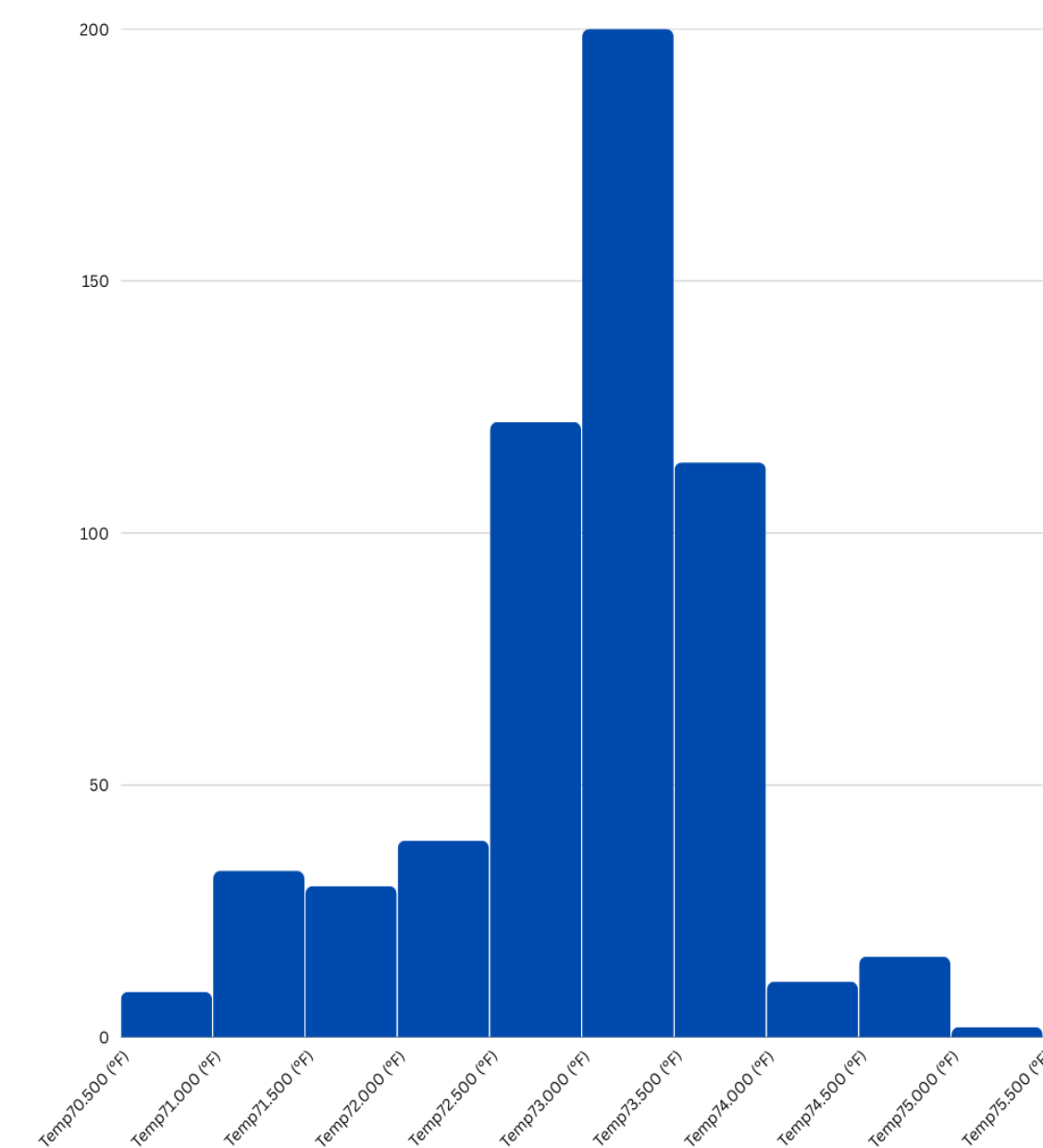
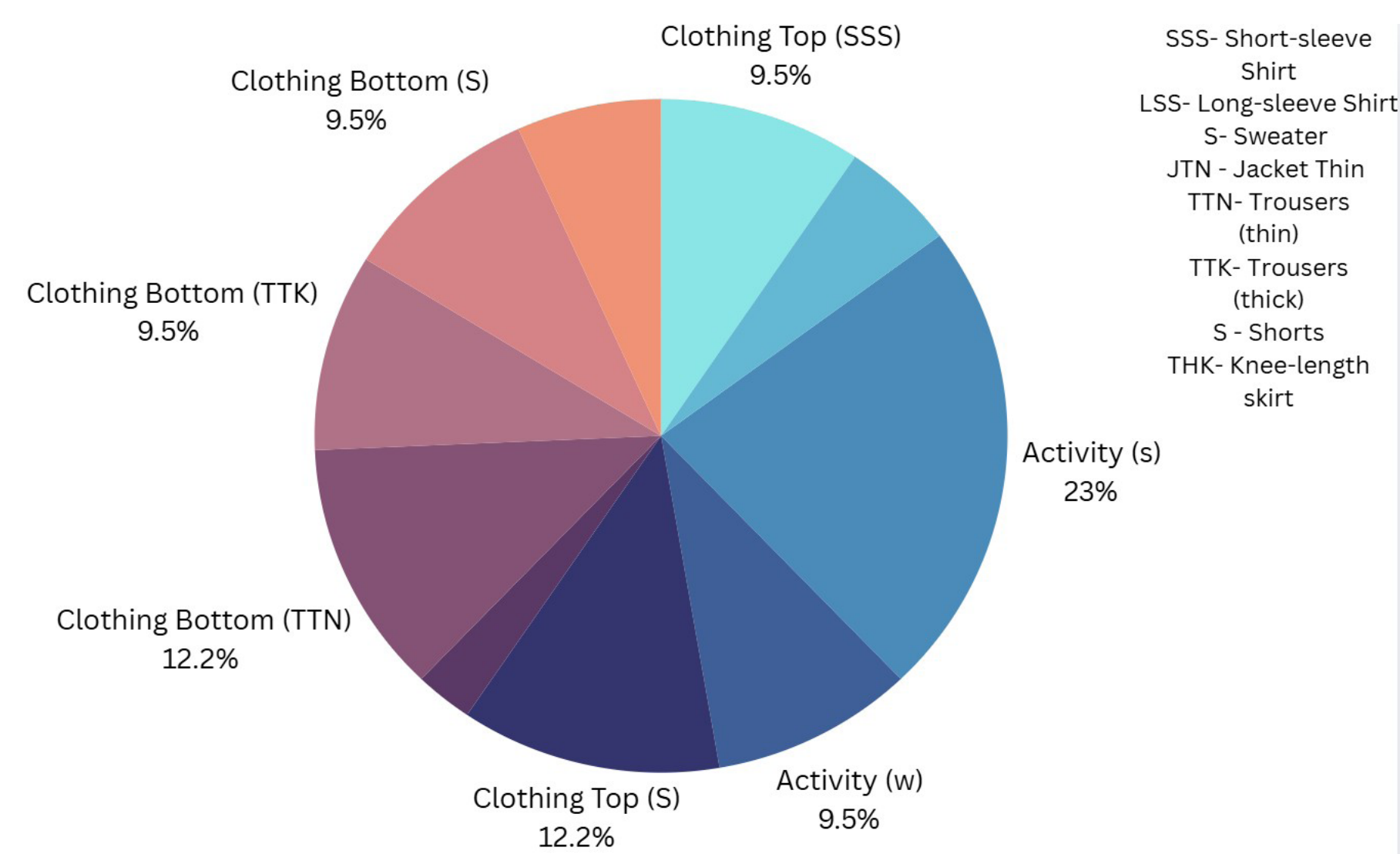


IEQ PERFORMANCE & BEHAVIOR

Team 4 | ARCH273 | Section 2 | SPR25 | Zahida Khan | Ball State University



Graph of Data Analysis (Jade Moore)



Survey Results- Team 4



Case Study Photo

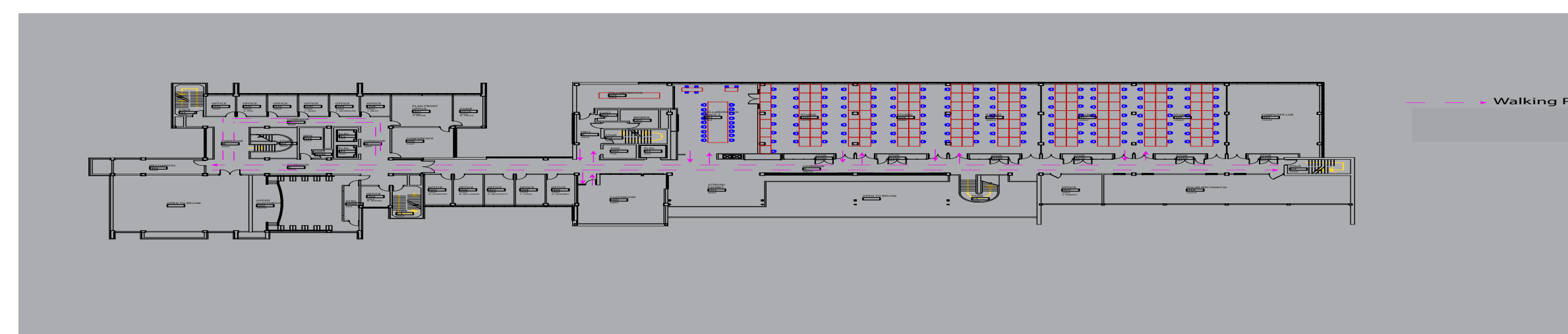
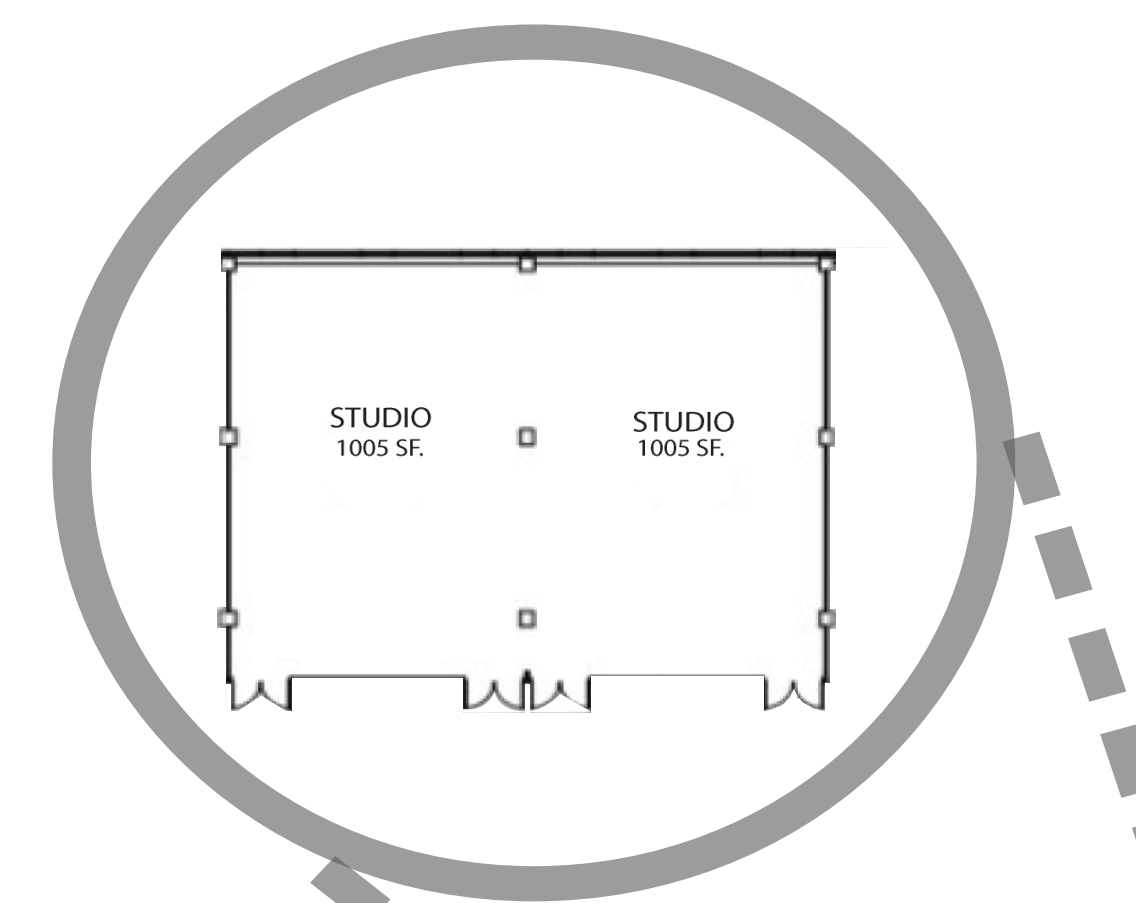
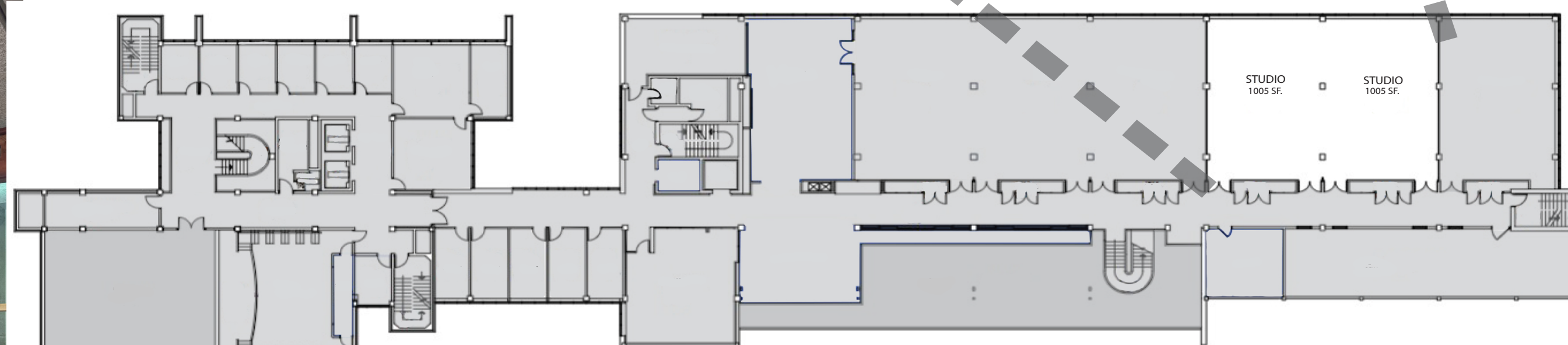


Photo of Equipment

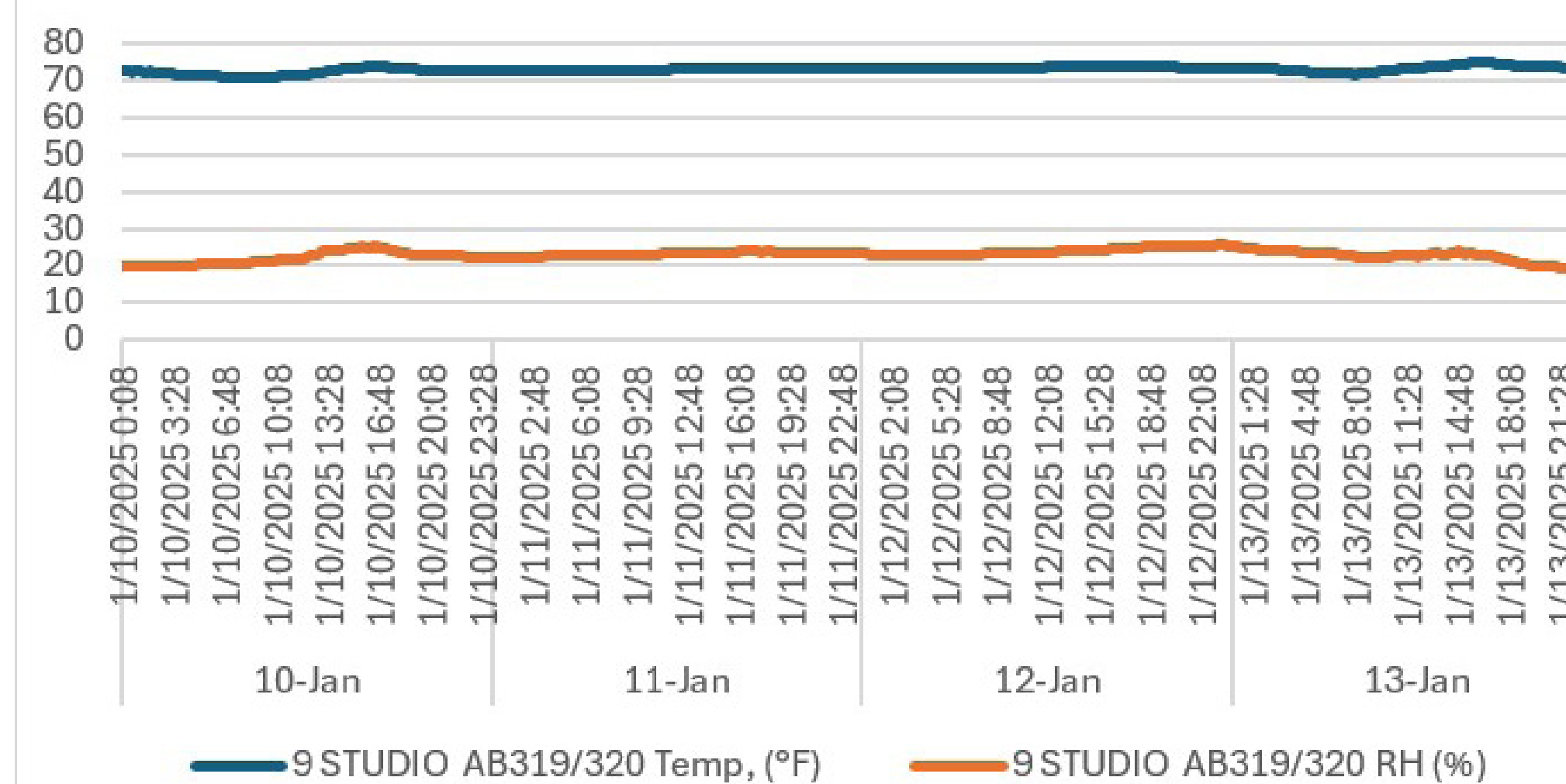


Team photo POE

Floor Plan- Drawings (Dolly Smiley)



Floor Plan- Graphical Representation (Doniesha Noel)



T & RH chart (Jade Moore)

Indicative Hypothesis: Buildings that digress from their intended performance in thermal comfort, acoustics, lighting, and indoor air quality negatively affect the occupants' satisfaction levels. We hypothesize that the CAP building, specifically studios 319 and 320, have deviated from their intended indoor environmental quality (IEQ) performance, resulting in occupant discomfort and behavioral adaptations aimed at mitigating these deficiencies.

Our hypothesis addresses the research focus by linking building performance with occupant comfort and satisfaction.

Aims and Objectives: The purpose of the research is to investigate whether studio 319 and 320 are still upholding their initial performance of comfort and to identify any behavioral modifications as a response to recognized inadequacies in IEQ factors.

Investigative

Research Methodology: The research utilized two methods for data collection: (a) Sensor Data Collection and (b) Online Survey.

Sensor Data Collection: Measurements of temperature and relative humidity (RH) were recorded using the HOBO MX1101 data logger. Data was collected over the study period from January 10th through January 12th at ten-minute intervals.

Online Survey: A Google Form survey was distributed to students occupying studios 319 and 320. The survey gathered qualitative data regarding perceived thermal comfort, acoustics, lighting, and indoor air quality.

Diagnostic

Results: The Google Form survey results, represented in accompanying charts, support the findings of the study by providing qualitative responses from students occupying the CAP third-floor studios, 319 and 320.

Reflection: The overall conclusion of this study reveals that the CAP building has deviated from its intended performance concerning the areas studied. This deviation affects occupants' satisfaction levels, forcing them to adopt various behavioral adaptations to cope with the environmental inadequacies.

Behavioral Adaptations: Observed adaptations include: wearing headphones to reduce noise disturbances due to proximity to others, bringing personal lighting devices to compensate for insufficient building lighting. Complaints of fluctuating temperatures, with occupants frequently describing feeling either too warm or too cold, with little balance.