Architecture 4.411  
Building Technology Laboratory  
Spring 2003

Assignment 2   Ventilation  
Lab report checklist

**Introduction**  
Several paragraphs that motivate the report and describe its contents

**Wind-driven flow (balcony)**

- Design and construction  
  drawing or photo, choice of materials, dimensions, design criteria  
  _____  2

- First-round airflow measurements with hotwire anemometer, displayed in an effective tabular or graphical format  
  _____  2

- Analysis of data, including volumetric airflows and air-change rates  
  _____  2

- Conversion of air-change rates to those you would expect in a real apartment, under one or more wind speeds of your choice  
  _____  1

- Completion of the CONTAMW worksheet and design exercises  
  _____  2

- Discussion, on the basis of CONTAMW simulations and, optionally, measurements, of the relative importance of the balcony, interior partitions, and rear windows in determining airflow through the apartment  
  _____  2

- Owner’s manual for the apartment with your balcony  
  _____  2

**Ventilative cooling**

- Description of your “water tank” enclosure  
  drawing or photo, choice of materials, dimensions, design criteria  
  _____  1

- Cool-down data and time constant for sealed enclosure  
  _____  2

- Cool-down data, airflow data and time constants for two ventilative-cooling trials  
  _____  3

- Estimates, via simulation or analytic prediction, of time constants for the three cases above  
  _____  2

**Conclusions**

- What you’ve learned about measurements, simulation, and how to use natural ventilation to cool buildings  
  _____  1

23 points maximum