

## P 12402 Lessons Learned

- *Always make sure someone is checking the mechanical drawings for accuracy.*
- *Double check any calculations before designing around them.*
- *Order parts early and expect complications with shipments and incorrect parts.*
- *Ensure everyone is using a common naming scheme for drawings, components, etc.*
- *Use revision control and make sure everyone is using the correct revision of the drawings.*
- *How to lay out a PCB.*
- *How to coordinate with other members of different engineering areas in order to reach a given goal, i.e. EE's working with ME's.*
- *Being able to working with deadlines.*
- *Linear regulators can be back fed. When designing a circuit, make sure your power line is kept separate from other possible power supplies.*
- *Probes should not be used to test pins on chips. There should be test pins so nothing gets accidentally shorted.*
- *Electrical schematics are hard to make and maintain.*
- *Before ordering material, figure out how it is going to be cut, and figure out if the material being ordered can be cut that way safely.*
- *Take account of all material available before ordering to prevent ordering something not useful.*
- *Before having material cut, have in hand all parts to be assembled with material, check alignment and fastener interferences.*
- *Have multiple engineers check drawings, do not trust creator to make perfect drawings the first time.*
- *Have multiple people check everything before submission and cutting, fresh eyes often see the things missed by the people who have spent tens of hours staring at one thing.*
- *Consult other faculty earlier on in the project, since we had very little experience with the topic, additional starting ideas would have been nice.*
- *Have guides more thoroughly look at circuit layout for potential problems, since bad things happened (like back feeding the regulator) that could have easily been fixed but we were unaware of such potential problems.*
- *Creating drawings were very difficult from an EE perspective, since we have 0 experiences with standards that they need to comply by. So a lesson from faculty on how to create proper drawings would be cool.*
- *Make sure proper tools are available to you before creating drawings and schematics. RIT really doesn't supply all the best stuff.*
- *Have more people (including teammates) actually check over all documentation including BOM so that errors don't occur when ordering the wrong part or wrong amounts, which happened like 2 or 3 times.*