

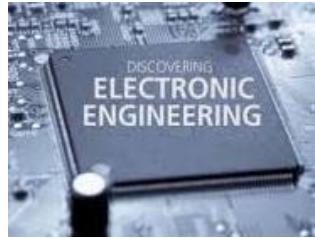
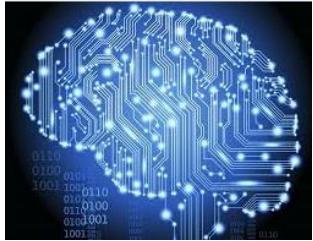
# ENGINEERING DESIGN-II

<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

