CIVE 300 Homework Assignment 6
Due 28 September 2012

*Work and turn in* problems 2.116, 2.123, 2.126, 2.128, 2.135, 2.142, and 2.143 in Munson et al (2013). Also, work and turn in the following three problems, which are candidates for grading:

(1) Find the magnitudes of the *horizontal* and *vertical* components of the resultant force due to fluid pressure on the surface ABC.

(2) A wooden beam, having a density of 640 kg/m³, is connected to a pivot and submerged in ethylene glycol as shown. Specify the minimum *weight* that the concrete (density 2400 kg/m³) anchor must have in order to hold the beam in a horizontal position.

(3) The gate shown rotates about the hinge and is 1 m wide into the plane of the paper. Design the length *L* of the straight portion of the gate so that the gate will open just as the water depth *h* rises to 2 m. Neglect the weight of the gate.