

- **Agenda**

- Introductions
- Review of your design from CPRE/EE/SE 491
  - [https://sdmay23-41.sd.ece.iastate.edu/docs/designdoc\\_final.pdf](https://sdmay23-41.sd.ece.iastate.edu/docs/designdoc_final.pdf)
  - [https://sdmay23-41.sd.ece.iastate.edu/docs/Senior\\_Design\\_Presentation\\_Fall.pdf](https://sdmay23-41.sd.ece.iastate.edu/docs/Senior_Design_Presentation_Fall.pdf)
- Discussion of any changes or improvements to the design
- Discussion of the objectives and requirements for CPRE/EE/SE 492
- Discussion of the schedule and milestones for the project
- Q&A session

- **Meeting Notes**

1/26/23

Attendance

Moneim, Thomas, Malvin, Matthew, Garth

Introductions:

discussed different traveling over winter break.

discussed prior work and current objectives

thomas

- need help downloading labview

malvin

- needs extra circuit components
- first prototype had slight flaw

garth

- power regulator
- silicon cell

matthew

- 3D printing as an option
- looking into a pressure container.

Advisor

- has an idea for pressure container.
- just need something that will allow gas regulation.

- weekly meetings.

Presentation by advisor:

- critiques on our design doc/presentation
- 1 pcb that will control everything **\*\* (outside box) \*\***
- LED pcb relatively unchanged
- PCB holder for Dut
- voltage regulation +/- 15V & +5V  
ATMEGA328 microC.
- pins for DUT connected to Keithley.
- gave further specifications for microcontroller and connections to inside box electronics.
- general improvements to design. i.e. using SMD LEDs
- blend gas regulation and LED pcb on 1 board.

Went over "To-Do" list.

Malvin/Garth - PCB design, gas regulation/led controllers, and PCB holder for DUT & cables.

Thomas - connecting arduino to LabView - install arduino KIT on the computer and get started

with writing simple arduino codes in LabView. - Via computer at MRC

Matt - CAD - build box with inlet and outlet for gas, get parts for wire feedings.

Need enclosure for the PCB and MFC.

Schedule & Milestones.

1. researching design
2. building components
3. implementation
4. testing

Next meeting

Thurs Feb 2nd - 4:15pm @MRC & going forward.

● **Meeting Summary**

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# Automated Testing Station for Sensing Applications

## Attendance:

- Thomas McCoy
- Garth Anderson
- Malvin Lim
- Matthew Rief
- Moneim Ismail

## Main Points Discussed

During this meeting we discussed several points including prior work during the previous semester. This previous work is listed above in the meeting notes separated by group members. We then went over a presentation by our advisor about project changes going forward, which described a new device design, as well as specifications for PCBs and connections. We then discussed our group members' "To-Do" list before the next meeting time. Lastly we discussed project objectives and milestones.

## List of Decisions Made:

- New device design
- Combine gas regulation PCB and LED PCB into one.
- Move the micro-controller outside of the sealed box.
- Use SMD LEDs going forward.
- Weekly meetings instead of bi-weekly (set date/time)

## List of Actions to be Taken:

- Start new designs for LED/Gas Regulation PCB
- Start DUT holder design
- Start experimenting with LabView and designing simple programs.
- Install relevant LabView Arduino Kit

## Next Steps for the Project:

- Develop PCB designs
- Develop LabView software
- Combine components
- Testing device
- Finish project