

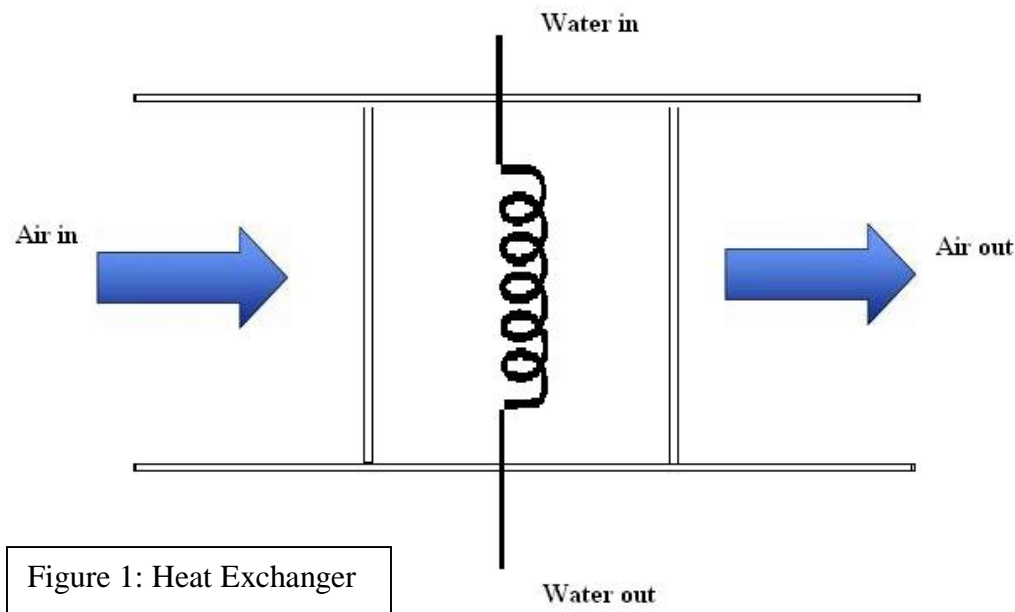
# MET 466 – Thermal Processes Lab

## LAB #7 – Heat Exchanger Flow Rates

Assigned: 9/27/07  
Due: 10/4/07

### Background

A heat exchanger is used to heat air as shown in Figure 1 below. Prior to arrival, the outside room in the HVAC lab is pre-heated to 95°F. The objective of this lab is to perform an analysis of a given heat exchanger and then compare those results with measured data from the system.



### Procedure:

- 1) Record the inlet and the outlet water temperatures, air entering and leaving temperatures, and the water mass flow rate through the heat exchanger (the channels to be used are listed in table 1).

Channel Number	Item Measured
21	Water In
22	Water Out
23	Air In
24	Air Out

- 2) Use a refractometer to determine the percent mixer of the propylene glycol and water flowing through the heat exchanger coil.

## Results:

- Using the mass flow rate of the water and the associated measured temperatures calculate the volumetric flow rate of the air flowing through the heat exchanger coil.