ENGINEERING DESIGN-II

https://sites.google.com/thapar.edu/buggy/home
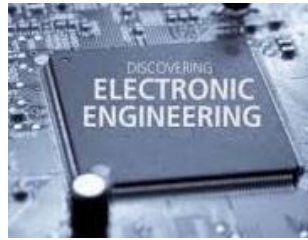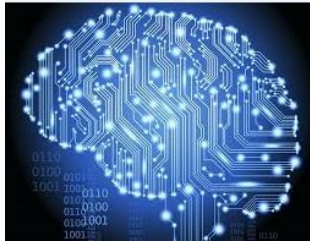
Ashutosh Mishra

ABOUT THE COURSE

- This course is jointly executed by

- Course Coordinator:
  - Amit Mishra (ECED)
- Coordinators (CSED)
  - Ashutosh Mishra
  - Ravinder Kumar

ABOUT THE COURSE

- The Engineering Design-II (UTA014) is also designated as "Buggy project".

- Execution through Nvis3302ARD) RoboCar.

- Course is designed for the second year students of all stream of engineering.

PRE-REQUISITES: THE STUDENTS NEEDS THE KNOWLEDGE ABOUT-

- Basic programming skills preferably in C-languages

- Basic knowledge of hardware circuits and logic gates.

- Aptitude for innovation and design.

GROUP FORMATION

- The groups of 3-4 students are made in each branch to promote the inter and intra team work and healthy competition.

KEY HIGHLIGHTS

- Demonstration of innovation and design concepts.
- Embedding intelligent program as combination hardware and software in Robotic buggy.
- Exploitation of various types of sensor features to enhance the buggy performance.
- To fulfill the challenges corresponding to various paths and hurdles.

COURSE LEARNING OUTCOMES (CLOs)

After the completion of course the student will be able to:

1. Recognize issues to be addressed in a combined hardware and software system design.

2. Draw the schematic diagram of an electronic circuit and design its PCB layout using CAD Tools.

3. Apply hands-on experience in electronic circuit implementation and its testing

4. Demonstrate programming skills by integrating coding, optimization and debugging for different challenges.

5. Develop group working, including task sub-division and integration of individual contributions from the team.

CHALLENGES

- The students are encouraged to complete following three challenges
- These challenges are at different difficulty level and require incremental level of skill.
  - Bronze Challenge
  - Silver Challenge
  - Gold Challenge

Visit the course website for details about the challenges.

Rubrics and Evaluation scheme

- https://sites.google.com/thapar.edu/buggy/evaluation-scheme

Thanks