# Interior Architecture

Ohio University College of Fine Arts School of Art+Design

ART 2640, Building Systems of Interior Environments
Fall Semester 2020
Tuesdays & Thursdays 10:30-11:50
Online

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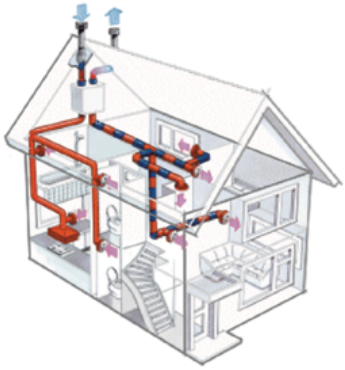

# Mechanical System Assignment

Due: Thursday, September 3, 10:30 am

This is to be a typewritten report that contains photographs, sketches and clear bullet point statements. This report is to present a thorough examination of the HVAC system in a residence.

Site: your residence, or the residence of someone you know. This must be a free standing 'house', not an apartment.

You are to explore the heating and cooling (if any) systems components of your selected residence.

- Identify the power/fuel source of the HVAC system. (This is typically electricity, or natural gas, or wood, or coal or oil burning)

- Identify the distribution method of the HVAC system. (how does the 'heat' and 'cool' get to the individual rooms/spaces)

- Identify the heating components of the HVAC system. (what are the physical components, objects, in which the heat/cool is produced and delivered to the spaces)

- Identify the cooling components (if any) of the HVAC system.

- Identify issues of human comfort as impacted by HVAC. (are spaces too hot, too cool; when, what times of year, because of other factors, such as direct sunlight, lack of sunlight)

- Identify the control method and components of the HVAC system. (how do the occupants of the space(s) control how warm or how cool the space is)

- Analysis of fenestration and the impact of heating and cooling. (how do windows affect the interior in terms of heat and cool. Describe the windows in terms of size (in feet and inches) in terms of glass/glazing type (single pane, double pane insulated, other)

- Research the cost ($$$) of the following components of Mechanical Systems: ('google' each of these and see what you discover)
    - Natural gas per cubic foot
    - 50 gallon electric water heater
    - Exterior condenser unit in heat pump system
    - Interior furnace unit in heat pump system
    - 4 foot linear slot diffuser
    - 12" x 24" sheet metal duct per foot
    - Electronic Thermostat