

General Guidelines

- Main functionality of the project must be achieved with basic electronic components such as resistors, capacitors, inductors, diodes, transistors and other analog integrated circuits.
- Using any other pre-built programmable ICs are prohibited.
- Microcontrollers can be only used for user interface operation.
- Any change of project specification is negotiable only before the mid review
- All circuits must be simulated using software (e.g., Multisim, LTspice, PLECs,...etc.)
- All circuits should be tested on the breadboard and reviewed by the assigned supervisor before moving further
- Circuits must be designed using professional EDA software (e.g., Altium Designer, OrCAD,...etc.)
- Schematics should be verified and evaluated by the assigned supervisor
- Design for manufacturability should be considered when designing the PCB
- Complete set of design and manufacturing documents
 - Schematics, Layout, 3D file
 - Gerber files, Assembly files
 - BoM

must be generated and properly documented.

- Students are encouraged to procure components from international component distributors (e.g., Mouser, DigiKey, Arrow Electronics, LCSC,...etc.)
- Students are encouraged to get the PCBs manufactured from international PCB manufacturers (e.g., JLCPCB, PCBway,...etc.)
- Final implementation of the project need to done in a PCB
- Enclosure design must be done using a professional software (e.g., Solid-works,...etc.)

- Enclosure and 3D model of the circuit must be assembled and inspected before manufacturing.
- 3D printing, Laser cutting and Sheet metal bending can be used to manufacture the enclosure.
- Students are encouraged to consider the 3D model and PCB co-design (design in parallel by taking their integration into consideration) when designing