



यांत्रिक अभियांत्रिकी विभाग

राष्ट्रीय उन्नत विनिर्माण प्रौद्योगिकी संस्थान

हटिया, रांची - ८३४ ००३

Department of Mechanical Engineering

National Institute of Advanced Manufacturing Technology

Hatia, Ranchi - 834 003

Dated **07/05/2025**.

SUMMER INTERNSHIP PROGRAMME

The background.

The Department of Mechanical Engineering was initially established as the Production Engineering Department. Adopting to the changing scenarios and needs, the department was renamed at different points of time. The current name of “Department of Mechanical Engineering” came into existence from January 1, 2025.

The department currently has qualified faculty with over 90% holding PhD degrees from reputed Indian Institutions / Universities. The department also has well equipped laboratories to cater the needs of undergraduate, postgraduate and doctoral programmes. The Institute has several centralized laboratory and computing facilities to support the academic and research activities. The Institute also has a well-stocked library with subscription to online journals.

The department currently offers a 4-years undergraduate programme leading to the award of B. Tech. (Mechanical Engineering), a 2-years postgraduate programme leading to the award of M. Tech. (Manufacturing Engineering) and doctoral programme covering a wide-spectrum of areas of Mechanical Engineering leading to the award of PhD degree. The department has also taken initiatives to start M. Tech. (Mechanical Engineering) programme from the academic session 2025-26 in place of the ongoing M. Tech. (Manufacturing Engineering), with specializations in Manufacturing Engineering, Mechanical Engineering Design, Thermal Engineering, Smart Manufacturing and Hybrid Manufacturing.

The Institute admits students through JEE (Mains) for the B. Tech. programmes and through GATE for the M. Tech. programmes. Admission to the doctoral programmes are done through written test and interview.

The internship programme.

The department has initiated the internship programme from current academic year realizing its social responsibility to reach out those students who could not make it to our Institute to experience the modern infrastructure and learn from qualified faculty.

The internship programme will be offered in on-campus mode. However, requests for online internship may be considered under specific circumstances. There are no charges / fees for attending the internship programme and no stipend will be provided. On-campus accommodation may be provided on a double / triple sharing basis for a minimal fee (we will attempt to make it free); students will have to pay the mess charges at applicable rates.

The duration and issue of certificates.

Duration of the internship programme is **4 - 6 weeks, between 2nd June 2025 and 11th July 2025**. The department will provide certificate to all the interns who will be completing the programme successfully.

Eligibility.

The internship programme is open to students enrolled in any recognized Institute / College / University, and will be completing their second / third year undergraduate programme (B. E. / B. Tech.) or first year postgraduate programme (M. E. / M. Tech.) during this summer. Acceptable branches of study / specializations are as follows:

- **B. E. / B. Tech.** in Mechanical Engineering, Production Engineering, Production and Industrial Engineering and Manufacturing Engineering. Equivalent branches may be considered as well.
- **M. E. / M. Tech.** in Mechanical Engineering, Production Engineering, Production and Industrial Engineering, Manufacturing Engineering, CAD/CAM, Mechanical Engineering Design and Thermal Engineering. Equivalent specializations may be considered as well.

There is no specific requirement of percentage of marks or CGPA. However, the students are expected to have no backlogs.

Application procedure.

The list of faculty and their active research areas are given in Annexure. The faculty members may agree to any other area if the student has such proposal. The student must contact the faculty of their interest through e-mail and get their concurrence to be a mentor (through e-mail). The application (in the given format) and *copies of the following documents must be merged into a single PDF document and mailed to the mentor on or before the closing date. The mentor will sign the application and submit it to the department office.*

- Concurrence e-mail from the faculty.
- Institute ID card.
- Bonafide certificate on the Institute letterhead, *as per the given format*, issued by the HOD / Principal / Dean of the College / Institute / University, where the student is currently studying.
- Marksheets / Grade cards till the previous semester, i.e., third or fifth semester for B. E. / B. Tech. students and first semester and entire B. E. / B. Tech. for M. E. / M. Tech. students.

There is no need to send the physical copy of application / copies of documents. However, the application and copies of the documents will be collected at the time of reporting for internship.

Application deadline and further communications.

The application form with required documents merged into a single PDF file must reach on or before **May 27, 2025**. Students will receive a confirmation mail, latest by **May 30, 2025**.

Ownership of intellectual property.

Our Institute and faculty mentor will have the ownership of any intellectual property and / or data generated out of the work carried out during the internship and due credits will be given to the intern. He / she will be allowed to report and present the details of work only for evaluation purposes in his College / Institute / University. Neither the Institute / College / University to which the intern belongs to, nor the intern himself / herself will have any right to claim ownership of such intellectual property / data.

Data privacy.

We respect your privacy. The data shared with us will be used by the faculty mentor / department only for the purpose of internship. Part of the data may be shared with the Hostel Management of our Institute, if the intern wishes to avail hostel facility. The intern's name and affiliation may be used for necessary internal approvals and for acknowledging his / her work which may be published in any form.

Annexure - Departmental faculty and their active areas of research

Dr. Ajai Kumar Pathak, PhD (IIT Kharagpur)

Professor (email: akpathak@niamt.ac.in)

CAD/CAM, conventional and non-traditional machining processes, welding, machine tool design, reliability engineering, manufacturing system design, etc.

Dr. G. Rajamohan, PhD (IIT Madras)

Professor (email: g.rajamohan@niamt.ac.in)

Computational metrology, Computational geometry, CAD/CAM, and AI in manufacturing.

Dr. Anoop Kumar Sood, PhD (NIT Rourkela)

Professor (email: aksood@niamt.ac.in)

Additive manufacturing (3D printing / rapid prototyping), metallization of plastics, scheduling of manufacturing operations, applications of soft computing techniques in design and manufacturing, mathematical modelling of manufacturing processes, and process-property optimization.

Dr. Mohamed Shafiullah Hussain V, PhD (IIT Kharagpur)

Assistant Professor (email: vmshussain@niamt.ac.in)

Mechanical systems reliability, fault tree analysis, FMEA, FMECA, system reliability modelling, process reliability, machine signature analysis and allied areas for PHM, and online reliability quantification.

Dr. Ratnakar Das, PhD (IIT Guwahati)

Assistant Professor (email: ratnakardas@niamt.ac.in)

Machining of metals, non-metals and composites, metal forming, bio-composites, and micro and nano manufacturing.

Dr. Sambit Kumar Parida, PhD (IIT Bhubaneswar)

Assistant Professor (email: skparida@niamt.ac.in)

Fracture mechanics of adhesive bonded joints, underwater welding, laser material processing, and automation of machines.

Mr. Subrato Kumar Soren, M. E., (BIT Mesra)

Assistant Professor (email: sksooren@niamt.ac.in)

Ultrasonic casting, and friction stir welding.

Dr. Anand Mohan Murmu, PhD (IIT(ISM) Dhanbad)

Assistant Professor (email: anandm@niamt.ac.in)

Surface modification technology (laser cladding, sintering, plasma spray coating, etc.), welding technology, and conventional and non-conventional machining

Dr. Umesh Khandey, PhD (IIT Delhi)

Assistant Professor (email: umeshkhandey@niamt.ac.in)

Conventional and non-conventional machining, grinding, optimization, simulation, and metal matrix composites.

Dr. Jagesvar Verma, PhD (VNIT Nagpur)

Assistant Professor (email: jagesvarverma@niamt.ac.in)

Arc and hybrid (Laser / TIG) welding of similar and dissimilar materials, friction stir welding of metallic and non-metallic materials, structure property co-relationship of weldments, heat transfer modelling of weldments, and corrosion behaviour of materials.

Dr. Aruna Thakur, PhD (NIT Rourkela)

Assistant Professor (email: arunathakur@niamt.ac.in)

Conventional and non-conventional machining, and surface texturing.

Dr. Lokeswar Patnaik, PhD (NIT Silchar)

Assistant Professor (email: lpatnaik@niamt.ac.in)

Biomaterials, composites, thin film coatings, machine dynamics, multi-criteria-decision making, and fuzzy logic.

Dr. Prasant Kumar Swain, PhD (IIT Kharagpur)

Assistant Professor (email: pkswain@niamt.ac.in)

Vibration and flutter control, smart laminated composite structures, uncertainty quantification, and stochastic analysis.

APPLICATION FORMAT

A) Personal data

Name of the student (in capitals) : _____

Date of birth of the student : _____

Name of the parent / guardian : _____

Communication address : _____

E-mail ID¹ : _____

Mobile number¹ : _____

Recent passport size
photograph

¹ A valid email ID and mobile number is mandatory as communications will be sent through email and / or messaging only.

Permanent address² : _____

Mobile number : _____

² Write "same as communication address", if the permanent and communications addresses are same.

B) Academic data

Course of study : B. E. / B. Tech. / M. E. / M. Tech.

Completing year during summer : B. E. / B. Tech.: Second year / Third year
M. E. / M. Tech.: First year

Branch / specialization : _____

Name of College / Institute / University : _____

Address : _____

E-mail address³ : _____

Mobile number³ : _____

³ Please provide a valid email address and mobile number of the HOD or Dean or Principal of the College / Institute / University.

Percentage marks / CGPA (B. E. / B. Tech. students only)

Up to previous semester : _____

Percentage marks / CGPA (M. E. / M. Tech. students only)

Up to first semester : _____

B. E. / B. Tech. (Overall score) : _____

C) Accommodation? : Required / Not required

D) Mentor (Mechanical Engineering Faculty at NIAMT, Ranchi) information

Name of the mentor : _____

Concurrence of mentor attached? : Yes / No

E) Details of internship (to be decided in consultation with the proposed faculty mentor at NIAMT, Ranchi)

Number of weeks of internship : _____ (minimum 4 weeks and maximum 6 weeks)

Starting date : _____ (specify the date, preferably starting from a Monday)

Ending date : _____ (specify the date, preferably ending on a Friday)

Brief description of the proposed work.

It is certified that the information provided in the application above are true and correct to the best of my knowledge. I understand that any deviation from facts may lead to cancellation my internship offer.

Place: _____

Date: _____

Signature of the student

Certified that the student discussed with me about the proposed work and that I agree to carry out the work as described. I also assure that the facilities needed to carry out the work will be arranged by me.

Signature of the mentor with date

Undertaking by the Intern (Student) and Parent / Guardian

(To be produced in original at the time of reporting for internship)

Sub: Summer internship at NIAMT, Ranchi.

We, _____ (Student name) and _____ (Parent / Guardian name), hereby undertake that the _____ (Student name) will strictly abide by the rules and regulations of NIAMT, Ranchi during the period of his / her association as an Intern with the Department of Mechanical Engineering, NIAMT, Ranchi.

We understand and resolve to be responsible for any unintentional / intentional damage caused by the intern to NIAMT, Ranchi. We also understand that the ownership of any intellectual property arising out of the work done during internship and any data generated during internship lies with the faculty mentor and NIAMT, Ranchi. Hence, no attempt will be made to disclose such information in any form without proper approval of the faculty mentor and NIAMT, Ranchi.

Further, we understand that the intern (student) will not receive any stipend from NIAMT, Ranchi towards the internship and that he / she will have to pay the accommodation and mess charges, as applicable, at the rates as communicated in the confirmation email.

Place: _____

Date: _____

Signature of the student

Signature of the parent/guardian

Instruction to student.

The Bonafide certificate will be obtained on the original letterhead of the College / Institute / University / where he or she is enrolled. The format is given below. A copy of this certificate will be submitted along with application and the original will be submitted while reporting for internship.

BONAFIDE CERTIFICATE

Dated _____

This is to certify that Mr. / Ms. _____ (Roll / Registration No. _____) is a Bonafide student of _____
(Name and address of the Institute / College / University) and is currently studying in _____ year in the Department of _____.

The Institute / College / University assures that the above student will be permitted to do his / her internship at the *Department of Mechanical Engineering, NIAMT, Ranchi* for _____ weeks* (from _____ to _____).

This is to certify that the summer internship is part of his / her course curriculum and that the report to be submitted by him / her will be used only for academic evaluation of the student concerned. We understand that it is our responsibility to protect the confidentiality of the data presented in the report and that we shall not attempt to use it for any other purpose.

It is further certified that Mr. / Ms. _____ has good moral character and conduct.

(Signature of HOD / Principal / Dean)

(Name in full & Date and Designation) with Official Stamp

* The duration and dates must be as mentioned in the application form.