

Number of laboratories: 9

Laboratory names:

- Electrical Circuits Laboratory
- Electronics and Electronic Circuits Laboratory
- Digital Control Laboratory
- Communications Laboratory
- PLC Laboratory
- Digital Electronics Laboratory
- Computer Laboratory 1
- Computer Laboratory 2
- Measurement Systems Laboratory

No.	Laboratory	Brief description of equipment/facilities and practical activities	Recent photo
1	Electrical Circuits Laboratory	A core teaching laboratory that trains first-year students on the fundamental concepts and principles of electrical circuits and their applications. It is equipped with electrical instruments and measurement devices, where students build circuit connections and conduct experiments to calculate currents and voltages, identify component characteristics, and implement basic practical circuits.	
2	Electronics and Electronic Circuits Laboratory	A core teaching laboratory in the department used to teach first- and second-year students the fundamental concepts and principles of electronic circuits and their applications. It includes laboratory equipment and facilities for hands-on experiments in which students assemble and test electronic circuits aligned with the course requirements and complete the scheduled lab experiments.	

3	Digital Control Laboratory	<p>A specialized learning environment for control-system applications using digital technologies, focusing on the design and study of control systems based on microprocessors and digital circuits for controlling processes and systems. Students carry out practical activities using tools, software, and measurement/simulation equipment to design, test, and analyze control performance (e.g., implementing PID algorithms) within applied scenarios.</p>	
4	Communications Laboratory	<p>A core teaching laboratory for third-year students, dedicated to understanding and applying analog communications, including signal generation and analysis, transmission lines (telephone and coaxial cable), filter design, and analog modulation. Students perform experiments using modern equipment and up-to-date lab setups that strengthen practical skills and link theory to practice.</p>	
5	PLC Laboratory	<p>An integrated training laboratory that combines PLC boards and workshop equipment to prepare students to program and operate industrial control systems efficiently. Practical work includes PLC programming, interfacing with electrical components, and implementing basic automation and maintenance tasks through small-scale industrial scenarios.</p>	

6	Digital Electronics Laboratory	<p>A teaching and experimental environment for studying and designing digital electronic circuits and their applications using modern tools and equipment, including logic gates and platforms such as FPGA where available. Practical activities include designing combinational and sequential circuits (counters/registers), testing circuits with oscilloscopes and multimeters, and simulating designs using tools such as Logisim, Multisim, or Proteus.</p>	
7	Computer Laboratory 1	<p>A teaching computer laboratory containing 20 PCs and modern presentation facilities (data projector) to support course delivery and practical applications. It is used for software-based labs such as MATLAB, Visual Basic, general computing applications, and engineering drawing/design (AutoCAD) to serve practical sessions across different study stages.</p>	
8	Computer Laboratory 2	<p>A teaching computer laboratory consisting of 20 PCs and modern presentation facilities (data projector), used for practical classes that require computer-based work for the department's study stages. Activities include MATLAB and Visual Basic applications, general computing tasks, Packet Tracer for network design and configuration, and engineering drawing/design using AutoCAD.</p>	

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Measurement Systems Laboratory

A newly established teaching laboratory (2021) aimed at training students on the operating principles of fundamental electronic measurement instruments used in electrical and electronic applications. Practical activities include learning how to use measurement devices, wiring electrical elements, applying theories to calculate currents and voltages, determining reading error percentages, and identifying measurement instrument specifications.

