Summer Internship Program on Modelling, Simulation and Analysis of Machines and Structures (MOSAM-2026)

(25th May - 8th July 2026)

ORGANIZED BY

Multiscale Computational Mechanics Lab

Mechanical Engineering Department
Malaviya National Institute of Technology Jaipur
JLN Marg, Malviya Nagar, Jaipur -302017
Website: https://www.mnit.ac.in/

About the MNIT Jaipur

The Malaviya National Institute of Technology Jaipur is one of the National Institutes of Technology established by the Ministry of Human Resource Development, Government of India. The Institute, earlier known as MREC, was founded in 1963 as a joint venture of the state and central governments. In 2002, it was granted the status of a National Institute of Technology, and on August 15, 2007, it was declared an Institute of National Importance through an Act of Parliament.

The MNIT campus spreads over 325 acres of lush green land in a prime location of Jaipur. At present, in addition to research, consultancy, and developmental activities, the Institute offers undergraduate and postgraduate (M.Tech., M.Sc., and Ph.D.) programs to about 5000 students across almost all major fields of engineering, technology, management, and sciences.

About the Department

Department of Mechanical, one of the institute's oldest and largest departments, offers B.Tech., M. Tech. and PhD programs with a strong focus on practical learning. It also supports part-time doctoral research for professionals from industry and academia. Faculty members are actively engaged in consultancy, sponsored research projects funded by agencies such as ISRO, DRDO, DST New Delhi etc. The department also conducts training programs and workshops to keep pace with evolving industry trends, with research specializations spanning Industrial, Thermal, Production and Design Engineering.

Patron

Prof. N. P. Padhy
Director, MNIT Jaipur

Program Chair

Prof. Harlal Singh Mali, HoD MED

Convenors

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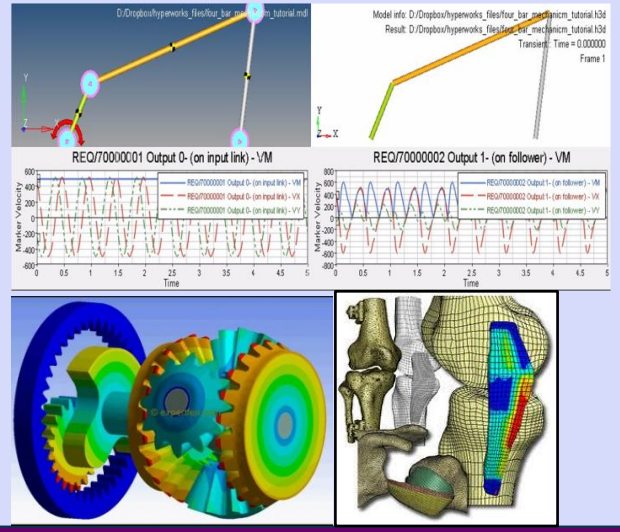
Mechanical Engineering Department
MNIT Jaipur, JLN Marg, Malviya Nagar, Jaipur -302017 (Raj)

About the internship

This Summer Internship bridges the gap between classroom learning and real-world engineering practice by equipping students with essential skills in modelling, simulation, and analysis. It focuses on experiential learning, allowing participants to apply theoretical concepts using industry-relevant tools and methodologies. Through hands-on exposure to design, computational analysis, robotics, advanced materials, and machinery fault diagnosis, trainees develop strong problem-solving and analytical abilities. The program's multidisciplinary approach helps build a solid technical foundation while familiarizing students with modern engineering practices. By the end of the internship, participants gain practical experience with industry-standard tools and techniques, enhancing their readiness for careers in sectors such as automotive, aerospace, manufacturing, and robotics. The program also strengthens their profile for higher studies and research, providing a competitive edge in today's technology-driven environment.



Course Content

- Introduction to Engineering Drawing, Mechanical Drawing: - Methods of Projection, Isometric and Orthographic Projections, Projection of Lines, planes and Solids, Section of Solids.
- Introduction to Finite Element Method: - Basic Steps of FEM, FEM Modelling and applications of FEM to 1D, 2D and 3D Problems in Solid Mechanics
- Hands-on training on Modelling, Simulation and Analysis packages, such as AutoCAD, Autodesk Inventor, Abaqus for static and impact behaviour analysis of structures and machine components.
- Kinematics and Dynamics of Robotic Manipulators: - Introduction to Kinematic Diagrams, Degree of Freedom, Coordinate transformation, DH parameters, Forward and inverse kinematics, trajectory planning,
- Hands-on training on advanced aerospace grade composite fabrication and testing including evaluation of tensile, flexural, interlaminar properties.
- Hand-on training on vibration-based machinery fault diagnosis in machine components.
- Introduction to Ergonomics and Human Factors Engineering: Principles of workplace design, anthropometry, posture analysis, manual material handling, and human-machine interaction for improving safety, comfort and productivity.

Eligibility

Students currently pursuing or aspiring to pursue relevant engineering disciplines are eligible to apply. This includes B.Tech, M.Tech, and Ph.D candidates from Mechanical, Civil, Aerospace, Aeronautical, Industrial, Production, Design, Automobile, and other related engineering streams.

Registration Fee

B.Tech.	Rs.10,000+1800 (18% GST)
M.Tech./Ph.D.	Rs.12,000+2160 (18% GST)
Industry Person	Rs. 15000+2700 (18% GST)

Payment Mode

Payment for the internship fee can be done using the QR code or by online payment in the following bank account:

A/C Name: Registrar,
Sponsored Research,
MNIT Jaipur
A/c No.: 676801700388
Bank Name: ICICI Bank
IFSC Code: ICIC0006768
Branch: MNIT Jaipur

After completing the payment, kindly upload the payment receipt as proof in the Google Form provided below.

All applicants are required to register by submitting their details through the given Google Form link:

https://forms.gle/6jWHLsFkAcrWNnH67

General Information

- Participants are responsible for their own accommodation, food, and travel expenses.
- Limited hostel accommodation at MNIT may be available on request, subject to availability, on a chargeable basis.
- The registration/internship fees are non-refundable.