

scs55

Sarah Stodter

Fall 2010

In the Fall of 2010, I was the Head Teaching Assistant for the CEE 4540: Sustainable Small Scale Drinking Water Supplies design course. Responsibilities included holding twice-weekly office hours, reviewing & making comments on teams' weekly draft design submissions; and managing team of 3 teaching assistants to ensure coverage of office hours, exam administration, and grading.

I was also awarded an Engineering Learning Initiatives individual research grant to research a polyurethane foam aluminum hydroxide coating process and analyze the effect on filter performance. I also continued to work with the Polyurethane Foam Filtration (PFF) team to assist & provide guidance on the team's application to the U.S. EPA P3 competition, for which the PFF team was awarded a \$15,000 research grant.

In addition, I was also hired to continue working as an AguaClara lab assistant, where I fabricated microprocessor stamp boxes, which allow communication between computer software and lab equipment (such as pumps, solenoid valves, and sensors) to enable process control of experiments.

Summer 2010

In the Summer of 2010, I was awarded a Develop-Your-Own Internship grant, which enabled me to work with the AguaClara team full-time. During this time, I led both the Stacked Rapid Sand Filtration (SRSF) and the PFF teams. Responsibilities included bench-scale experiment design and set-up, fabrication, research, data analysis, and technical reporting and presentation of results. The SRSF research successfully proved the concept of the stacked rapid sand filter design by demonstration of the bench-scale filter's filtration and backwash capabilities. The PFF research continued to delineate the optimal range of operational parameters, including flow rate, influent turbidity, and dose of alum coagulant added to influent turbid water.

I was also hired as an AguaClara lab assistant to prepare the environmental teaching lab for the Fall 2010 semester. I tested and (when possible) repaired equipment (such as pumps, solenoid valves, and sensors) and organized, created inventory and ordered necessary supplies for use in the upcoming semester.

Spring 2010

As a founding member of the PFF team, I co-led the team's initial research of the use of polyurethane foam as a filter media. Initial experiments indicated the polyurethane foam was a viable filter media, with the capacity to achieve effluent at or below U.S. drinking water standards under particular conditions. Further research conducted to delineate the optimal range of operational parameters including filter pore size, depth, and orientation (vertical vs. horizontal arrangement), and use of alum coagulant. Responsibilities included bench-scale experiment design and set-up, fabrication, research, data analysis, and technical reporting and presentation of results.

January 2009

In January 2009, I had the opportunity to travel to Honduras with members of the AguaClara team, and observe first hand the need and impact of AguaClara plants.

Fall 2009

In the Fall of 2009, I was a student in the CEE 4540: Sustainable Small Scale Drinking Water Supplies design course. My team's Final Capstone Design project proposed the use of polyurethane foam material to filter effluent from sedimentation tank.

Fall 2008

In the Fall of 2008, I continued working with the Design team to create AutoCAD documentation pages of more complex plant components (see below). Responsibilities included creating detailed Wiki pages, and presenting mid-term and final presentations of progress.

Summer 2008

In order to automatically design specific drinking water treatment plant drawings, the AguaClara Design team created a set of programs in MathCAD, which could be translated into drawings of plant components in AutoCAD. As a member of the Design team in the Summer of 2008, I created numerous AutoCAD documentation pages which detailed each step of code's drawing of the plant components. These pages could be used to assist in understanding and refining the MathCAD code. Responsibilities included creating detailed Wiki pages, and presenting mid-term and final presentations of progress.

Content Created

Content created by Anonymous

There are no pages at the moment.
