

Claude Moore Health Sciences Library

1350 JEFFERSON PARK AVE., BUILT 1975



Building Type: Multi-use

Types of Spaces: Library, study areas, classrooms, offices, meeting rooms, stacks, rare collections

Square Footage: 76,535 ft²

Project Cost: \$600K

Annual Savings: ~\$120,000

Simple Payback: ~5 years

“Working with the team was a delight, and anyone that has ever done any sort of remodeling knows that anxiety remodel ensures. Since the beginning of the project the team took the time to meet with us in the library and worked hard to incorporate the needs of our staff and patrons. Making sure to schedule work around the activities of the students.

I would highly recommend the [Building Efficiency Program] to any department looking to address system upgrades that may otherwise go unaddressed.”

- Kyle Bowman
Admin Manager, HSL

Built in 1975, the Claude Moore Health Sciences Library (HSL) is a hub for knowledge-sharing across the health sciences. As a 24-hour facility, this library is an ever-ready resource for students, faculty, staff, and healthcare practitioners.

The library and its dedicated staff have exhibited a commitment to sustainability leadership, including a UVA Green Workplace certification in 2018 and a previous energy efficiency retrofit in 2012. Building on these successful initiatives, the library collaborated with UVA’s Sustainability Services to undertake a Building Efficiency Program retrofit in 2019.

An assessment of the building’s program and systems suggested there was an opportunity to modernize aging equipment and controls. This included a direct digital controls (DDC) upgrade, equipment upgrades, new sensors, and new LED lighting fixtures. The library’s 24-hour study areas made this facility a prime candidate for a new, dynamic HVAC controls framework. The building’s lighting occupancy sensors and CO2 sensors were integrated into the HVAC system to provide responsive heating, cooling, and ventilation based on real-time occupancy. This allows the building to significantly reduce after-hours energy consumption.

The project reduced energy consumption by over 40% and introduced more than \$100,000 in annual energy savings. System modernization also led to more comfortable and responsive spaces with fewer maintenance requirements.

Initiatives

Building controls modernization

- Upgraded pneumatic to digital controls system
- Introduced CO₂ sensors and demand control ventilation into dense and transient spaces
- Integrated lighting occupancy sensors into HVAC controls

HVAC system upgrades

- Fixed broken dampers, air terminal boxes
- Installed variable frequency drives on pumps, fans, and motors

LED lighting upgrade

- Replaced existing fluorescent fixtures with LEDs
- Installed new occupancy and daylight harvesting sensors

Efficiency Savings (2019 v. FY2022)

Energy Use Intensity (kBtu/ft²/yr)



Carbon Dioxide Equivalent Emissions (MTCO₂e/yr)



Annual Cost Savings

