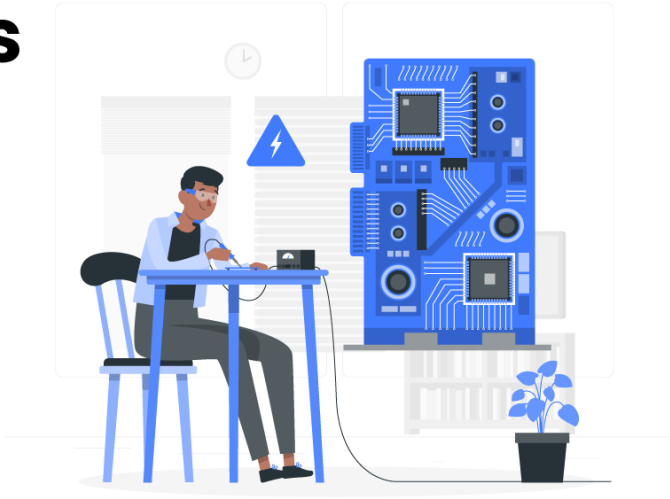
Welcome to ineuron.ai

Fundamentals of Electronics



Fundamentals of Electronics

Description:

This course is designed for students who are interested in electronics and want to learn the foundations of the subject as well as undertake a range of experiments. Students will get an idea of diodes, transistors, circuits and symbols, instrumentation and measurement of various electronic components, alternating current and direct current, frequencies, semiconductors, digital signals, and sensors, along with many other topics.

Start Date:

Doubt Clear Time:

Course Time:

Features:

Online Instructor-led learning

Practical Implementation

Integrate academic knowledge with the tech

Real-time Project

Live Class Recording

Doubt Clearing

Assignment in all the Module

Quiz in every Module

Career Counselling

Completion Certificate

What we learn:

Electronics Basics

Circuits and symbols

Instrument and measurement

AC/DC

Frequencies

Semiconductor

Transistors

Digital Signal

Sensor Introduction

Projects on Electronics

Requirements:

System with Internet Connection

Interest to learn

Dedication

Instructor:

Name:

Monal Kumar

Description:

Monal Kumar is a data scientist and instructor working at iNeuron having 2+ years of total experience in both service and product-based organisations. He is specialised in Deep Learning, Computer vision and Image processing. Previously, he held positions as a support configurator at Wipro Technologies and as a Deep Learning researcher at Harptec Research. Offering the finest possible services to his clients. In addition to his primary job function, he is recognised for his creativity and ideas that change the nature of the existing problem.

>Introduction:

>>Course Introduction

>>Course pre-requisites

>>Who is this course for?

>>What you will get from this course?

>>What do you mean by term electronics?

>>How to get access to course materials?

>>What carrer path you can follow after completion of this course?

>Assignment 1::

>>Assess the world around you and find out which devices are electronics devices.

>Electronics:

>>Electronics introduction

>>Abbrevation and symbols

>>What is electricity?

>>History of electronics

>>Moore's law

>>Electric charge

>>Conductor and insulator

>>What is current?

>>What is voltage?

>>What is electric power?

>>Discussion: Electricity required for human brain

>>Resistance and ohm's law

>Assignment 2::

>>Assess the world around you and find out the voltages of different things like battery,

>Circuits and symbols:

>>Components and their symbols

>>Voltage current characteristics

>>Series conponents

>>Voltage divider

>>Parallel components

>>Resistors

>Assignment 3::

>>Explain, how to attach multiple batteries so that they can act as one big battery. Also

>Instrument and measurment:

>>Voltmeter

>>Ammeters

>>Ohmmeters

>>The oscilloscope

>Assignment 4::

>>How to measure speed of sound with an Oscilloscope

>AC/DC:

>>AC current

>>Transformers

>>Discussion: What actually happens when their is a power cut-off due to transformer

>>Diodes

>>DC current from AC

>>Capacitor

>>regulator

>Assignment 5::

>>Explain how a diode can be act as a switch?

>Frequencies:

>>Clean signal and Noisy signal

>>Capacitor

>>Application : Using lowpass and highpass in speaker

>Assignment 6::

>>Explore different frequency hearning ranges of different animals. Also learn the frequ

>Semiconductor:

>>What is semiconductor?

>>Silicon

>>N-type semiconductor

>>P-type semicondictor

>>PN Junction

>>LED

>Assignment 7::

>>Explain Photovoltaic Cell and where it is used with the help of example?

>Transistors:

>>What is transistor?

>>Why transistor is very important?

>>Why we need transistor?

>>NPN and PNP intituation

>>Emmiter, Base and Collector initution

>Assignment 8::

>>Draw diagram of home regulator with transistor in it.

>Digital signal:

>>Analog vs digital signal

>>Binary numbers

>>Logic operations

>>Basic logic gates

>Assignment 9::

>>Explain different scenarios of using Logic gates?

>Sensor introduction:

>>What are sensors?

>>Temperature sensors

>>Humidity sensors

>>Pressure sensors

>>Proximity sensors

>>Optical sensors

>>Lidar sensor

>Assignment 10::

>>Explain all the sensors used in mobile devices and what purpose they serve?

>Basic project discussion based

on feedback:

>>Home thermostat

>>Intelligent light bulb

>>Constant temperature system

>Summary:

>>Course Outro

>>Future Scope of electronics