 0	3
8.	Structural Optimization	3: 0: 0	3
9.	Finite Element Method	3: 0: 0	3
10.	Structural Health Monitoring	3: 0: 0	3
11.	Air Pollution Control	3: 0: 0	3
12.	Transport Infrastructure	3: 0: 0	3
13.	Experimental Techniques and NDT	3: 0: 1	4
14.	Nanotechnology for Environmental Remediation	3: 0: 0	3
16.	Computational Geomechanics	3: 0: 0	3
17.	Waste Management Fundamentals	3: 1: 0	4
18.	Natural Hazards and Disasters	3: 1: 0	4
19.	Applied Statistics	3: 1: 0	4
20.	Numerical Methods	3: 1: 0	4
21.	Industrial Wastewater Treatment	3: 1: 0	4
22.	Earthquake Engineering	3: 0: 0	3

23.	Core Concepts of Data Analysis	3: 1: 0	4
26.	Industrial Environment Management	3: 1: 0	4
27.	Climate and Climate Change	3: 0: 1	4
28.	Air Quality Science and Engineering	3: 1: 0	4
30.	Advanced Environmental Engineering	3: 0: 1	4
31.	Advanced Hydrology	3: 0: 0	3
34.	Advanced Soil Mechanics	3: 0: 1	4
35.	Geotechnical Earthquake Engineering	3: 0: 0	3
36.	Advanced Foundation Engineering	3: 0: 0	3
37.	Soil Dynamics	3: 0: 0	3
38.	Geoenvironmental Engineering	3: 0: 0	3
39.	Road Geometric Design and Infrastructure	3: 0: 0	3
40.	Repair Methods of Structures	3: 0: 0	3
41.	Building Physics	3: 0: 0	3
42.	Public Transport Systems	3: 0: 0	3
43.	Seminar	2: 0: 0	2
44.	M. Tech. Thesis	0: 0: 12	12
45.	M. Tech. Thesis	0: 0: 12	12
46.	Research Methodology – I	2: 0: 0	2
47.	Research Methodology – II	2: 0: 0	2

Note: *The credit distribution requirement across the semesters and course curriculum can be changed based on the student's interest in specialization and thrust research areas. Such change must be approved by PG committee and HoD after allocation of research advisor of the student. The inputs and recommendation from the supervisor are essential for such a crucial decision. These specialized/elective courses are advanced courses with contents designed specific to PG curriculum and PG specialization requirement and these courses are subject to change from semester to semester.*

Fees and Assistantship

Detailed information about the fee structure and the nature of assistantships are available on the website.

Application Fees

All applicants to the M. Tech. program are required to pay a non-refundable application fee of ₹ 1,200.00 (one thousand two hundred only). The application fee may be paid **online** or a **Demand Draft** (drawn in favor of "**Shiv Nadar University**" payable at **NOIDA**) may be sent to the under mentioned address.
Please note that the University reserves the right to accept or reject any application based on departmental screening criteria, hence all applications may not be shortlisted for written examination and/or interview. No requests for refund of the application fee shall be entertained under any circumstance.

Application Instructions

All interested applicants must apply using our online system by clicking on **"Apply Now"** button. Please follow the instructions carefully.

- Fill all the mandatory fields
- **Online upload** of following documents is required
  - Passport-size color photograph
  - Current CV
  - All mark sheets/degree certificates (10th Standard onwards)
  - Standardized Examination certificate – CSIR, UGC, GATE, etc. (only if applicable)
- After online submission, print the completed form for your record. It need not be sent to the University except in the case mentioned below.
  - Sponsored candidate need to send a sponsorship letter from their respective organizations.
  - Please write "CED - M. Tech. Application 2020" near the bottom left of the envelope containing the above documents.
- **Please note that the application is not deemed complete until we receive all the necessary prescribed documents and application fees.**

The address to which documents to be sent (**through speed post**) is:

Head of the Department
Department of Civil Engineering
At/PO: Shiv Nadar University
NH-91, Tehsil Dadri
Greater Noida, Gautam Buddha Nagar
Uttar Pradesh, PIN: 201314

For any queries, please write to Dr. Jagabandhu Dixit, PG Advisor and Faculty-in-charge, Post Graduate Programs (jagabandhu.dixit@snu.edu.in)

Important Dates

Last date for the receipt of completed application form & application fee	July 15, 2020
Written Tests and Interview	During 22-24 July, 2020
Declaration of Results	August 03, 2020
Fee Payment Deadline	August 15, 2020
Monsoon 2020 First Day	End of August, 2020

Applications will be considered immediately upon receipt and shortlisted candidates will be notified by email well in advance so that they can plan their travel. Hence, candidates are urged to apply as early as possible.

Applications received after July 15, 2020 will not be considered.

APPLY NOW