

BME 400 Weekly Progress Report
Team #31: Microscope Cell Culture Incubator

Client: Dr. John Puccinelli
 Advisor: Professor Mitch Tyler
 Team: Jack McGinnity - mcginnity@wisc.edu (Leader)
 Trevor Zarecki – tzarecki@wisc.edu (BPAG)
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Progress Report Period: Wednesday, February 22nd - Wednesday, March 1st

Project Overview

Live cell imaging systems provide a controlled environment for cells to continue to live in while imaging is performed. Current live cell imaging chambers that are compatible with a standard inverting microscope are expensive do not perform well with small culture vessels such as microfluidic devices. The team’s goal is to design a low-cost incubator for use on a microscope that can sustain cell life while imaging is performed on a variety of cell-culture platforms.

Restatement of Second Semester Team Goals

- Further develop the prototype so that it is user friendly and readily available for extensive testing
- Conduct further testing and systems validation of the model
- Produce comprehensive written report

Summary of Team Accomplishments

- Trevor (BPAG): Assembled the circuit on a more permanent platform.
- Steve (Communicator): Emailed client regarding glass ordering information
- Jenny (BWIG): thermal gradient characterization, simplifying connections to electronics box, update website
- Jack (Leader): Worked on getting us on a feasible timeline, EAGLE design
- Peter (BSAC): Outreach logistics and planning, new structural design planning.

Summary of Design Accomplishments:

Activities

Person	Date	Activity	Time (hr)	Weekly Total (hrs)	Semester Total
Team	2/23/17	Team Meeting	2.5	2.5	12.0
Trevor	2/22/17	Circuit Assembly	3.0	3.5	11.0
	2/23/17	Circuit Upgrade	0.5		
Steve	3/1/17	Emailed Client regarding glass ordering information	0.25	0.25	6.5
Jenny	2/24/17	Thermal Gradient Testing on System	2.5	4.0	11.0

Team	x	x	x	x	x													
Advisor		x		x	x													
Client		x																
Website																		
Updates	x	x	x	x	x	x												

Colored boxes are anticipated work. X's indicate progress or completion.

Expenses to date for second semester

- Multi-Output AC DC Converter: \$28.48
- 15Ohm 2W Resistors (2): \$0.40
- 36Ohm 5W Resistors (2): \$1.12

Total: \$30.00