

ml362

Spring 2008 Midterm Report

In the first half of the semester, I played the role of both project manager and team member. I led the [planning phase](#) and inducted the new members into the team. I also taught them the basics of MathCAD.

After the initial period, the team worked together to finalize the design of the [new flocculator](#) using the [MathCAD program](#) that I wrote. After the team determined the real [flocculation efficiency](#) (alpha in the [Flocculation Model](#)), I updated the design and drafted it in AutoCAD. The [construction drawing](#) was released to construction in early March.

After that, the team embarked on designing a [new sedimentation tank](#) and rapid mix column, as well as constructing a new set of flow control modules.

Spring 2008 Final Report

In the second half of the semester, the team had a very good sense of direction and the entire team functioned as one unit. I was involved in every stage of the design and construction of the [FCM](#), [flocculator](#) and [sedimentation tank](#). The team collaborated with Paul Charles of the Civil and Environmental Engineering machine shop to accomplish the construction tasks. The team built two plants, one of which was sent with the team to meet the Honduran minister in Washington D.C.

After the plants were made, I set up one plant in the lab with pumps, stirrers and turbidity meter to create the experimental setup. I also programmed Process Controller to run the [performance tests](#) automatically. The results and calculations that followed gave us new insights on the demo plant, for example the fact that the vertical sections of the flocculator contribute very significantly to flocculation, despite previous believe that they were "wasted space". The results are reported on the Wiki as well as during the final presentation.

The semester was very successful overall. The team made new discoveries about the demo plant, and also constructed two plants for demonstrations and experiments. There are also good suggestions on [what tasks the future teams should embark on](#), such as improving the sedimentation tank and incorporating sludge blanket into the design.

Content Created

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There are no pages at the moment.
