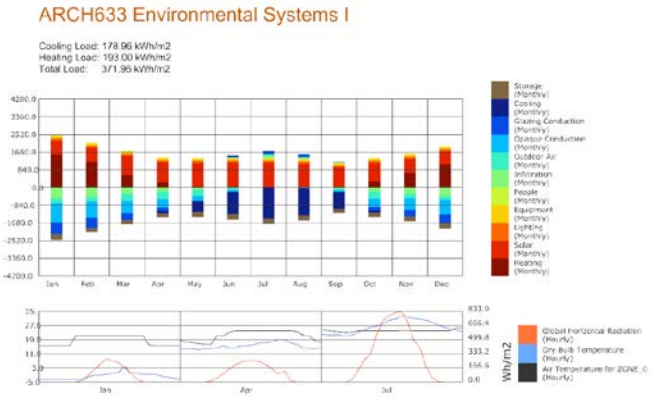
Assignment 10. Energy balance

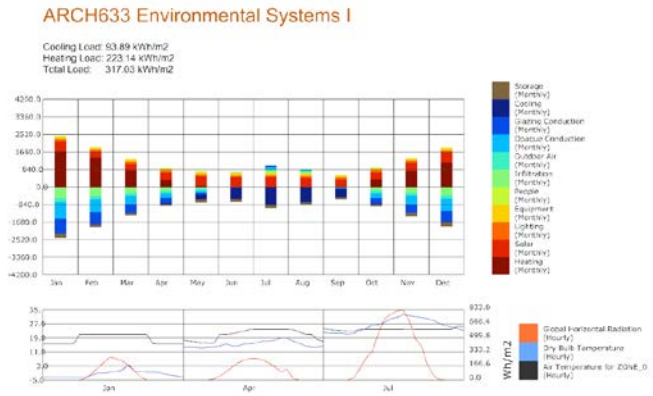
Building Optimization Study

Tae Hyung Lee

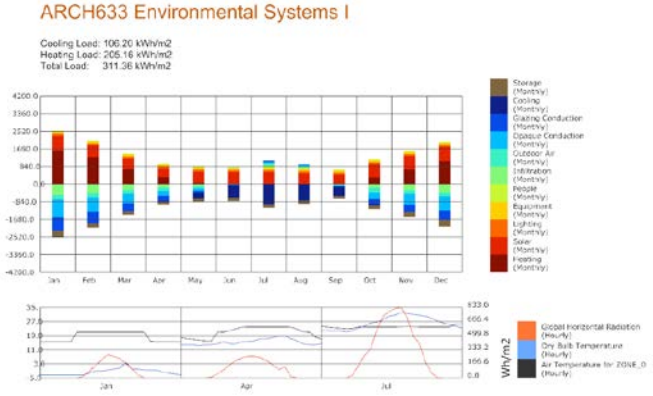
Procedure



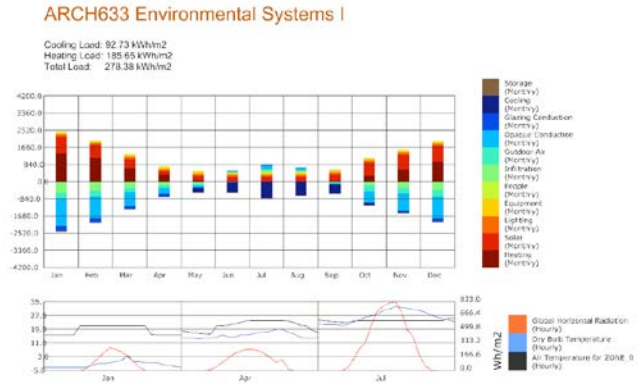
Window to Wall Ratio: N.9, W.3, S.2, E.6, No Blind



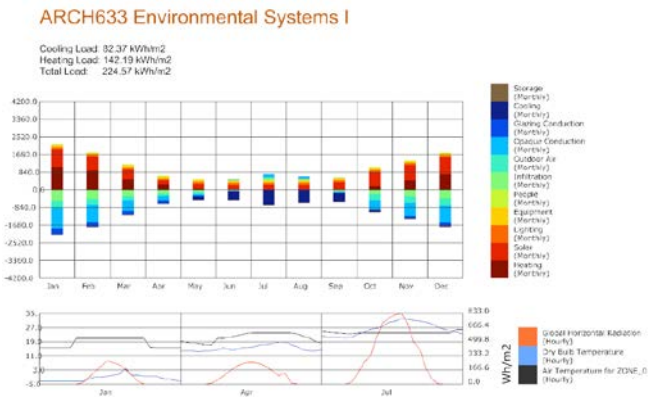
Window to Wall Ratio: N.9, W.3, S.2, E.6, .7 long 4 Blinds



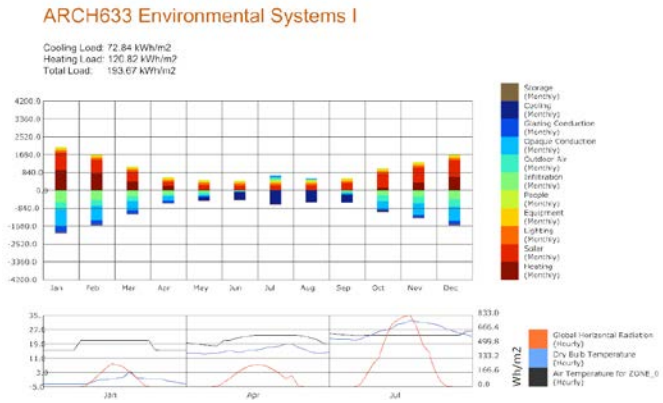
Window to Wall Ratio: N.9, W.3, S.2, E.6, .4 long 4 Blinds



Window to Wall Ratio: N0, W0, S.7, E0, .4 long 4 Blinds



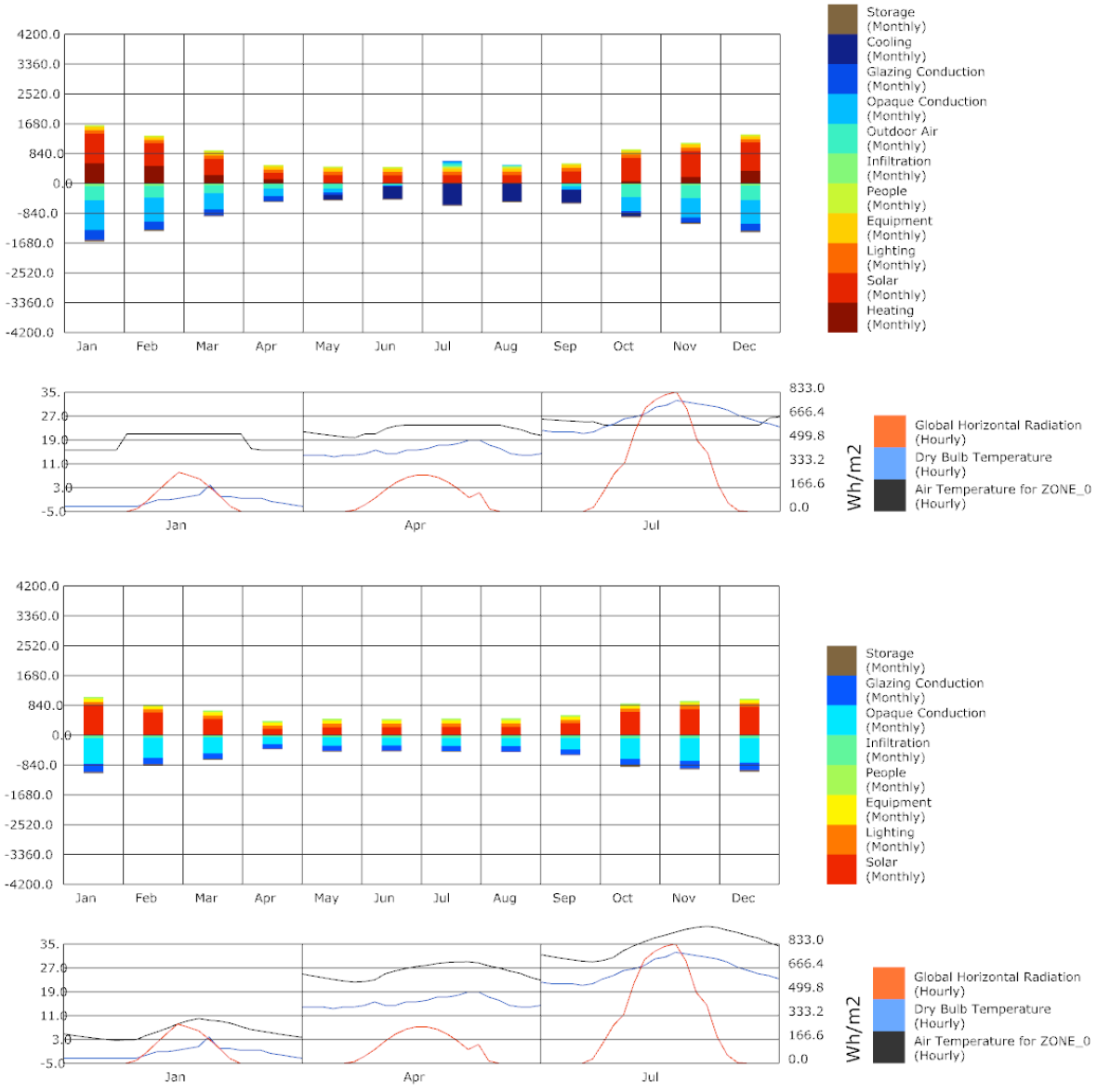
Window to Wall Ratio: N0, W0, S.7, E0, .4 long 4 Blinds, R14.8 Wall, R.7 Window



Window to Wall Ratio: N0, W0, S.7, E0, .4 long 4 Blinds, R14.8 Wall, R.7 Window, R34.4 Roof

ARCH633 Environmental Systems I

Cooling Load: 68.80 kWh/m2
Heating Load: 67.95 kWh/m2
Total Load: 136.74 kWh/m2



Window to Wall Ratio: N0, W0, S.7, E0, .4 long 4 Blinds, R14.8 Wall, R.7 Window, R34.4 Roof

With 0 Air Changing time

Result: Total Load of 136.74

Most Effective Parameter:

Construction > Air Chaging Time > Window to Wall Ratio > Blinds

Temperature Rage inside the Container

In Summer: 20 - 31

In Winter: -4 - 3