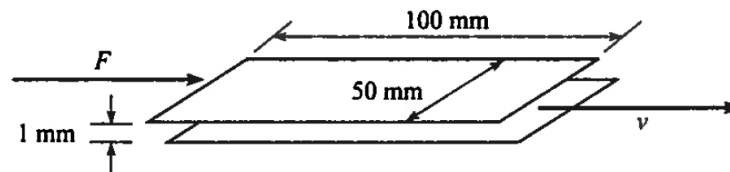## CE 3305 Engineering Fluid Mechanics
Exercise Set 2
Summer 2018 – GERMANY

Purpose : Use compressibility to relate pressure change to volume change. Apply definition of viscosity in Newtonian fluid.

Assessment Criteria : Completion, plausible solutions, use **R** as a calculator.

Exercises

1. (Problem 2.13 pg 55) Calculate the pressure increase (Δp) required to reduce the volume of a mass of water by 2-percent (2 %)

2. (Problem 2.35 pg 56) Figure 1 is a schematic of a sliding plate viscometer used to measure the viscosity of a fluid. The top plate is moving to the right with a constant velocity of 10 meters per second in response to a force of 3 Newtons. What is the viscosity of the fluid?[1]

PROBLEM 2.35

Figure 1: Sliding Plate Viscometer

---

[1]Assume a linear velocity distribution.