



TRAINING AND PLACEMENT CELL

IIT Patna



PLACEMENT — **BROCHURE**

B.TECH. 2022-23

Bachelors in Technology,
Department of Metallurgical and Materials Engineering
Indian Institute of Technology Patna



www.iitp.ac.in



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From HOD's Desk

The Department of Materials Science and Engineering was established at IIT Patna in 2012 and was renamed as Department of Metallurgical and Materials Engineering in 2018. The department started a 4-year undergraduate program in Metallurgical and Materials Engineering in 2019, and a 2-year postgraduate program in Materials Science and Engineering has been running since its inception. The postgraduate program is more interdisciplinary. The department currently has six highly accomplished faculty members. The department focuses on the fundamental and engineering aspects of conventional metallurgy, materials, and advanced materials. Students are explicitly trained to develop materials for new applications, improve existing materials to enhance performance, and evaluate how we can use different materials together.

The course curriculum is designed to take feedback from academia and industries. The curriculum has a good balance of theoretical and practical aspects, emphasizing case studies. The course curriculum is revised periodically to incorporate the new, emerging, and latest technologies and industrial advances.

The department houses world-class research facilities under one roof. All the laboratories are well equipped. Students are given hands-on training experience to encounter real-life engineering problems and develop critical thinking skills. Department is actively engaged with various funding agencies and industries such as DST, ISRO, BRNS, NRB, Tata Steel, MRF Tyres, Manali Petrochemical, Cumi, and many more. In addition, the department had developed a strong collaboration with universities abroad, defense laboratories, and industries.

**Dr. Devinder Yadav
Head of Department**



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The Vision



“

The Department aims to train students with the fundamentals and expertise in design, synthesis, characterization, testing and production of various materials and also with the knowledge of new technologies in production and processing of new and advanced engineering materials.

The Department continues to strive for excellence and develop continuously through progress and improvement to establish itself as one of the leading department of education and research.



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Metallurgical and Materials Engineering

The Department

The strong dependence of our society on metals and alloys makes metallurgy an important branch of modern engineering. Metallurgical and Materials Engineering involves designing, innovation, and improvement of the process to transform into useful products we use every day in our life. It is a discipline that enables both the creation and application of materials in society. Materials engineers develop materials for new applications, improve existing materials to enhance performance and evaluate ways in which different materials can be used together.

The Department of Materials Science and Engineering was established in the year 2012 and was renamed as Department of Metallurgical and Materials Engineering in 2018.

The department focuses on the fundamentals and engineering aspects of conventional metallurgy, materials, and advanced materials.

The department faculty specializes in the areas of physical and mechanical metallurgy, phase transformations, thermomechanical processing, electron microscopy, materials chemistry, nanomaterials, thin films and coatings, ceramic and metal matrix composites, tribology, thermal spraying, polymer science and technology, fillers, composites, ultra high temperature ceramics and phase field modelling.



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The Faculty Members



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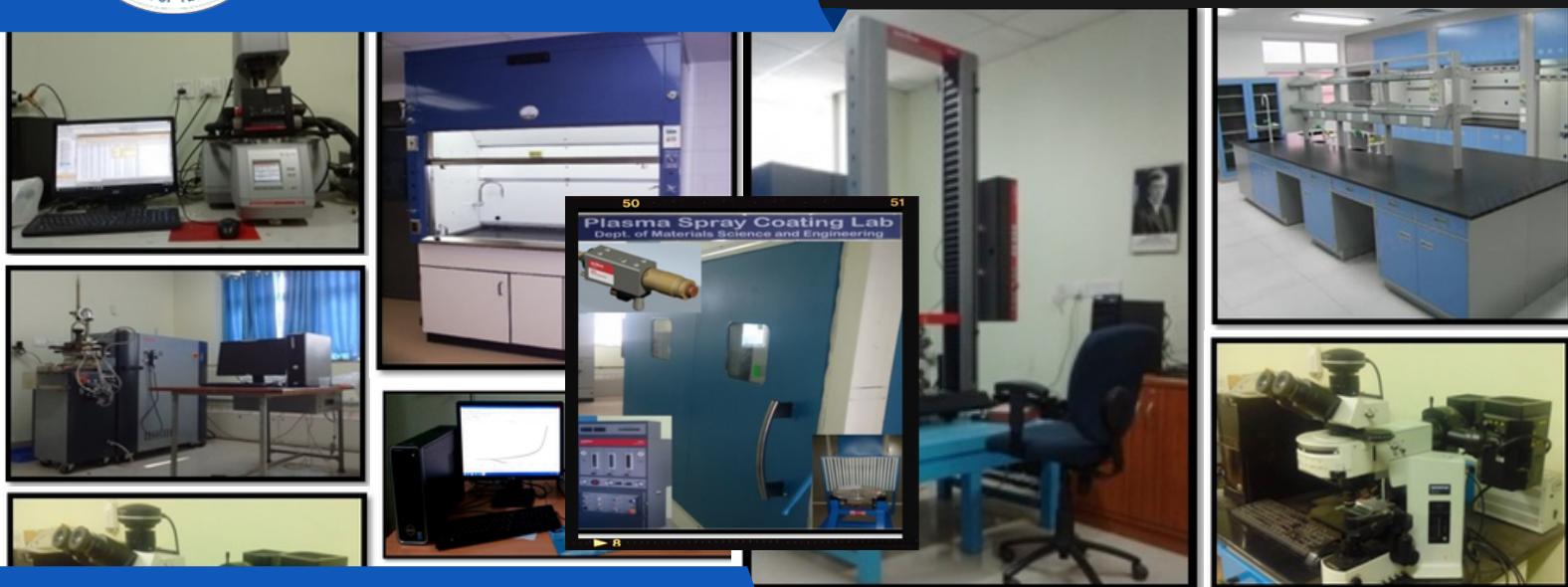


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Lab Facilities



● Metallurgical and Materials Engineering Lab

Plasma Spray
Mechanical Testing
Metallurgical and Corrosion

● Ceramics and Nanomaterials Lab

Nanomaterials
Materials Chemistry
Ceramic Testing

● Polymer Science & Technology Lab

Polymer Synthesis
Polymer Characterisation
Polymer Processing

● Flash Sintering Lab & Processing Modelling Lab



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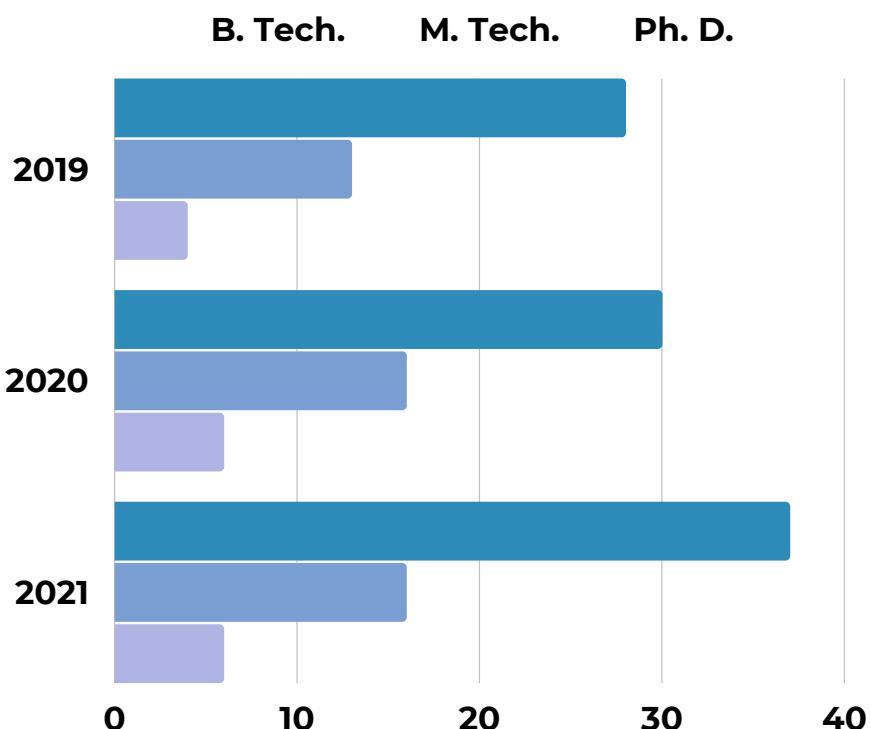


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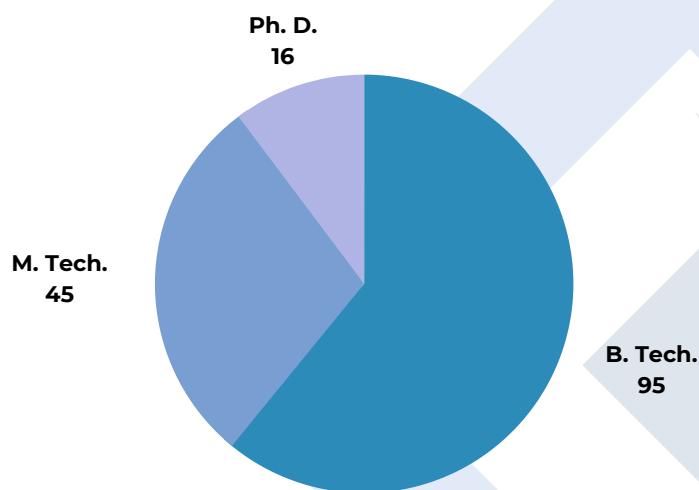


Batch Profile Demographics —

Student Intake



Student Distribution





Course Work Profile



Core Courses

- Introduction to Metallurgical and Materials Engineering
- Introduction to Mineral Processing and Raw Materials
- Metallurgical Thermodynamics and Kinetics
- Process Metallurgy
- Phase Transformation and Diffusion
- Mechanical Metallurgy
- Techniques of Materials Characterization
- Iron and Steel Making
- Engineering Polymers
- Ceramic and Glass
- Thermomechanical Processing of Metallic Materials
- Corrosion and Degradation in Materials
- Functional Materials
- Environmental Sustainability and Industrial Safety

Lab Courses

- Metallography and Heat Treatment Lab
- Materials Processing Lab
- Mechanical Metallurgy Lab



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Recruiters and Sponsors —



Our Scholars are working on various research projects sponsored by Government and Private organizations with on par excellence. For more exposure, Department has collaborated with International Universities, leading Researchers and State of the art Laboratories.

Collaborators

RWTH AACHEN UNIVERSITY

RWTH Aachen University
Germany



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Technical Institute
Darmstadt, Germany



Karlsruher Institut für Technologie

Karlsruhe Institute of
Technology
Germany



CSIR- Central Mechanical
Engineering Research Institute



University of Warsaw
Poland

In addition to these, Innovative Research work is going on with IISc, other IITs and Technologically Advanced Laboratories joining hands from all across the country.



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Students' Organization



Materials Engineering Society (MatES)

MatES or Materials Engineering Society, IIT Patna is an association of UG and PG students, college faculty, and staff of the Department of Metallurgical and Materials Engineering of IIT Patna.



It is a combined effort to create an environment of curiosity about Metallurgy and Materials through various events, informative workshops, and inquisitive guest lectures.

Aim: We aim to provide creativity, potency, and morals in students and boost awareness about materials in society.

Vision: We anticipate practical knowledge and skills development in Metallurgical and Materials Engineering required in the present market to establish a good placement record in the coming years. We hope to focus on learning and enjoy the learning process. We strive to develop the interest of engineers in the MME department.

Visit us at: <http://mates.iitp.ac.in/>



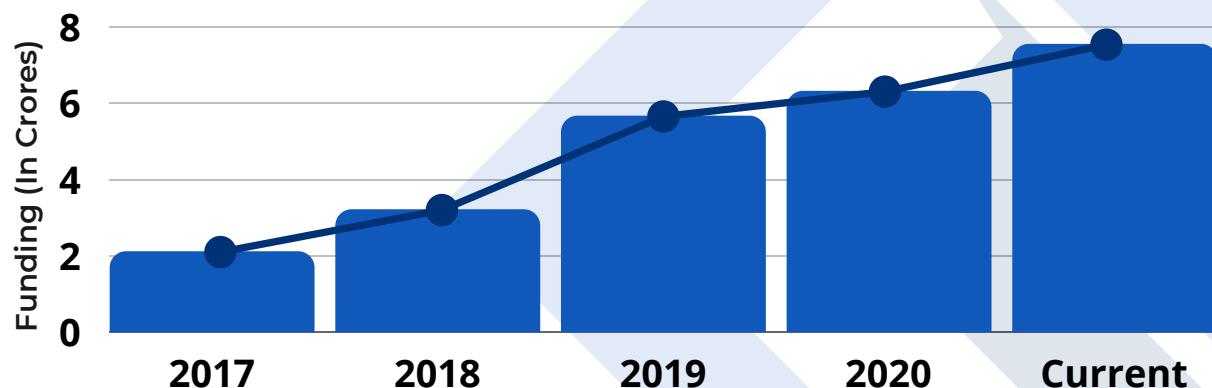
Achievements

Points of Pride:

- State of the art Plasma Spray Coatings Laboratory PSCL and Processing & Modelling Laboratory.
- Funding of the Department are increased by approx. 70.65%, which talks about the growth of the department at a rapid rate.
- Department has filed 1 International and 15 National patents.
- Our alumni has excelled both in the field of Placement and Research.
- Our students have also bagged campus placements and are working at various R&D labs in flagship companies across India.
- Students have also grabbed various Internships & Scholarship Programmes for their Thesis Reports.
- Our students have achieved international internships in organizations like MITACS.
- A book, titled 'Rubber to Rubber Adhesion', authored by our faculty, Dr. Dinesh K. Kotnees recently in August 2021.

Journals Include:

- ACS Nano
- Acta Materialia
- Acta Biomaterialia
- Composites Part B: Engineering
- Electrochimica Acta
- Scripta Materialia
- European Polymer Journal
- Materials Characterization
- Journal of Alloys and Compounds
- Ultrasonics Sonochemistry
- Applied Surface Science
- Polymer
- Journal of the American Ceramic Society





Placement Procedure

- 1** Companies are contacted by the Placement office or Placement cell (authorized student representatives) and invitations are extended, providing relevant information.
- 2** Companies are given an exclusive login id in the website after they submit the filled-in Job Announcement Forms (JAF) via email or fax. The JAFs are made available online, which helps the willing students to register for the company.
- 3** The Placement Cell and the Company confer and finalize the date for preplacement talks if necessary.
- 4** Each student who has registered for a particular company submits resume so that the company can shortlist the students accordingly.
- 5** A detailed schedule is prepared by the Placement Cell evaluating the job offer, prospects, student intake and the like. The schedule is confirmed with all the companies.
- 6** The companies/organizations visit the campus, meet the registered (or shortlisted) students, and conduct the interviews, tests or group discussion sessions in accordance with their respective recruitment process. The date of the interview and other sessions should be in compliance with the mutually confirmed schedule discussed earlier.
- 7** The companies are required to prepare and submit, with a written confirmation letter the list of students who are selected after the interview process, on the day of the interview itself.

The job offer letters are to reach the Placement Cell in due course of time. If a student gets a job offer, he/she is not entitled to appear for further tests/interviews by any other company.





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