

TO: 1.101 Class

RE: Information about Water Treatment Project Demonstration and Evaluation

DATE: Oct 10, 2005

1. SCHEDULE

Completion of the water treatment projects is scheduled for this week, for both lab sections. Because of the Oct 11 class holiday, the only meeting of 1.101 this week will be during the lab periods, Wed. Oct. 12/Thurs Oct 13.

We will have **demonstrations of projects during approximately the last half of each period**. For demonstration, each treatment device will be operated at its design flow rate for a period of time equal to at least hydraulic two residence times, or until outflow is clear, whichever is longer. During this time, flow and differential pressure will be recorded. At the end of this period of time, a sample will be collected for pH measurement (the instructors will have a pH meter).

Notebooks will be collected for review at the end of the lab period. Project reports will due at the **beginning of the lab period for following week**; at this time, notebooks will be returned for use in the first structural exercise.

2. PROJECT REPORTS

A specific format is not prescribed for this project report. However, it is suggested that reports be organized with sections that provide: i. a *statement of the problem*, including a brief background discussion, and performance requirements (such as, in this case, target pH and flow values), ii. information on *conceptual design* and principles of operation, iii. the *detailed design*, including drawings with dimensions, information on materials, etc (enough info so someone having reasonable shop skills could build one), iv. *test results*, and v. a *concluding section* in which the adequacy of the design, and any suggestions for further work, are given. This would include a clear description of what a second version of your filter would look like, and consideration of other aspects of the design, such as how to make the design simple for manufacture, easy to install, and readily maintained.

Reports should be provided as paper copy. There is not a prescribed length, but remember that there is great virtue in brevity and clarity. It is much more difficult to write a clear and concise, but complete, document than a verbose one. However, the ability to do this is a very valuable skill. If you start running over a few pages for this project report, it may be a warning sign