

## **CE 418 SECOND EXAM STUDY GUIDE**

Format will be **Open Book/Open Note**

### **CHAPTERS 10 & 11**

You should reread all material assigned in the class syllabus

You should review the board notes presented in class.

You should be able to demonstrate by computation that you can

1. Manipulate hydraulic residence calculations time in physical treatment units.
2. Calculate mean shear in flocculation or mixing or apply shear in design.
3. Apply overflow rate and weir overflow rate expressions in evaluating or designing settling units.
4. Manipulate granular media bed loading rate and backwash expressions.
5. Determine clean bed head loss in a granular media filter.
6. Apply complete mix reactor expression in evaluation and design.
7. Calculate lime and soda ash doses and mass use rates (QC) for standard and selective calcium hardness removal.
8. Calculate chlorine doses and mass use rates for chloramination and breakpoint chlorination.
9. Apply C·t product to evaluate meeting standards or in design.