



School of Computing and Electrical Engineering

Call for M. Tech (by research) / Ph.D. Program (Aug.-Dec., 2023)

IIT Mandi invites applications from bright and dedicated young scholars interested in joining the full-time or part-time M. Tech (by research)/Ph.D. program in the **School of Computing and Electrical Engineering (SCEE)**. For this purpose, SCEE seeks applications for the Master of Technology (M. Tech) By Research and Doctor of Philosophy (PhD) programs in the following areas of computer science and electrical engineering:

Individual Specializations under SCEE	Specific Areas (but not limited to)
Systems Engineering and Theoretical CS	<ul style="list-style-type: none">● Algorithms and Data Structures● Communication complexity and distributed computing● Applied robotics
Intelligent Systems	<ul style="list-style-type: none">● Cognitive Science, AI● AI/ML for Cybersecurity● Computer Vision● Biomedical Imaging● Human-Computer Interaction● 360, virtual or augmented reality● Machine Learning● Machine Learning for Signal processing
Control Systems	<ul style="list-style-type: none">● Mathematical control theory● Machine learning control● Fault diagnosis and fault-tolerant control● Controlled Environment Agriculture● Control for CPS/IoT● Networked Control System● Control and decision making over networks● Control of Connected and Autonomous Vehicles● Control of Multi-Agent and other Robotic Systems● Estimation and filtering

	<ul style="list-style-type: none"> ● Target tracking
Microelectronics and VLSI	<ul style="list-style-type: none"> ● Analog and Mixed-signal VLSI Design ● RF and Microwave ● FPGA-based IoT and Hardware Security ● Micro & Nanoelectronics ● Digital VLSI Architecture Design for Communication ● Biomedical Embedded Systems ● Semiconductor Physics/ Devices ● Sensor and Networks ● Digital VLSI Architecture Design for Communication, Signal Processing, and ● Artificial Intelligence ● VLSI for AI ● Advanced Semiconductor Packaging Technologies
Power Engineering	<ul style="list-style-type: none"> ● Electrical Machines and Drives ● Power Electronics ● Power Systems
Communications and Signal Processing	<ul style="list-style-type: none"> ● Photonics ● IoT networks ● Communication Networks ● Wireless Communication ● RF and Microwaves communications & component design ● Information theory ● Signal processing, image processing ● Machine learning for signal/image processing & communications
Digital Health	<ul style="list-style-type: none"> ● Medical Imaging and Computer Vision, AI in Healthcare, Radiomics in Oncology ● AI, HCI, and Cognitive Science with a focus on digital health ● Medical Imaging and Computer Vision, AI in Healthcare ● AI-based diagnostic and prognostic models, Computational Biomarkers ● Continuous glucose monitoring, Pandemic (e.g., Covid-19) spread analysis ● Computational Neuroscience, Neurovascular Coupling, Neurodiagnostic and Neurotherapeutics ● IoT based EM Biosensors for 5G applications,

	<p>Smart Sensor for Eye, Bone and Heart diseases</p> <ul style="list-style-type: none"> ● Medical Image Analysis using Deep Learning ● In memory computing, Hardware security, Medical image compression ● MR Image processing, MRI hardware, and Affordable MRI
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Link to the online application^{1,2}:

<https://oas.iitmandi.ac.in/External/Admission/Login.aspx>

It is kindly advised to get in touch with faculty members directly for further information regarding the different research areas and positions available with them listed on

<https://scee.iitmandi.ac.in/faculty.php>

General Information

Information on eligibility, minimum qualifications and scholarship rules are briefly provided in the following pages of this document. The same can be found at the following links

M. Tech (by research) /PhD Ordinance and Regulations (O&R) IIT Mandi:

https://www.iitmandi.ac.in/pdf/ordinances/Ordinances_phd_mtech.pdf

M. Tech (by research)/PhD scholarship Rules:

<https://iitmandi.ac.in/pdf/admissions/Information%20Brochure.pdf>

For PhD applicants (*Full-Time Research Scholars*):

Students under this category are entitled for the Scholarship/ Assistantship from Institute / MoE if they qualify any one of the following criteria.

- Master's degree in Sciences/ Engineering/ Technology with a good academic record
- Bachelor's degree holder in Engineering/ Technology from any CFTIs with a minimum CGPA of 7.5 on a 10.0-point scale.
- Bachelor's degree holder in Engineering/ Technology from any Non CFTIs with at least CGPA of 7.5 on a 10.0-point scale with valid GATE score.

¹Upload self-attested documents as a single zip file (Proof of identity (Aadhar card/voter card/PAN card/any other), Class 10 certificate as proof of date of birth, Mark sheets of UG and PG degrees (rank certificate, if any), Qualifying certificate of the GATE/CSIR/UGC/other examination, Caste Certificate.)

²To apply for other specific areas not listed above, kindly fill "Others" in the specific area section after selecting the Broad Research Area on the OAS portal.

For Masters applicants (*Full-Time Research Scholars*):

Students under this category are entitled for the Scholarship/ Assistantship from Institute / MoE if they qualify any one of the following criteria.

- Candidates with a Bachelor's Degree in Engineering/Technology or Master's Degree in appropriate Sciences. A valid GATE score is required for admission to the M. Tech (by research) program, and for availing HTRA scholarship.
- Candidate with B.Tech/BE degree from Centrally Funded Technical Institutes (CFTIs), with a minimum CGPA of 7.5 on a 10.0 point scale (or equivalent). (National Level examinations are waived off for HTRA Scholarship)

Exemptions from mandatory requirements of Valid GATE or National Level examination:

- 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, with CGPA/CPI at least 7.5 (on a scale of 10) or equivalent
- BS-MS/M.Sc/equivalent from IITs, IISERs, IISc, IIMs or any of the top 100 institutes according to NIRF ranking (overall category) at the time of application with a CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.
- NIRF Ranking (within top 100) should be in the overall category granted for the year during which admission is sought.
- Any Himachal Pradesh Govt. Institutions/Universities, with CGPA/CPI at least 7.5 (on a scale of 10) or equivalent.

**For complete details regarding eligibility kindly refer to Ordinance and Regulations (O&R) available at IIT Mandi webpage.*

Note: Industrial or Academic Institute Sponsored or Part-time M. Tech (by research)/PhD candidates are not eligible for MHRD/HTRA scholarships.

Employed candidates seeking admission to **M. Tech (by research)/PhD** must submit a “**No Objection Certificate**” from their current employer at the time of interview.

For any problems regarding filling-up of online applications, please contact oassupport@iitmandi.ac.in

For any other queries regarding M. Tech (by research)/Ph.D. programs in SCEE, please contact the SCEE office through email: scee-admissions@iitmandi.ac.in. We look forward to reviewing your application.

Application Fee for M. Tech (by research)/Ph.D. Admission:

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

Mode of Payment³: SBI Collect Portal.

Important dates:

Start of online application:	11 July 2023
Deadline for online application:	22 July 2023
Announcement of shortlisted candidates:	24 July 2023
Interview (tentatively-online):	26-29 July 2023

Note: IIT Mandi reserves the right to recruit/ not recruit for any of the advertised areas and apply appropriate criteria for shortlisting candidates.

³Applicants should submit fee on SBI collect portal of the IIT Mandi; and submit generated transaction number to the OAS admission application portal. One application fee is valid for the single application. The application fee is non-refundable.