



Four week Internship Programme on “Embedded System Control & IoT with Arduino” (ESCIA-2023)

July 03 – July 28, 2023



Organizing Committee

Patron: Prof. Rama Shanker Verma
Director, MNNIT Allahabad

Chairman: Head, EED

Executive Coordinators (s):

Prof. R. K. Singh,
Prof. R. K. Tripathi

Convener (s):

Dr. Nitin Singh,
Dr. Niraj Kumar Choudhary &
Dr. Umesh Kumar Soni

Student Committee:

Mr. Suchetan Sasis,
Mr. Rajat Singh

Important Dates

June 05, 2023	Application Submission Starts
June 28, 2023	Last Date of Application and Payment of Registration Fee
July 03, 2023	Start Date of Internship
July 28, 2023	End Date of Internship

Registration Fees

Rs. 15,000 + GST@18%

Total = Rs. 17,700/-

Payment Mode: NEFT/IMPS

Account Number: 10424975574

IFSC Code: SBIN002580

Account Name: SNFCE MNNIT Allahabad

Bank & Branch: SBI, MNNIT Allahabad

Swift Code: SBININBB828

(Note: Please mention “05/ESCIA2023/EED”, as a remark while transferring the registration fee

Google Form Link for Registration:

https://docs.google.com/forms/d/e/1FAIpQUSdRBj97XeoQVNCuELCJC0f3B_OAgQEcltOdFFoLlnaTmMsD7Q/viewform?usp=sf_link

Contact Us

ESCIA-2023

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About the Institute

Motilal Nehru National Institute of Technology (MNNIT), Allahabad was formerly known as Motilal Nehru Regional Engineering College MNREC, Allahabad. It is an institute with total commitment to quality and excellence in academic pursuits, and is among one of the leading institutes in India. It was established in the year 1961 as a joint enterprise of Central Govt. of India and State Govt. of Uttar Pradesh in accordance with the scheme of establishment of REC's. However, with effect from June 26th of 2002 the institute became deemed university and an Institute of national importance, now known as Motilal Nehru National Institute of Technology Allahabad.

About the Department

The Electrical Engineering Department (EED) came into existence in the year 1961, with the objective to produce technical man power of high quality and promote research and development activity. With a modest beginning of introducing four year BE degree course in 1961, a post graduate programme in Electrical Machine / Power System / Control System was introduced in the year 1970-71. Currently, EED offers courses leading to a Bachelor of Technology in Electrical Engineering and Post Graduate (M. Tech.) and Ph.D programs in (i) Power Electronics and Drives (ii) Control & Instrumentation and (iii) Power System, under Regular, Part-Time and QIP categories. The vision of the Department is to produce globally competitive technical manpower with sound knowledge of theory and practice, with a commitment to serve the society and to foster cutting edge research in Electrical Engineering pertaining to the problems currently faced by the country and the world.

About ESCIA-2023

Developing skills in micro-controller programming can be a great way to learn about electronics and build projects that involve embedded systems. Here is a possible curriculum for learning the programming of Arduino micro-controller with Arduino IDE and MATLAB Simulink Platforms, which is a popular platform for beginners. Throughout the curriculum, students will be encouraged for experimental work to create their own projects/prototype based on the concepts they have learned. They can also be introduced to additional programming languages and platforms as they progress, such as C and Python, which are commonly used in embedded systems programming.

This four (04) week internship programme on “Embedded System Control & IoT with Arduino (ESCIA-2023)” will cover the following broad areas but not limited to:

- Introduction of IoT and Embedded system
- Introduction to Microcontrollers
- Introduction to Arduino
- Digital Input and Digital Output in Arduino with Arduino IDE
- Digital Input and Output in Arduino using MATLAB Simulink
- Analog command Interface Using Analog Input through potentiometer LED blinking
- Interfacing of LED, buzzers and push buttons
- Voltage and current sensors for power analysis and circuit control
- Interfacing Voltage and current sensors in Arduino using MATLAB Simulink
- Serial communication Interface (SCI) in Arduino using UART (universal asynchronous transmitter receiver)
- Generating the Timing and PWM signals using Arduino
- Introduction to various sensors for IoT, Robotics, Home and Industry
- Sensor, Actuators and Relays Interfacing with Arduino
- Power Electronics Interface and control using Arduino with MATLAB Simulink
- Wireless Communication with Arduino
- Motor control using Arduino
- Details of related toolbox in MATLAB/SIMULINK
- Final Projects

Important Note:

- The candidates must pay the registration fee within the due date i.e., June 28, 2023.
- For successful registration the complete details shall be provided on the google form.
- Participation is purely on first come first and first serve basis.
- The internship programme will be continued for minimum 20 participation.
- The maximum number of seats are 30.
- Details about the internship programme will be posted at appropriate time on the Institute website. Please keep visiting <http://www.mnnit.ac.in/index.php/institute/470-stp-summer-training-programme>
- Accommodation in hostels/EDC guest house may be provided to the candidates based on first come and first serve on payment basis (as per Institute norms), depending upon the availability.
- Registration fee may be waived off for the students of MNNIT Allahabad depending upon their academic performance.