

Advance Course:

1) Different types of actuators(Different motors)

- dc motors
- servo
- stepper motors
- brushless motor
- pneumatics

2) Creating your own microcontroller development board(KICAD design of development board and fabrication of that development board)

- intro to kicad
- microcontroller development board ckt design

3) Introduction to AVR

- 1) Simple i/o (LED blinking)
- 2) ADC
- 3) LCD Interfacing
- 4) PWM(speed control of a motor)
- 5) UART
- 6) I2C
- 7) SPI

4) Introduction on various sensors and modules: (Potentiometers,IR sensors,Bluetooth module,Motor bridge),(rotatory encoders,LIDAR,IMU,Linetrackers,magnetometer)

5) Implementing Control system to your embedded system(Using PID in microcontroller in AVR)

- intro to pid
- how to implement it on code

6) Raspberry pi

- Introduction to raspberry pi
- how to install raspbian os
- Basic linux command
- interfacing sensors with raspberry pi