

INSTITUTE OF INFRASTRUCTURE TECHNOLOGY RESEARCH AND MANAGEMENT (IITRAM)

Suggested Course Structure

M.Tech. at IITRAM is a four semester two years programme. The maximum duration of program is 3 years. The general course structure for M.Tech. Program is shown in Table 1. It consists of three categories of courses. The first category consists of compulsory institute level courses. The second category comprises of core courses that includes mandatory courses in chosen specialization. The third category includes elective courses and is designed to offer flexibility to suit research requirements and changing industry demand from time to time. Laboratory courses, field visits, practical trainings, projects, seminars etc. that may constitute part of core and/or elective courses enhance the learning experience.

Table 1: General Structure for M.Tech. Programme at IITRAM

Semester-I	Optimization Methods in Engineering(2 credits)	Core Courses (3)	Elective Course (1)
Semester-II	Research Methodology (2 credits)	Core Courses (2-3)	Elective Courses (1-2)
Semester-III	Elective Course (0-2) / Mini Project	Masters Thesis	
Semester -IV	Masters Thesis		

Credit Structure

- Minimum credits for a Masters degree at IITRAM are fixed at 60. For specific programs, individual department can opt for a higher credit hours.
- The minimum number of credits that a student must register for in any given semester (excluding summer semester if any) shall not be less than 12. The maximum number of credits that student can register for in any given semester shall not be greater than 20.
- A student should maintain a minimum SPI of 5.5 and a minimum CPI of 6.0 at the end of each semester and should get a satisfactory appraisal in projects/reading courses/ thesis.

Mechanical Engineering

Proposed Curriculum:

The proposed curriculum is as follows:

Semester I (16 Credits)		
Sr.No.	Name of the course	Credits
1	Optimization Methods in Engineering	2-0-0-2
2	Design of Experiments in Engineering	3-0-2-4
3	Advanced Manufacturing Techniques I	2-0-3-3
4	Power Generation I	3-0-2-4
5	Elective-I	3-0-0-3
Semester-II (Credits: 16)		
1	Research Methodology	2-0-0-2
2	Advanced Manufacturing Techniques 2	2-0-3-3
3	Power Generation 2	3-0-2-4
4	Advanced Refrigeration and Air-Conditioning Systems	2-0-2-3
5	Elective II	3-0-0-3
Summer Internship		
Semester III (13 Credits)		
1	M.Tech Thesis	0-0-0-10
2	Elective III	3-0-0-3/2-0-2-3
Semester IV (16 Credits)		
1	M.Tech Thesis	0-0-0-16

List of Electives:

1. Finite Element Method
2. Computational Methods in Fluid Mechanics and Heat Transfer
3. Advanced Thermodynamics
4. Advanced Machine Design
5. Manufacturing Metrology
6. Advanced Engineering Mathematics
7. Advanced Welding Processes
8. Smart Materials and Structures
9. Risk Management
10. Energy Economics and Management
11. Servo-Hydraulics
12. Earth-Moving Equipment