

#	Project Title	Covers (Courses)	Focus
1	Basic Sensor Monitoring	Courses 1–2	Use microcontroller to read digital/analog sensors, display data.
2	Smart Device Controller	Courses 3–4	Program MCU to control actuators (motors/relays) with sensor input.
3	Sensor Data Communication	Courses 5–6	Send sensor data via I <sup>2</sup> C/UART to another board or PC, multitask with RTOS.
4	IoT Weather Station	Courses 7–8	Connect device to Wi-Fi/cloud, log data securely with low power.
5	Edge AI Anomaly Detector	Courses 9–10	Run tinyML model on MCU for edge analytics, present capstone project.