

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Compile and edit Research Report 1 Work on individual contribution page Research Report 1 Due F 2/25
6	M 2/28	<ul style="list-style-type: none"> Source for materials to construct model Address comments in graded Research Report 1
7	M 3/7	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Spring Break
10	M 3/28	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Continue running experiments on current sed tank design if necessary • Summarize findings in Research Report 3 • Research Report 3 Due F 4/15
13	M 4/18	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Continue running experiments on current sed tank design/ alternative design • Analyze data • Start compiling Final Report
15	M 5/2	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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