



M.TECH STRUCTURAL ENGINEERING

Vision

To impart quality technical education to develop individuals who can provide solutions to real world problems and can contribute towards nation building.

Academic Curriculum and Courses

The course curriculum, based on credit system, includes core subjects, discipline electives and open electives, hands-on laboratory training, mini projects associated with laboratory and theory courses. The core course content is developed in such a way that the students get sufficient exposure to various aspects of Structural Engineering. Whereas, the elective courses are planned for helping the students to foster their research interest in areas like earthquake engineering, seismology, structural health monitoring, mechanics of composites etc. Curriculum also focuses upon courses related to Finite Element Methods. Laboratory courses are designed to impart practical knowledge on using various tools for characterizing, modelling and analyzing structures. The curriculum also includes an academic internship (industry/research) and post graduate project.

Semester – I (18 Credits)					
Sl. No.	Course Title	Credit Structure			
		L	T	P	C
1	Solid Mechanics in Structural Engineering	3	0	0	3
2	Advanced Design of Structures	3	0	0	3
3	Structural Dynamics with Application to Earthquake Engineering	3	0	0	3
4	Numerical Methods for Engineering Computation	3	0	0	3
5	Specialization Elective-I	3	0	0	3
6	Structural Engineering Laboratory	0	0	4	2
7	Technical Communication	1	0	0	1
Semester – II (19 Credits)					
Sl. No.	Course Title	Credit Structure			
		L	T	P	C
1	Mini Project	0	0	6	3
2	Finite Element Analysis in Structural Engineering	3	0	2	4
3	Specialization Elective-II	3	0	0	3
4	Specialization Elective-III	3	0	0	3
5	Specialization Elective-IV	3	0	0	3
6	Outside Discipline Elective-I	3	0	0	3
Semester – III (16 Credits)					
Sl. No.	Course Title	Credit Structure			
		L	T	P	C
1	Academic Internship	0	0	2	1
2	Outside Discipline Elective -II	3	0	0	3
3	Postgraduate Project – Part I	0	0	24	12
Semester – IV (17 Credits)					
Sl. No.	Course Title	Credit Structure			
		L	T	P	C
1	Postgraduate Project – Part II	0	0	34	17

Achievements

7 students got internship in leading MNC's which are Maccaferri, Cortex solutions, ICT pvt. ltd., TCE, Aimil Ltd.

Laboratories and Facilities Available

▪ Construction Materials Laboratory

www.iitmandi.ac.in/Schools/SE/construction.php

Facilities:

- Compression Testing Machine and Flexural Testing Frame
- Compression Unit
- Marsh Cone Apparatus
- Walk-in Chamber
- Ultrasonic Pulse Velocity Tester

▪ I4S Laboratory

Facilities:

- Wired and unwired accelerometers
- Data Acquisition System for strains and acceleration.
- Thermal camera
- Strain gauges
- MEMS accelerometer

▪ Structural Analysis Laboratory

Facilities:

- Contains all the equipment for basic structural analysis experiments and includes FEM software like:
 - SAP 2000 V21/ETABS Ultimate
 - Staad.Pro
 - Ansys
 - ABAQUS
 - MATLAB

▪ Acoustics and Vibration Laboratory

www.iitmandi.ac.in/Schools/SE/avl.php

Facilities:

- Shaker
- Accelerometers – single axis, tri-axial, high temperature
- Impact hammer

Associated faculties

Course Coordinator:

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Faculty Advisor:

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