

**Admissions in M.Tech (Research), Dual degree (M.Tech + Ph. D) and Ph. D. Programs at School of Mechanical and Material Engineering, IIT Mandi**

School of Mechanical and Materials Engineering of IIT Mandi is inviting applications for admission in the M.Tech (by Research), Dual Degree (M.Tech + Ph. D) and Doctor of Philosophy (PhD) programme in a variety of disciplines and interdisciplinary areas under Regular Full-Time mode.

**Available Program and Specializations for Admissions:**

S.No	Program	Discipline	Broad Research Areas
1.	Ph.D. / M.Tech (Research) / Dual degree (M .Tech + Ph. D)	Mechanical Design	Acoustics; Solid Mechanics and Design; Computational Solid Mechanics; Continuum Mechanics; Fracture-Fatigue; Functionally Graded Materials; Mechanics of Composite Materials; High Technology Materials and Structures; Machine Design; Vibration; Smart material/Structure; Piezoelectric Energy Harvesting; Finite Element Method; Modeling & Control; Biomechanics; Orthopedic Biomechanics; Implant Design; Bone & Biomaterial Fracture; Deformation induced emissions; Structural health monitoring; Smart materials and structures; Vibration energy harvesting.
2.	Ph.D. / M.Tech (Research) / Dual degree (M .Tech + Ph. D)	Fluid Thermal	Alternative Fuels; IC Engines; Emissions Control; Experimental Fluid Dynamics; Spray Atomization & Combustion; Advance Laser Diagnostics & Image Processing; Snow avalanche dynamics; Multiphase flows; Computational fluid dynamics; Population balance modelling; Non-Newtonian fluids; Fluid Mechanics; Thermal Science and Engineering; Thermal Radiation; Solar Radiation; Collimated Beam Radiation; Non-gray Radiation; Interface capturing; Mesoscale simulations; Probes and instrumentation for two-phase flow; Experimental Nanofluidics; Liquid Phase Electron Microscopy; Machine learning and CFD; Mineral processing.
3.	Ph.D. / M.Tech (Research) / Dual degree (M .Tech + Ph. D)	Manufacturing	Additive Manufacturing (Metal, Polymer – Particulate; Short and Continuous fiber; Ceramics); Cyber Security in Additive Manufacturing; AI and Machine learning in Manufacturing ; Design and development of Composites for specified application ; Waste utilization; Additive manufacturing (Extrusion based Metal and Continuous Fiber); Reinforced composites 3D printing; Highly filled (metal, short fibre filament production); LCA; Advanced Manufacturing; Perovskite Solar Cells; Solar Thermal utilization; Energy Storage; Advanced Manufacturing Processes for Polymer Composites; Sustainable Bio-composites; Recycling of Polymer Composites; Surface Engineering and Experimental Tribology
4.	Ph.D. / M.Tech (Research) / Dual degree (M .Tech + Ph. D)	Materials Engineering / Materials Science	Glasses for Electrical Applications; Solid State Refrigeration; Pyroelectric Energy Harvesting Materials and Methods; Piezoelectric Energy Harvesting Materials and Methods; Carbon based micro/ nano devices; Microstructure and crystallinity of sp <sup>2</sup> carbons; Waste-derived carbon; Nano-manufacturing for Electronics Sensor and Micro supercapacitor applications; Vapor Phase Growth(CVD, PVD & ALD) of Functional Nanostructures and Thin films; Phase Transition in Functional Oxide Materials and Thin Films; Nano-mechanics of Phase Change Materials and 2D Materials; Analytical Microscopy and Imaging; Drug Delivery System; Biosensors; Micro porous membranes; Multifunctional hybrid material; Condensed Matter Physics and Materials Science; Carbon materials and applications
5.	M.Tech (Research)	Computational Mechanics	Computational Solid Mechanics; Finite element modeling; Computational fluid dynamics and heat transfer; Non-Newtonian fluid dynamics; Multi-phase flow; Numerical solution of partial differential equations.

**For more details about the Programme at IIT Mandi, please visit:**

[https://www.iitmandi.ac.in/pdf/ordinances//Ordinances\\_Ph.D.pdf](https://www.iitmandi.ac.in/pdf/ordinances//Ordinances_Ph.D.pdf)  
[https://www.iitmandi.ac.in/pdf/ordinances/Ordinances\\_MTech\(R\).pdf](https://www.iitmandi.ac.in/pdf/ordinances/Ordinances_MTech(R).pdf)

**Minimum Eligibility Criterion for Appearing in Admission Process:**

The candidate must fulfil any one of the criterion mentioned below in the table:

<b>For admission in Ph.D.</b>	Master's or equivalent degree in Engineering/Technology
<b>For admission in M.Tech. (Research)</b>	Bachelor's degree in Engineering/Technology or equivalent with a valid GATE score; OR
	Master's or equivalent degree in Science (or allied subjects) with a valid GATE score; OR
	B.Tech. /B.E./B.S. (or equivalent) degree from CFTI (Centrally Funded Technical Institute) / any of the top 100 institutes according to NIRF ranking (overall category) at the time of application / any Himachal Pradesh Govt. institution or universities with CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.

<b>For admission in Dual Degree (M.Tech + Ph. D)</b>	Bachelor's degree in Engineering/Technology or equivalent with a valid GATE score; OR
	Master's or equivalent degree in Science (or allied subjects) with a valid GATE score; OR
	B.Tech. /B.E./ B.S. (or equivalent) degree from CFTI (Centrally Funded Technical Institute) / any of the top 100 institutes according to NIRF ranking (overall category) at the time of application / any Himachal Pradesh Govt. institution or universities with CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.

### Notes:

- Candidates interested in M. Tech (by research) Program in Electric Transportation, please see the separate advertisement for the program at following link and submit application accordingly:  
[https://www.iitmandi.ac.in/pdf/admissions/ET\\_M.Tech\(R\)+PhD%20Admissions\\_July%202024.pdf](https://www.iitmandi.ac.in/pdf/admissions/ET_M.Tech(R)+PhD%20Admissions_July%202024.pdf)
- The first choice/preference will be considered for processing the application; candidates are advised to fill choice of discipline on the application portal accordingly. Candidate should submit separate application for multiple discipline/programs.
- Mode of Interview: The shortlisted candidate will be called for interview. Interview will be in hybrid mode (both online and offline).
- Reservation policies as per prevailing GoI rules will be followed. IIT Mandi reserves the right to admit / not admit for any of the advertised areas.
- For each specialization and program, candidate should submit a separate application with the application fee.
- The decision of the competent authority in all matters relating to the eligibility of the candidate, written test/Interview and admission would be final and binding on all the candidates. In case of any dispute/ambiguity that may occur in the process of admission the decision of the Institute shall be final.
- All the details furnished in the online application will be treated as final and no changes shall be entertained. Non submission of valid/required documents and/or incomplete application shall be summarily rejected.

### Application Procedure:

Candidates should submit their application on Samarth application portal link given below:

<https://iitmandiadm.samarth.edu.in/2024/index.php/>

For any other queries related to the this admission process you may contact [smmeadmissions@iitmandi.ac.in](mailto:smmeadmissions@iitmandi.ac.in) or 01905-267138

### Application Fee:

Category	Amount in ₹
General/EWS/OBC/OBC(NCL)/Transgender/Foreign Nationals	200
Women/SC/ST/PD	100

### **Mode of Payment: SBI Collect Portal.**

Applicant should submit fee on SBI collect portal (<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm>) of the IIT Mandi and submit generated transaction number to the application portal.

*One application fee is valid for the single application. The application fee is non-refundable.*

### Important Dates:

Last date for filling Online Application	25 April 2024
Interview	Tentatively 20-21 May 2024 (To be announced on IIT Mandi webpage)

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