

Quality Improvement Program (QIP)

Sponsored

One Week Online Short Term Course

On

**Mechatronics and Manufacturing Automation
(MMA 2021)**

From

October 4-8, 2021



Organized by

The Department of Mechanical Engineering

National Institute of Technology

Arunachal Pradesh, India

About NIT Arunachal Pradesh

The National Institute of Technology, Arunachal Pradesh was established in the year 2010 by MHRD, Govt. of India and was inaugurated on 18th of August, 2010 as a member of a group of ten new NITs. These new NITs were established as centers of excellence in technical education to combat the growing need of technological professionals in India as well as in the world. It is one of the 31 National Institutes of Technology in India and is recognized as an Institute of National Importance. Presently the Institute is running in project phase with yearly intake of 190 undergraduate students in five major Engineering departments such as Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering and Mechanical Engineering. Each department is equipped with well established state of the art laboratories to cater holistic development of the students. Despite of few geographical constraints, the Institute has thrived through rigorous challenges and has evolved to see the new heights with present capacity of 760 students pursuing various bachelor, master as well as doctorate degrees from the departments. The faculty and student of the Institute are also engaged in various R&D projects sponsored by various Government agencies and the current value of such running project is around 5 Crore for 25 projects. The Institute participated in the NIRF 2021 and ranked 160 in the Engineering category.

About the Department

The Department of Mechanical Engineering at NIT Arunachal Pradesh was established in August 2013. The department offers four-year B.Tech degree program in Mechanical Engineering with an annual intake of 40 students. The department started PG program (2 years M.Tech) in Mechanical System Design & Innovation Technology (MSDIT) from July 2016 and Fluids and Thermal Engineering from July 2019 with an intake of 25 students each and has also been actively involved in initiating research programmes in various multidisciplinary areas leading to Ph.D. since 2015-16. Moreover, the department emphasizes to excel in industry oriented research, testing and consultancy work, aiming service to the society and benefit for the student community.

About the Faculty Development Program

In the present era of automated manufacturing and Industry 4.0, mechatronics form an integral part of all manufacturing systems. Programmable and flexible automation systems form the heart of modern production industries. These technologies demand expertise in key areas like automation scheme design, CNC systems, robotics, logic controllers etc. The short term course aims to create awareness and competency among the participants, faculty members and industry persons on the new cutting edge technology being practiced and implemented in the industries. The proposed course is designed for effective training on these technologies with the help of experts from industries and academia.

Scope:

Mechatronics unites the principles of mechanics, electronics, control and computing to generate a simpler, more economical, efficient and reliable automated system. Over the past few years, mechatronics has emerged as a discipline in its own right. The recent changes in the industrial

scenario have made industrial automation an emerging field for students, faculty and researchers. Further, mechatronics is becoming prominent in industrial automation and process control applications. Automation in industry has been geared up after the commencement of Industry 4.0. These fields contribute significantly on future AI based systems in industry and society. The level of automation is growing gradually with less human interventions in manufacturing. The next generation industries need engineers with an interdisciplinary attitude and experience to meet the future demands. To enhance the competency and awareness among the students, research scholars, faculty members in mechatronics and industrial automation, they must know the industrial practices and the cutting edge technologies in this area. The present short term course is aimed to explore the potential areas and significance in the field of mechatronics and industrial automation and attempts to fulfil this need through theory and demonstrations.

Objectives:

- To improve the understanding of mechatronics based intelligent systems.
- To create awareness about Industry 4.0 among the academia and to build the next generation academic institutes.
- To identify the role of industrial automation in smart technology enabled manufacturing.
- To enable the participants, academic faculties and industry for state of the art collaborative research.

Topics to be covered:

- Industry 4.0: Integration of Design and Manufacturing perspectives
- Mechatronics systems and industrial automation
- Requirements of IoT based smart mechatronics systems
- Smart technology enabled manufacturing
- Industrial automation with hydraulic and pneumatic systems

Chief Patron

Prof. Pinakeswar Mahanta, Director, NIT Arunachal Pradesh

Program Coordinators

Dr. Shubhajit Das, Assistant Professor, Dept. of ME, NIT Arunachal Pradesh

Dr. Prases Kumar Mohanty, Assistant Professor, Dept. of ME, NIT Arunachal Pradesh

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Organizing Committee

Dr. Dipak Sen, HoD & Assistant Professor, Dept. of Mechanical Engineering

Dr. R. P. Sharma, Associate Professor, Dept. of Mechanical Engineering

Dr. Anup Paul, Assistant Professor, Dept. of Mechanical Engineering

Dr. Manjula Das Ghatak, Assistant Professor, Dept. of Mechanical Engineering

Dr. Sandip K. Mandal, Assistant Professor, Dept. of Mechanical Engineering

Tentative Schedule

Day	10.00 am – 11.30 am	12.00 noon – 1.30 pm	2.30 pm – 4.30 pm
Day 1	Inauguration & Session 1	Session 2	Session 3
Day 2	Session 4	Session 5	Session 6
Day 3	Session 7	Session 8	Session 9
Day 4	Session 10	Session 11	Session 12
Day 5	Session 13	Session 14	Valedictory/Feedback

Eminent experts from various R&D organizations, industries, institutes like IITs, NITs, Central Universities will deliver lectures.

Target Audiences

All faculties of Degree level Technical/Engineering College/Institutions/ Universities approved by the AICTE are eligible to attend the Short Term Course.

Registration

Interested participants from AICTE approved institutes are to pay a caution deposit of Rs. 1000/- (refundable) in the form of DD/ NEFT/ RTGS/ IMPS/ Net Banking along with the filled in registration form. For participants of professionals/Industry from Govt. organizations, the course fee is Rs. 5000/- & for professionals/Industry from private organizations, the course fee is Rs. 10,000/-. The Bank details are as follows:

Account Name: Director NIT Arunachal Pradesh

Account Number: 32043127339

Account Type: Current

Bank Name: State Bank of India

Bank Branch Name: SBI Nirjuli, Arunachal Pradesh

Branch Code: SBIN0009535

IFSC Code: SBIN0009535

MICR Code: 791002004

Bank Address: Nirjuli, Arunachal Pradesh, Pin: 791109

Note: In case of electronic money transfer, please submit a copy of money transfer record with details of bank, amount, transaction number and date. The bank money transfer proof must be attached with the registration form. The scanned copy of the filled in registration form along with a copy of the payment details can be send by mail to 06shubhajit@gmail.com .

Important Dates

Last date for receiving application through mail: **01.10.2021 (Friday)**

Intimation to the selected applicants: **02.10.2021**

Short Term Course duration: **04.10.2021 to 08.10.2021**

Note: Only selected participants would be informed by E-mail.

Help prevent the spread of Corona virus



Registration Form

QIP sponsored Short-Term Course on

Mechatronics and Manufacturing Automation (MMA 2021)

(October 4-8, 2021)

Name:

[Block Letters: Provide as appearing on your Institute or Official ID]

Category [Academic/ Industry]:

Details [Academic/ Industry]:

Designation:

Institute/ Industry Name:

If Institute, whether AICTE approved Institute [Yes/ No]:

Gender:

Highest Academic Qualification:

Address for Correspondence:

Contact/ WhatsApp Number:

E-mail ID:

Bank Draft/ Fund Transfer Details:

Draft No./ Reference No. with Date [NEFT/ RTGS/ IMPS]:

Amount [in Rs.]:

Issuing Bank with Branch Code:

Signature of the participant

Approval for participant

We approve the above applicant is a faculty/ scholar/ employee of our organization. He/ She is recommended to attend for the QIP STC during 4th to 8th October 2021 at NIT Arunachal Pradesh through online mode.

Date:

Signature with seal
[Head of the Department/ Organization]

***Send the scanned copy of the filled in registration form along with the bank payment details to 06shubhajit@gmail.com*