Sedimentation Team Detailed Task List

Sedimentation Tank Hydraulics Detailed Task List Spring 2011

Objective **:** To identify the factors hindering the formation of a floc blanket in the current AguaClara sedimentation tank. To redesign the sedimentation tank geometry to eliminate dead zones and improve floc re-suspension so that a floc blanket forms quickly and reliably.

Week	Date	Task
2	F 2/4	• Review Matt's research to familiarize ourselves with how floc blankets form and identify what are the factors affecting their formation • Brainstorm ideas for initial design of sed tank • Work on scaling and initial design of model sedimentation tank and tube flocculator using MathCAD
3	M 2/7	• Continue to work on scaling and initial design • Come up with preliminary materials list for the model, including price quotes • **Flow through the plant quiz due W 2/9**
4	M 2/14	• Finish up scaling and initial design • Make annotated drawings of initial design and schematic flow through laboratory scale plant in PowerPoint/AutoCAD • Meet with Paul Charles in the CEE shop about feasibility of building the model • Start writing Research Report 1, which includes background, design rationale with important equations, experimental apparatus and set up, experiments and data collection
5	M 2/21	• Compile and edit Research Report 1 • Work on individual contribution page • **Research Report 1 Due F 2/25**
6	M 2/28	• Source for materials to construct model • Address comments in graded Research Report 1
7	M 3/7	• Catching up on any unfinished tasks • Brainstorm experiments using completed model • **Midterm Peer Evaluation Form Due 3/11** • **Midterm Wiki Due 3/11** • **Research Report 2 Due F 3/11**
8	M 3/14	• Submit materials list for Monroe's approval • Start constructing model • Make detailed experimental plans to test current and new sedimentation tank designs for dead zones, floc re-suspension, and floc blanket growth • **Research Report 2 Due F 3/18**
9	M 4/21	• **Spring Break**
10	M 3/28	• Discuss material to be covered for Teach In , prepare slides and rehearse • Complete model construction. Set up model to reflect current sed tank design • Finalize experimental plans and how data will be collected and analyzed

11	M 4/4	• **Teach In M 4/4** • Run experiments using current sed tank design to identify factors hindering the formation of a floc blanket • Analyze data • Make changes to experiment procedures and design new experiments if necessary
12	M 4/11	• Continue running experiments on current sed tank design if necessary • Summarize findings in Reseach Report 3 • **Research Report 3 Due F 4/15**
13	M 4/18	• Set up model to reflect new sed tank geometry. • Run experiments using new sed tank geometry to measure evaluate floc blanket growth and extent of floc re-suspension • Analyze data • Make changes to experiment procedures and/or sed tank design if necessary
14	M 4/25	• Continue running experiments on current sed tank design/ alternative design • Analyze data • Start compiling Final Report
15	M 5/2	• Finish up experiments and data analysis • Work on Final Report and Final Presentation • **Peer Evaluations Due W 5/4** • **Final Report Draft Due W 5/4**
16	W 5/11	• Address comments in Final Report Draft and make improvements • Rehearse for Final Presentation • Update individual page • **Final Edited Report Due W 5/11** • **Final Presentations Sa 5/14**