



Mechatronic Design Lab

The Mechatronics Design Lab is a modern educational environment that enables students to engage in effective learning, hands-on experimentation, and the development of key competencies in this field. Courseware The curriculum is organized into progressive stages – from foundational experiments to more advanced design challenges and open-ended projects. Each stage helps students gain a deeper understanding of how mechatronics is applied in real-world industrial scenarios and prepares them to deve...

Mechatronic Sensors Trainer	
Dimensions	18 cm x 13 cm x 3 cm
Connection Interface	USB, SD Card
Sensors	Passive infrared sensor for motion detection
	Multi-object 60GHz pulsed coherent radar system
	Reflective Infrared distance module
	Multi-object ultrasonic distance sensor
	64 zone time of flight distance sensor
	Camera
	Color sensor w/ RGB/ambient/optical-IR ranges and 4x RGB/IR LEDs
	Ambient light dependent resistor
	Nine axis IMU w/ accelerometer, gyroscope and magnetometer
	Weather module with pressure, temperature and humidity

	Encoder knob w/ 24 pulses per rev
	Joystick w/ two analog axis and button
	2x configurable push buttons
	800 x 480 touchscreen LCD w/ 10-finger multitouch interface
	Dual microphones, and speaker
External Sensor Interface	Load cell connector
	Header - Serial/SPI/I2C, 4 GPIO, force sensing resistor
	Thermocouple connector
	Encoder connector w/ 32-bit quadrature decoding
External Sensors provided	Load cell
	Force sensing resistor
	Thermocouple
Language support	Python / C / MATLAB / Simulink
Mechatronic Actuator Trainer	
Dimensions	18 cm x 13 cm x 3 cm
Connection Interface	USB
	External power supply
Actuators Interface (motors included)	Brushed DC Motor
	Brushless DC Motor
	Stepper Motor
	Servo Motor
Actuator Feedback	Rotary position (encoder)
	Rotary speed (tachometer)
	Current sense
Language support	Python / C / MATLAB / Simulink