Resources and laboratories

**The electrical engineering department is equipped with 5 Laboratories that serve the specialized courses of the Communication and Computer Engineering program, as indicated below.**

**Basic Electrical Engineering Lab.**

* Location: Room A2.6
* Capacity: 24 Students

Main Equipment / Apparatus

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Basic electronic boards, Assembly boards, Basic logic gates, Combinational circuits, Sequence circuits, Memory circuits, Converter circuits, Diode clipper and clamper, Rectifier, Differential and integral circuits module, Transistor amplifiers circuit, engineering circuit, Multistage amplifiers circuit, Oscillator circuit, Voltage regulator circuit, Modulation circuit, Electronic Circuit Fundamentals, Op-AMP circu.it modules, Basic electronics experiment module, Magnetism element, Oscillator Experiment, Analog-Digital Lab, Digital Oscilloscopes. Digital Multimeters, RLC meter, Function Generators, Power Supplies Analog Oscilloscopes, Frequency-meter/ Counter

**Advanced Electronics and Communication Lab.**

* Location: Room B3.3
* Capacity: 16 Students

Main Equipment / Apparatus

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**Communication Lab.:**Modulation & Coding (Interactive Computer trainer), FM Radio System (Transmitter & Receiver), AM Radio System (Transmitter & Receiver), WIMAX Trainer, IPTV Trainer, CDMA Trainer, Network Switch & Router.

**Microprocessors Lab.:** 8086 microprocessor trainer kits, Arduino Mega 2560 Development Board, 8051 Microcontroller Development Board, PIC Microcontroller Development Board.

**FPGA Lab.:**Nexys 3 Spartan-6 FPGA Trainer Board 410-182, ZedBoard Zynq-7000 ARM/FPGA SoC Dev 410-248, Genesys 2 Kintex-7 FPGA Development Board 410-300, CoolRunner-II CPLD Starter Board 410-146, Nexys 4 DDR Artix-7 FPGA, Trainer Board 410-292

**Measuring Instruments:** Analog Oscilloscope 100 MHz, Digital Oscilloscope 500 MHz, Mixed-Domain Oscilloscope 500 MHz, Spectrum Analyzer 3 GHz, RF Synthesizer 1.2 GHz, Function Generator 12.5 MHz, Digital Multi Meter

**Microwave Lab.**

* Location: Room B2.3
* Capacity: 16 Students

Main Equipment / Apparatus

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Antenna Lab Kit, Microwave trainer Kit, Transmission Line Kit, Vector Network analyzer, Radio frequency synthesizer, Microwave system, Mixed-Domain Oscilloscope 500 MHz

**Optical Fibers Lab.**

* Location: Room B4.5
* Capacity: 16 Students

Main Equipment / Apparatus

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Handheld OTDR, Optical spectrum analyzer 600-1700 nm, Variable laser source at 1550 nm and a separate optical power meter, Semiconductor optical amplifier with driving circuit at 1550 nm with FC/PC, Laser diode driver circuit with modulation capability, 1300/1500 nm battery operated handheld laser source, Visible connectorized laser source, Single mode laser diode @ 1550 nm, Splicing machine, Optical Fiber Communication Trainer Kit, Current source up to 200 mA, Optical detector with amplifier @ 1550 nm, Optical Communication kit, Mixed-Domain Oscilloscope 500 MHz, Connectorized Fiber isolator, Standard single mode fiber 2 km, Single mode optical fiber patch cord, Fiber polarization controller, Kit of lenses, microscope objectives, and holders, WDM Coupler 980/1550 nm, 980 nm 150 mw pump laser FC/PC, FC/PC Adapter, Connectorized Fiber polarizer, Tunable laser source around 1550 nm with power meter module, Fiber directional coupler 50:50 with FC/PC connectors, Fiber directional coupler 5:95 with FC/PC connectors.

**Graduation Projects Lab.**

* Location: Room B4.5
* Capacity: 16 Students

Main Equipment / Apparatus

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Analog Oscilloscopes, Function Generators, Digital Multi Meters, Digital logic lab., Hot air Soldering Kits, Cutting Pliers, soldering iron with stand, Electronics pliers, Solder Sucker, small size cutting saw for PCB, Etching Tank ET-20 for PCB, Drill, Pocket Pack Screwdriver Set, Caustic welding, Electric blower, PCB Manufacturing:: Raw boards, Acid