

# Homework 3 Due: 05/10/2015

## Applied Transport Phenomena - CHME420

- Exercise 1.** BSL 3B.2. Read part a) carefully. Verify that the boundary conditions and the equation of motion are satisfied. Do not attempt to get the profile yourself. Good practice for exam.
- Exercise 2.** BSL 3A.6. Study example 3.7-2 carefully. Use the results from that example to solve parts a) and b).
- Exercise 3.** BSL 4B.1. Started this problem in class. Very similar to problem we did in class.
- Exercise 4.** BSL 6A.3. Ignore the two suggested methods and use Excel's solver functionality to solve the trial and error problem. You only need to solve this once.
- Exercise 5.** BSL 6B.3. The relevant results from 2B.3 are:

$$\frac{\langle v_z \rangle}{v_{z,max}} = \frac{2}{3}$$
$$w = \frac{2}{3} \frac{(\mathcal{P}_0 - \mathcal{P}_L) B^3 W \rho}{\mu L}$$

- Exercise 6.** BSL 9A.3. Part a) only.