

INTERNET OF THINGS - 4th Sem

A course that inspires you to forge!

A 12 weeks program centred around the concept of design thinking. Students are introduced to a world of tools to create functional prototypes.

Overview

Through hands-on experiences, the course aims to empower individuals with the knowledge and skills required to design, develop, and implement IoT systems effectively. Participants will learn to select and integrate appropriate sensors, actuators, and communication protocols, enabling them to create intelligent and interconnected solutions. The ultimate goal is to equip learners with the expertise needed to navigate the complexities of IoT, fostering innovation and contributing to the advancement of smart and connected technologies.

Outcome

- Recall and articulate fundamental concepts of IoT hardware, sensors, and communication protocols, demonstrating a clear understanding of the foundational elements essential for building IoT applications.
- Apply the knowledge by configuring web servers, analysing communication protocols, and demonstrating the ability to set up Wi-Fi communication.
- Design solutions using IoT Cloud.
- Build a prototype of the ideas that can solve the identified problem.



Course Overview (12 sessions)

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| 1 - Getting started with IOT | 7 - IoT Cloud Integration |
| 2 - NodeMCU | 8 - Real time Database for IoT Applications |
| 3 - Communication Protocol | 9 - Design Challenge - Milestone 2 |
| 4 - Setting up Web Server Interface | 10 - Problem Statement and Ideation |
| 5 - Design Challenge - Milestone 1 | 11 - Prototype Building |
| 6 - Publish-Subscription Model | 12 - Demo Day |

Tools you will learn

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|-------------------|---------------|-------------------|
| • Eagle | • Tinkercad | • HiveMQ |
| • Soldering | • Circuito.io | • Adafruit IO |
| • Web/ Mobile UI | • HTTP GET | • IFTTT |
| • Arduino IDE/ PL | • HTTP POST | • Google Firebase |
| | | • Autodesk |