



**NITTTR  
BHOPAL**

**EEE-1/2025-2026**

## **MATLAB Toolboxes for Electrical and Electronics Courses**

**19-05-2025 to 23-05-2025**

**NITTTR Bhopal**

<https://erp.nitttrbpl.ac.in/poc2025/?id=regEEE-1>



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### **Rationale**

The ever-evolving field of Electrical and Electronics Engineering (EEE) demands proficiency in advanced tools for modelling, simulation, analysis, and design of electrical and Electronic systems. MATLAB is a powerful software environment widely used in academia, research, and industry for numerical computation, data analysis, signal processing, control systems, and power electronics. To enhance teaching effectiveness, research capabilities, and practical skills, programme is designed to equip faculty members with hands-on experience and advanced knowledge of MATLAB and Simulink. After attending this programme the faculty will be empowered to integrate MATLAB-based projects, laboratory experiments, and simulations into their EEE courses, thereby improving the learning outcomes for their students and bridging the gap between theoretical concepts and practical applications. This will enhance research quality, teaching methodologies, and innovation in curriculum delivery.

### **Programme Outcomes**

- Use MATLAB and SIMULINK for modeling and simulation.
- Use the DSP toolbox to implement the filter algorithms.
- Use the Image processing toolbox to perform basic Image operations.
- Use the Control toolbox to design and simulate the control systems.
- Sensor fusion and tracking toolbox.

### **Programme Content**

- MATLAB's interface, scripting, debugging, and essential functions,
- SIMULINK basics and develop the basic model,
- DSP toolbox basic functions
- Image processing toolbox basic functions and operations.
- Develop and simulate control systems using MATLAB and Simulink for practical applications in automation, robotics, and feedback systems.

### **Target Group**

Faculty of Electrical & Electronics Engineering and allied disciplines

### **Coordinator & Co-Faculty**

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