Summer Timeline/Task List

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June 14, 2013

1 Initial Literature Review

Complete by Friday, June 21
Status: Incomplete

1. Read and catalogue papers on wastewater treatment, especially those pertaining to UASBs and previous research done in the area.

2 Reactor I

1. Complete design, build and test for leaks of water and air - Complete by Friday, June 21

   Status: Incomplete

2. Create Initial Wastewater for use in reactor - Complete by Friday, June 21

   Status: Incomplete

   (a) Order chemicals and test biodegradability and pumpability of synthetic wastewater

   (b) If any large problems exist with wastewater, test against other wastewaters used in literature

3. Create Process Control file for use with Reactor I - Complete by Friday, June 21

   Status: Incomplete

3 Testing Procedures

Complete by Friday, June 21
Status: Incomplete

1. To be measured – COD, VFAs, NH4-N, NO3—N, PO4-P, Turbidity, CH4, Pathogens, pH, alkalinity

2. Procedures to be Learned – Gas Chromatography, Colorimetric assays, Turbidity meter with Process Controller, Plating and Microscopy

4 Design and Construct Other Reactors

1. Funnel Separator – compare to Savia's reactor and give design to Paul

   Complete by Wednesday, June 26

   Status: Incomplete

2. Large Reactor – will be used to determine scalability of reactor designs

   Complete construction by Friday, July 5

   Status: Incomplete

3. Construct duplicates of reactors

   Complete by Friday, July 5

   Status: Incomplete

5 Reactor Operation and Design Modification

Throughout design process, we will be running all other reactors. Once results have been repeated, we will try to modify designs for better efficiency

1. Use support material in reactor
2. Introduce indicator organism to measure pathogen removal