

## INSTRUCTIONAL PLAZA

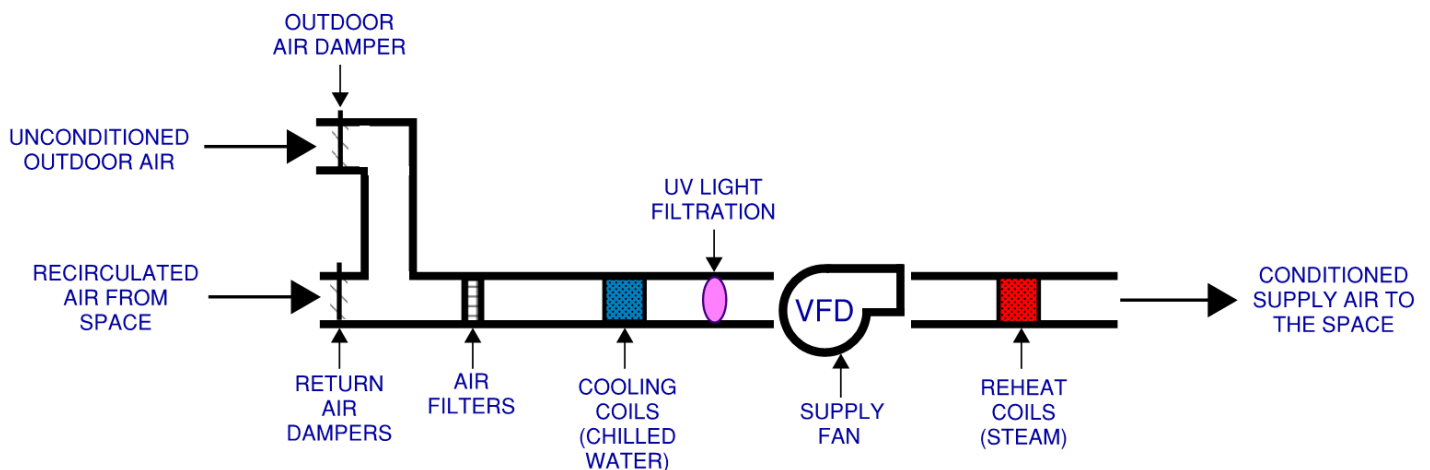
The Instructional Plaza Building consists of two auditoriums that were originally constructed in 1964 as part of a four-building group that also consisted of the Journalism and Psychology Buildings. The North Auditorium was recently renovated in 2019. The design documents to renovate the South Auditorium have been prepared but the construction work has not yet begun.

The North Auditorium is conditioned by a modern, variable volume, single zone air handling unit (AHU) that provides heating, cooling and ventilation for the auditorium. The South Auditorium is conditioned and ventilated by the original constant volume, single zone air handling unit that provides heating, cooling and ventilation to the auditorium. Both AHUs utilize chilled water from the complex's chilled water plant or from the campus chilled water loop. Heating is delivered by a steam heating coil downstream of the supply air fans in each AHU. Steam is supplied by the central campus steam system.

### NORTH AUDITORIUM SINGLE ZONE CONSTANT VOLUME AIR HANDLING UNIT

The North Auditorium Air Handling Unit delivers a variable supply air volume composed of a mixture of recirculated air from the space and outside air included for ventilation. The unit maintains the space temperature by modulating the flow of chilled water or steam to coils in the unit. The unit also has the capability of operating in a dehumidification mode when relative humidity levels are elevated, by simultaneously cooling the mixed air and then reheating it to a moderate temperature before supplying the air to the auditorium.

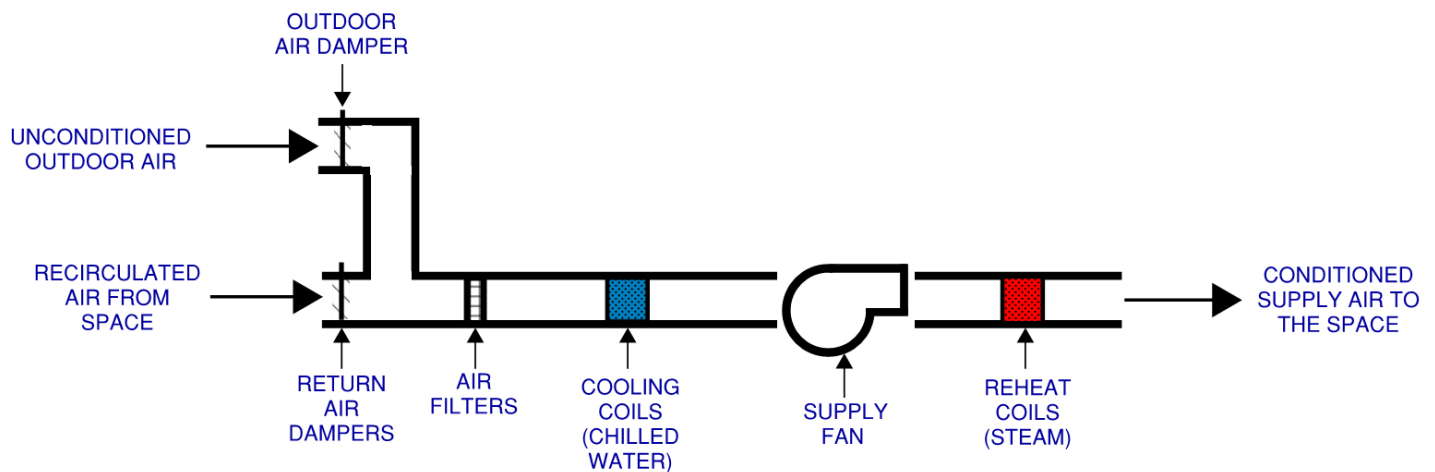
The unit is equipped with MERV-11 filters installed upstream of the cooling coil and supply air fan. Air from the space is recirculated through return air ductwork back to the unit where it is mixed with outside air before passing through the filter bank. The AHU is also equipped with air side economizer function that allows the unit to increase ventilation levels when outdoor air conditions are appropriate. The unit utilizes a demand control ventilation sequence to reduce the ventilation air rate based on the levels of carbon dioxide in the space. The demand control ventilation sequence has been disabled as part of FMD's COVID-19 response program. The AHU is also equipped with an occupancy schedule that shuts down the unit in the evening and early morning before the building is occupied. This schedule has been changed to provide continuous operation (and ventilation) even during periods where the building is not occupied as part of FMD's COVID-19 response program. The AHU has also been equipped with a UV filtration system that inhibits biological activity within the unit.



**VARIABLE VOLUME SINGLE ZONE AIR HANDLING UNIT**  
**SCHEMATIC**

## SOUTH AUDITORIUM SINGLE ZONE CONSTANT VOLUME AIR HANDLING UNIT

The South Auditorium has not been renovated significantly since its original construction in 1964. The South Auditorium is currently conditioned by a single zone air handling unit mounted within the auditorium ceiling that serves to filter and condition a mixture of ventilation air and recirculated room air to be delivered to the auditorium. The original unit was designed as a single zone, constant volume air handling unit. The unit utilizes a chilled water coil for cooling and a steam coil for heating. The unit has a filter section, cooling coil, heating coil and a fan section in that order. Air from the space is recirculated through ductwork where it is returned to the air handling unit and mixed with fresh ventilation air from outside, passed through a bank of filters to remove large particulates from the airstream and then cooled or heated as necessary based on space temperatures using chilled water and steam. The conditioned air is then discharged from the AHU through supply air ductwork back to the space to cool or heat and ventilate the auditorium continuously.



**SINGLE ZONE AIR HANDLING UNIT SCHEMATIC**