

# lec38

For the first month of the semester, the unit processes dedicated their time to completing the design for the Marcala plant. I specifically worked on determining the baffle spacing for [Flocculator Tank A](#). This took a bit more time than expected, as I made a few changes to the [existing flocculation code](#). I also wrote up a detailed basis of design and completed the project with a [drawing](#). I communicated with Fred or Monroe when I had questions and have sent Fred my final design. He made a few small modifications which I verified, and am in the process of updating my final drawing. Finally, I helped upload [last semester's report](#) detailing the design for the Marcala plant. I was responsible for the Flocculation Details portion of this report.

After completing the Marcala design, the Unit Processes team began to focus on their part of the Master Program. After helping to create the skeleton functions of the UnitProcesses MathCAD file, I filled in the Sedimentation Tank Design function. I updated the appropriate sections of the [midterm report](#) and the [basis of design](#) to reflect my work. I have also begun to write the flocculator design function, however since the theory behind this code is constantly changing, this function is not yet completely accurate. I will continue updating this to reflect our best current knowledge.

Since spring break, most of my time has been devoted to the flocculator function. Before starting the code, I used the idea of "active volume" of the flocculator to determine [new G and Gtheta values](#). After this, I began writing the floc code. I basically started from scratch, using parts of the existing flocculation model used in CEE 454 in the fall and the floc function used for Tamara. However, the team has yet to find a definite way of determining the number of baffles in the tank. I worked to make sure this code was working and interacting well with the MasterProgram and autoCAD. My code has yet to be streamlined, but it seems to be returning reasonable results (confirmed by Monroe's flocculation model). Additionally, I did some more work with the sedimentation function to ensure that it could be integrated smoothly. Both files have line by line commenting to allow for easy changes in the future. I worked with Tamar to test both functions. I also participated in the internal review process for the design team. I looked over the grit chamber function and offered suggestions/clarifications where I saw fit.

I also did most of the wiki-ing for the unit processes team this semester. I wrote the sedimentation and flocculation sections of both the [final report](#) and the [algorithm report](#) for the design team. I also cleaned up the [unit processes](#) and [Marcala pages](#) (ie - made sure all links worked, deleted extra pages, commented attachments, etc). I worked with Tamar to make sure that the [basis of design](#) for the MasterProgram were up to date. Finally, I created the wiki map for the design team.

I used my new flocculation algorithm to determine the baffle spacing for the Tamara plant. I updated the [fall 2007 Tamara design report](#) with this information.