Mahindra University

www.mahindrauniversity.edu.in

Ph.D. Program Admission Notification
(Fall 2024 Semester starting in August, 2024)

Mahindra University, notified by the Government of Telangana vide Telangana Ordinance No. 1 of 2020 dated 20th May 2020, announces the launch of its 9th Batch of Ph.D. admissions in the Fall 2024 Semester starting in August, 2024.

The Doctor of Philosophy (Ph.D.) degree is acknowledged to be the highest university degree that is conferred on a doctoral student, who successfully defends her/his Ph.D. thesis in front of a panel of experts in the field appointed by the University after having spent a stipulated time and having achieved publications in reputed international journals and conferences.

The first year would require the Ph.D. candidate to go through a set of prescribed course work followed by initiation to research and comprehensive examination and carrying out actual research with the Ph.D. Adviser. The journey to earning Ph.D. degree typically goes through a cycle of four phases involving preparation, challenges, small and big successes and ultimate joy of successful defense of the written thesis. Completion of a thesis, depending on individual performance, typically may take about 4 years.

The Mahindra Edge

Ph.D. students at Mahindra University would have great opportunities for interdisciplinary research by working closely with our faculty, some of who are at the forefront of their fields (may like to check faculty profiles on our website). Our research infra-structure in terms of state-of-the art laboratories in science and engineering are of high quality and are being continually upgraded. Government of India funding agencies like SERB, BRNS, DRDO, MeitY, etc., have already funded several research projects as well as international collaboration projects granted by DST's International Division.

Ph.D. programs are offered in Engineering and Applied Sciences. For those who wish to pursue liberal arts at Ph.D. level, we have a strong Humanities and Social Sciences program, which is backed by high-quality Media and Design Thinking laboratories and Entrepreneurship cell.

Specialized areas in which Ph.D. students, if found suitable, would be admitted in Fall 2024 semester

Ph.D. Specializations for Fall 2024 semester: (Aug'24 Intake)

- **Physics:** Active metamaterials, Dielectric Metasurfaces, 5G/6G communications, Guided Wave Photonics and Fiber Optics, Integrated Quantum devices, Liquid crystal microfluidics, Metamaterials and metasurfaces, Mid-IR Photonics, Multifunctional materials and devices, Quantum Computing, Quantum Optics, Silicon Photonics, Solar Cell, Spintronic Devices, Terahertz Magnetotransport, Terahertz Metasurfaces, Terahertz Photonics, and Topological Photonic Insulators.

- **Civil Engineering: Structural Engineering:** Geopolymer concrete, Structural Engineering of Heritage Structures and Civil Structural Health Monitoring with sensors, Advanced Structural Cementitious Composites, Earthquake proof civil structures, Seismic Risk Assessment, Engineering Seismology, Engineered Bamboo, monitoring corrosion of Infrastructure, Sustainable materials, Engineered nano cementitious composites, Ultra high performance concrete composites, Structural distress and strengthening systems, Precast elements with 3D concrete printing and Performance based design of Precast structural elements.

   Transportation Engineering: Travel Behaviour and Choice Modelling, Mobility as a Service (MaaS), Shared Mobility, Sustainable Urban Transportation Systems, Road Safety Audit. Intelligent Transportation Systems, Driver Behaviour, Road Safety Education, Road Traffic Noise. Transportation and Environment- transportation systems modelling, GIS applications and optimization in transportation infrastructure modelling and development, high-speed rail infrastructure planning, and metaheuristics in alignment development and facility location.

   Geotechnical Engineering: Geosynthetics, Sustainable/recycled/secondary pavement materials, Geothermal pavement, and NDT Testing.

   Water resources Engineering: Watershed management, hydrological modelling, and GIS application in catchment area/drainage basin.

Environmental Engineering: Indoor environmental quality, Water quality monitoring, Micropollutants, Photocatalysis, Nanomaterials synthesis for air and water pollution mitigation, Microalgal biofuels.

- **Electrical and Computer Engineering**: VLSI Design, Renewable Energy System & Smart Grid, Power Electronics and Electric Drives, Sensorless Electric Drives, Electric Vehicles, EV charging, Cyber Physical Systems, Cyber security for Power Electronic systems, fuel cell, Hybrid Energy Storage systems, Biomedical Signal Processing, Biometrics and Computer vision, VLSI designs beyond CMOS, Wireless communications, 5G, and massive IoT, Machine learning in VLSI, Algorithms for physical design automation, Semiconductor Devices, High Electron Mobility Transistor modelling for High Frequency applications, Memristor logic for low power logic implementation, Low power reliable memories for In memory compute (IMC), SRAM for space applications, High performance sense amplifier design, Deep learning for wireless communication, Radio Resource Management, MIMO communication, Non-orthogonal Multiple Access Technologies, Optimization in PHY and MAC layers, Dynamic Spectrum Access, Synthesis of high k nanomaterials for semiconductor applications

- **Chemistry:** Hybrid polymers and nanomaterials, Responsive polymers; Design and synthesis of transitional metal oxide and nitride nanostructures for energy storage applications; Designing biocatalysts for hydrogen energy, Two Dimensional Materials for flexible electronics

- **Mathematics:** Numerical Analysis; Differential Equations; Analysis of Partial Differential Equations; Image Processing; Stochastic Control; Probability and Statistics; Fluid Dynamics; Operations Research; Scheduling and Timetabling in Industry and Education; Finite Group Theory; Numerical Linear Algebra; and Machine Learning, Financial Mathematics

- **Mechanical and Aerospace Engineering**: Computational Mechanics, Theoretical solid mechanics, Solar Thermal Power, Refrigeration and Air-Conditioning, Battery thermal management, Heat transfer, Microfluidics, Biofluid Dynamics, Biomechanics Modelling and Simulation, Nano materials, Cyber-Physical Systems, Advanced manufacturing systems, Robotics, Cable-Driven Robotics, Exoskeletons, Exosuits, Unmanned Aerial Vehicles, Sheet metal forming of Titanium Alloy Ti6AI4V, Forming, Rolling of Aerospace materials, Manufacturing process simulation for aerospace materials, Additive manufacturing, Laser manufacturing methods, Numerical Modelling and Simulation of additive manufacturing, advance finishing process etc. , Smart Manufacturing, i4.0, Industrial Engineering, Computer Aided Design, Turbulence modelling, Combustion modelling, Large Eddy Simulation, Direct Numerical Simulation, Turbulence-chemistry interaction, Tribology, Laminar to turbulent transition in Hypersonic, scramjet propulsion with hydrogen and hydrogen fuel, regenerative cooling in high speed flow, Computational turbomachinery, CFD code development in high speed reacting and non-reacting flows.

- **Computer Science and Engineering:** High-Performance Computing; Social Network Analysis; Artificial Intelligence; Machine Learning; Deep Learning; Cyber-Physical Systems; Computer Vision and Image Processing; Natural Language Processing; Computational Intelligence; Theoretical Computer Science; Big Data Computing; Computer Architecture; Computer Networks; Network Security; Cyber Security; Wireless Sensor Networks; Generative AI, Neuroscience, Brain-Computer interface.

- **Entrepreneurship:** Innovation and Entrepreneurship; Start-ups and Technology Entrepreneurship, Family Business Management, Start-ups-Scaling up & Growth, Incubation processes and models

- **Humanities and Social Sciences:** Indian Ocean History; Economic Anthropology; Political Science

- **Life Sciences:** Chemistry of Biomolecules, Computational Biology, Plant Molecular Biology

Eligibility:

Programme	Minimum qualification required for admission	Admission Process
Ph.D. (Full Time / Part Time)	Master's degree in Engineering/Technology/Science/Humanities/Social Sciences with a minimum CGPA of 6.00 on a 10-point scale or 60% marks in aggregate. Full time students who do not possess M.Tech. or equivalent degree and instead possess B.Tech. or equivalent degree with a minimum CGPA of 7.00 on a 10-point scale or 70% aggregate marks are required to have a valid GATE score or UGC/CSIR/DBT/INSPIRE Fellowship Examination for Sciences/Humanities and Social Sciences disciplines. - The requirement of GATE/National examination can be waived off for possible admission to Ph.D. programs for all graduates from Centrally Funded Technical Institutes with a B.Tech./B.E./Integrated M.Sc. (or any other program of minimum four years duration, admission to which was on the basis of JEE) with CGPA of 8.00 and above at the time of graduation. - The requirement of GATE/National Examination can be also waived off for M.Sc. graduates from IITs with a CGPA of 8.00 and above.	Interview

Ph.D. Entrance Test:

Candidates not having valid GATE score or or UGC/CSIR/DBT/INSPIRE will have to appear in the written Test to be conducted by ECSE-MU, followed by an interview for the shortlisted candidates.

Mahindra University Ph.D. Entrance Test: 1-Jun'24 (Saturday) at Mahindra University Campus

FEE STRUCTURE & Ph.D. ASSISTANTSHIP (Free Boarding & Lodging):

INR 50000/-
PER ANNUM

INR 20000/-
SECURITY DEPOSIT
(ONE TIME PAYMENT)

Ph.D. Assistanship
(for full time scholars)
INR 30000/- PER MONTH* (plus Boarding & Lodging)

*8 hours/week TA duty is mandatory

Important Dates (* Subject to revision):

Last Date for submission of applications	18th May, 2024
Shortlisting of candidates for interview	24th May, 2024
Ph.D. Entrance Test / Interview	1st Jun, 2024
Announcement of Results	18th Jun, 2024
Commencement of the Fall 2024 Semester Teaching	5th Aug,2024

Please click here to view Application Procedure for Ph.D. Program

Please click here to Apply