

SCIENCE LIBRARY (1621)

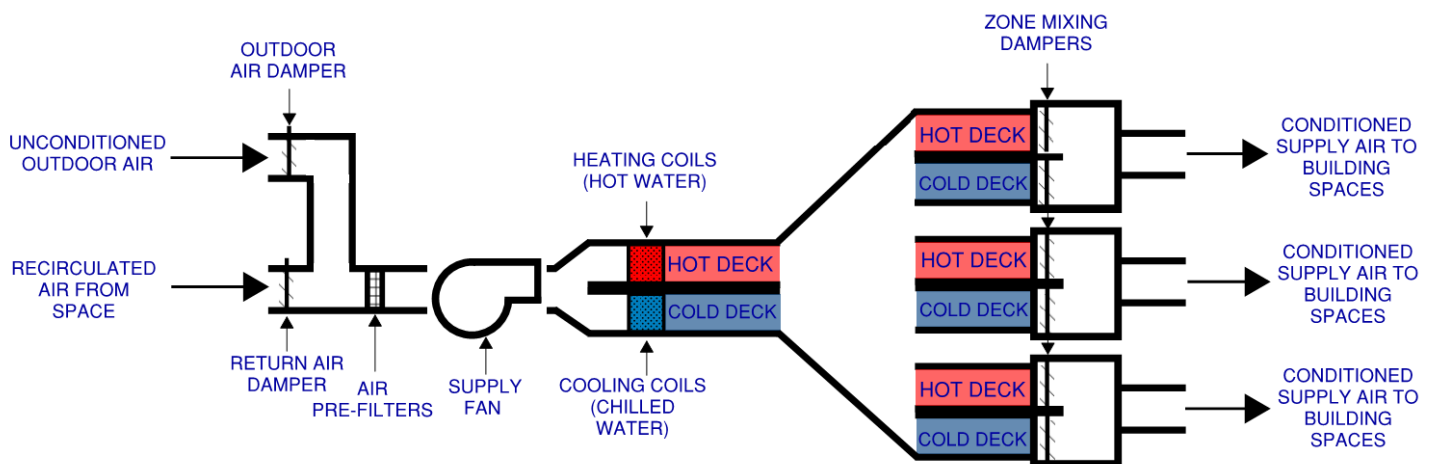
The Science Library Building is a 94,800 square foot building with 4 floors constructed in 1968. The building is connected to the Boyd Graduate Studies Building. It is served by eight multi-zone air handling units, two serving each floor. Outside air is drawn directly into each AHU mechanical room where it mixes with return air from above the ceiling of each floor as the constant-speed fan in the air handling unit draws it through a wall of filters.

Chilled water is supplied throughout the building from a chiller located in the mechanical room shared with Boyd or from the campus chilled water system. Heating hot water, distributed throughout the building for heating, is provided by a steam to water heat exchanger using steam from the campus steam system.

MULTI-ZONE AIR HANDLING UNITS

Each Multi-zone Air Handling Unit (AHU) provides ventilation, air filtration and movement, and heating and cooling functions. Each AHU has a hot water heating coil and chilled water cooling coil that respectively generate parallel warm and cool air streams. The air flow is distributed to a number of ducts that exit the AHU to serve individual zones that may be single rooms or groups of rooms depending on their size. Each zone's duct has a mixing damper that allows only warm air, only cool air, or a mixture of the two, depending on the signal being sent from the zone thermostat. Ventilation is provided at each AHU by drawing a mixture of fresh air from outdoors and recirculated air from the areas being served by each AHU.

Air is recirculated from the spaces back to the air handling unit through ceiling mounted air return registers located in each space. Return air is pulled from a plenum space above the ceiling. Exhaust is provided in restrooms on each floor to remove odors and to maintain a slightly positive building pressurization.



MULTI-ZONE AIR HANDLING SYSTEM SCHEMATIC