Objective of the Summer Internship Program

This program is designed to keep in mind the needs of the bright young Undergraduate Students of Mechanical Engineering who have the enthusiasm to learn the Emerging Advanced Manufacturing & Mechatronics Technologies and Post Graduate / PhD Scholars who wants to carry out research in the domain. This program will enhance the learner's knowledge and skills in the domain. This training course shall cover both theoretical as well as the practical aspects which will not only enhance the knowledge of the learner but also enhance practical quotient with these technologies to help them in Major B.Tech. projects / dissertation. The main theme of training program will be oriented around Advanced Manufacturing Technologies (AMTs) and role of Mechatronics in building these machine tools. Along with the hardware, this training program will also cover associated softwares for manual CNC programming, CAD to CAM, CAE, data acquisition, PLC programming, HMIs etc. which could be a small contribution to making India a Skill Capital of the World in this domain.

Course Content

The major course contents of the program are:

- Fundamentals of Advanced Manufacturing Technologies (AMTs) both in subtractive and additive domain.
- CNC technologies for AMT based machine building.
- Mechatronics system elements like controllers, sensors, actuators for CNC Technologies.
- Using CAD tools for CAM and generative design.
- Numerical modelling for AMTs using FEM tools.
- Hands on programming practice for CNC machines by MDI and CAD to CAM tools.
- Hands-on practice on Mechatronics test rigs.
- Hands on practice on conventional CNC Machine tools for turning and milling operations.
- Hands on practice on AMTs like EDM, micro-EDM, Hybrid Machine, 3D Printing, AFM etc.
- Hands on practice on measuring instruments like, CMM, Surface Roughness Testers, Dynamometer Rheometer, Profilometer etc.

Internship Methodology

The internship will have one lecture class followed by laboratory practice. The lecture sessions will be conducted by faculty members of MNIT Jaipur and experts from industries. During the laboratory practice, participants will have equipment demonstration followed by hands on practice. Participants will be encouraged to carry out a problem statement based solo/group project in Advanced Manufacturing & Mechatronics domain.

Eligibility / Target Audience

This summer internship program is targeted towards UG students and PG/PhD scholars of Govt. / Govt. aided / self-financed engineering colleges who are interested in Advanced Manufacturing Technologies like EDM, Micro-EDM, Hybrid Machining, FDM Additive Manufacturing Machine, Abrasive Flow Finishing, CNC Machines like VMC and TC, Dynamometer, CAD to CAM software, Automation and Mechatronics Technologies etc. All the undergraduate students of Mech. Engg. / Prod. Engg. etc., who are appearing in the 4th and 6th semester examinations are eligible to apply.

How to Apply / Registration

UG Students : 15,000/-(Inclusive-18%GST)

PG/PhD Scholars : 15,000/-(Inclusive-18%GST)

Faculty : 18,000/-(Inclusive-18%GST)

The details for payments through DD or electronic transfer (NEFT/IMPS) are as follows:
Registrar (Industrial Consultancy Cell) MNIT Jaipur Account No. 676801081625 IFSC CODE: ICIC0006768 (ICICI BANK, MNIT BRANCH JAIPUR)

Duly filled application by student in the prescribed format and sponsored by the respective Head of Department, may be sent to the Coordinator so as to reach on or before **28th May 2023**. The applicant may also send an advance scanned copy of the application form and DD-copy through E-mail or fill the form: https://forms.gle/cpcpqn7yhQcTpmBe7
The selection is on first come first served basis depending upon the availability of the seats. Registration charges are non-refundable for selected participants.

Registration Form

Summer Internship Program

on

"*Advanced Manufacturing & Mechatronics Technologies (Theory and Practice)*"

1st June 2023 – 15th July, 2023

Department of Mechanical Engineering
MNIT Jaipur - 302017 Rajasthan

Name: _____

Category (UG/PG/PhD):_____

Branch: _____

Year of Study: _____

Department: _____

Institute: _____

Mailing Address: _____

_____

Phone (M) _____ (O) _____

E-mail:_____

Accommodation required? **Yes / No**

Registration fee details

Draft No. _____Dt. _____

For Rs. _____in favour of "**Registrar (Industrial Consultancy Cell) MNIT Jaipur**" is enclosed.

The above information provided is true and to the best of my knowledge. If, selected, I agree to abide by the rules and regulations of the program and MNIT Jaipur.

Date: _____ **Signature of Candidate**

The applicant will be permitted to participate in the above program, if selected.

Date: _____ **Signature of HOD with Seal**

About MNIT Jaipur

Malaviya National Institute of Technology Jaipur (Deemed University) is one of the premier NITs, designated with the status of "**Institute of National Importance**" by MHRD. The institute was established in 1963, and its campus spreads over 325 acres of lush green area in the central location of Jaipur city. The institute offers undergraduate and postgraduate courses (B.Tech., M.Tech. /MBA / M.Sc. & Ph.D.) to about 4500 students, in leading fields of engineering, technology, architecture, management & sciences. Through the internationally renowned faculty, laboratories with state of art equipments and excellent infrastructure, the institute is actively engaged in research, consultancy and developmental activities, besides imparting regular teaching.

About Mechanical Engineering Department

The Department is one of the oldest departments of the institute, offering a fine blend of experience and innovation in teaching. Presently, offering under-graduate in Mechanical Engineering and post-graduate studies in Design Engineering, Thermal Engineering, Production Engineering and Industrial Engineering. The department is home to over 50 research scholars, pursuing Ph.D. in various fields of Mechanical Engineering. The department provides a life-long learning experience, through its state of art laboratories, vast pool of courses, and industry-orientation.

About Advanced Manufacturing & Mechatronics Lab.

The Lab. houses state of the art equipments i.e. Cincinnati® VMC, Bridgeport® CNC Milling M/c, MTAB® TC, MICROTECHNICA® AFM, One Way AFM, Electronica® EDM, MIKROTOOLS® Hybrid Micro-EDM, Surface Roughness Tester, Rheometer, 3D printer, Dynamometer, Sensors, PLCs, micro-controllers, DAQs etc..

Multi-scale Computational Mechanics Lab.

The Lab. houses state of the art software's and workstations like Ansys® Multiphysics, ABAQUS®, Openform® etc..

About Product Design & Development Lab.

The Lab. houses state of the art equipment i.e. Accurate® Coordinate Measuring Machine, Adriotec® FDM 3D Printer, Shining 3D® 3D Scanner, CAD Mech® Vertical Milling Machine and CNC Lathe M/c, National Instruments® DAQs etc..
These Labs always has around 10 research scholars and hosted interns / scholars from across India & Abroad due to its world class ambiance.

Organizing Committee

Patron

Prof. N P Padhy, Director, MNIT Jaipur

Chairman

Prof. Himanshu Chaudhary, Prof. & HOD, Mech. Engg. Dept.

Program Coordinators

Dr. Harlal Singh Mali, Asso. Prof., Mech. Engg. Dept.
Dr. Ram Dayal, Asst. Prof., Mech. Engg. Dept.
Dr Anoj Meena, Asst. Prof., Mech. Engg. Dept.
Dr. Anup Malik, Asst. Prof., Mech. Engg. Dept.

Accommodation

Limited accommodation is available in the MNIT Hostels for outstation participants on nominal charge and first come first serve basis. The participant will not be paid any TA/DA. The charges of Institute Hostels accommodation are approximately Rs. 2000/- per month or Rs. 70 per day excluding food.

Dates to remember

Last date of receiving complete Registration form	28th May 2023
Confirmation of Selection by E-mail	29th May 2023
Internship Duration	1st June - 15th July 2023

Address for Communication

Dr. Harlal Singh Mali

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Department of Mechanical Engineering,
Malaviya National Institute of Technology,
J.L.N. Marg, Jaipur-302 017, Rajasthan
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cc: anup.mech@mnit.ac.in,

Self-financed
Summer Internship Program-23

With Aim

"Make in India through Skilling India"

on

Advanced Manufacturing & Mechatronics Technologies (Theory and Practice)

1st June – 15th July, 2023

Organized By:

Department of Mechanical Engineering
Malaviya National Institute of Technology
Jaipur- 302017 (www.mnit.ac.in)