

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

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 Advisor: Professor Mitch Tyler  
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Progress Report Period: Wednesday, March 15th - Wednesday, March 29th

**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): Order and testing of immersion heater
- Steve (Communicator):
- Jenny (BWIG): LCD display integration, update outreach lesson plan
- Jack (Leader): Primarily worked on the EAGLE design
- Peter (BSAC): Finalized Outreach activities, tested water heater, completed water heating calculations

**Summary of Design Accomplishments:**

Tested the water heater to improve humidity within system and completed work on adding LCD system information output.

**Activities**

Person	Date	Activity	Time (hr)	Weekly Total (hrs)	Semester Total
Team	3/15/17	Advisor Meeting	1.0	3.0	15.0
	3/28/17	Team Meeting	2.0		
Trevor	3/15/17	Casing design with Peter	0.75	4.75	27.25
	3/15/17 - 3/17/17	Research and ordering of immersion heater	3.5		
	3/28/17	Immersion Heater Testing, CO2 pick-up	0.5		



Mid-semester Powerpoint				x	x														
Mid-semester Report					x														
Patenting																			
Final Poster																			
Final Report					x														
Meetings																			
Team	x	x	x	x	x		x	x	x										
Advisor		x		x	x			x											
Client		x			x		x												
Website																			
Updates	x	x	x	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
- Immersion heater: \$26

Total: \$56.00