CHEG 4137 and 4139

Pre-laboratory Report Worksheet: 3D-Printed Reactor

Complete this sheet with your group prior to your prelab meeting and turn it in to the instructor or TA.

Group Members:

1) What are the major learning objectives of this experiment? (Hint: Gaining experience with large scale equipment is not a major learning objective)

2) What equations or other pieces of theory will be important during your analysis? With respect to equations, which variables will you calculate? Write out the equations you will use.

3) What variables will you change over the course of your experiments (i.e. flow rates, concentration, feed location, etc.)? List specific numerical values you want to use.

4) What variables will you measure during the course of your experiment? Where/how are these values measured?

5a) How many grams of NaOH are needed to make 1L of a 0.1N solution? Show your work.

5b) How many mL of 0.05M Malachite Green solution are needed to make 500mL of a 3e-5M Malachite Green solution? Show your work.

6) Brainstorm and list 2-3 ideas to increase conversion in your reactor design.

If your group will submit a video for this experiment:

7) What steps of the experiment will you capture on video?

8) What are the safety hazards to be especially aware of when filming the experiment?

Experimental Hazard Analysis

List potential safety hazards present in your experiment. For each hazard you list, recommend a procedure for avoidance and a procedure in case of an accident.

Experimental Step	Potential Hazard(s)	Recommended Procedure to Avoid Accident	Recommended Procedure in Case of Accident