

Francis Center

The Gerald L. Francis Center, which is the new home of the School of Health Sciences, underwent a major renovation with a focus on sustainability. Per Elon's Green Building Policy, the University pursued LEED certification for the Francis Center and achieved Silver certification. LEED stands for Leadership in Energy and Environmental Design and is an internationally recognized benchmark for the design, construction and operation of high performance green buildings.



The Francis Center houses the doctor of physical therapy and new master of physician assistant studies programs. It consists of 60, 307 square feet of classroom, lab, office, meeting, lounge and common space. The building was acquired in 2010 from Smithfield Foods, and the School of Health Sciences moved into the facility in early January 2012.

Sustainable Sites



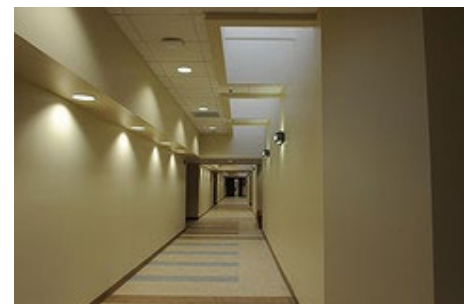
There are Elon BioBus stops near the Francis Center, which provide easy access to the center of campus. The building's design also encouraged alternative transportation by providing bicycle racks and shower facilities for those using the building who might want to bike to work or class or take a bike ride during the day. The parking lot at the Francis Center has spaces designated for low-emitting fuel-efficient vehicles. LEVs include non-hybrid and hybrid models that have been classified as Zero Emission Vehicles (ZEVs) by the California Air Resources Board or have achieved a minimum green score of 40 on the American Council for an Energy Efficient Economy (ACEEE) annual vehicle rating guide. To learn more about LEVs and to find out if you drive one visit www.greencars.org. An LEV permit is required to park in these spaces and can be obtained from the Traffic Office.

Water Efficiency

The plumbing fixtures installed as part of the Francis Center renovation are all low-flow and expected to reduce potable water usage by 41%. The lavatory faucets use 0.5 gallons of water per minute and most have sensors to control how long they operate. The toilets have dual-flush handles. An upward flush uses 1.1 gallons of water and a downward flush uses 1.6 gallons. There are also low-flow shower heads.

Energy Efficiency

Energy efficiency was a priority in the redesign of the Francis Center. The energy efficient windows, insulation, occupancy sensors and an efficient heating and cooling system are some of the factors that contribute to the building's 22% energy efficiency improvement over the pre-renovation building. Skylights in the hallways provide natural light and reduce the need for artificial lighting. Windows were also provided in many offices and other spaces. Daylighting (natural light) has been shown to improve occupant well-being and productivity.



There is metering for water, natural gas and electricity, which allows for improved monitoring and tracking of consumption. Electricity usage will be available through the [Building Dashboard](#). One will be able to view and compare total use vs. lighting use, plug use and HVAC use.

Materials and Resources



In the Francis Center's renovation, building reuse was used to decrease the use of new materials. The design and construction focused on maintaining the existing exterior and structural walls, foundation and structural roof deck. Overall, 95% of the existing structural elements were maintained and reused. Products containing recycled content such as steel, drywall, carpet and others were used to reduce the need for virgin building materials. Based on cost, about 19% of the building materials contain recycled content. As an example, the drywall contains 95% pre-consumer recycled content and 5% post-consumer recycled content.

To reduce the impact of transporting the building materials and to support the regional economy, regional materials were used as much as possible. Based on cost, about 13% of the building materials were regionally sourced. Examples of regional building materials include metal framing, drywall and ceiling tiles. Certified wood was also used in the Francis Center renovation primarily for the wood doors. Certified wood comes from sustainably managed forests.

During construction, 96% of the construction waste was diverted from the landfill for recycling and/or reuse. Like every building on Elon's campus the Francis Center has recycling bins throughout. Elon's recycling program accepts all kinds of paper, cardboard, plastic, glass and metals.

Indoor Environmental Quality

Another essential part of the renovation of the Francis Center was the commitment to excellent indoor environmental quality. Great care was taken during construction to ensure the future building occupants and users would benefit from an environment free of contaminants. The ductwork was kept covered to prevent debris from accumulating, and a special sweeping compound was used to minimize dust. The entry way mats reduce the amount of dirt and pollutants entering the building.



In addition, the adhesives, sealants, paints, flooring systems and composite wood products used in the Francis Center contain low amounts of volatile organic compounds (VOCs). VOCs are responsible for the "new car smell". Low VOC containing products allow for better air quality during and after construction. Several of the furniture pieces in the Francis Center are GREENGUARD certified, meaning they have been tested by a third party and verified to contain low amounts of chemicals and particle emissions and have met acceptable indoor air quality guidelines and standards. GREENGUARD certification is a voluntary program used primarily by commercial/institutional furniture manufacturers. Many furniture items also contain recycled content.



Thermal comfort was also taken into consideration when renovating the Francis Center. The HVAC (heating, ventilating and air conditioning) system and building envelope were designed to meet the thermal comfort standards that allow for productivity and well-being of occupants. Additionally, the thermostats provided allow occupants to adjust the temperature to suit their personal thermal comfort within a pre-defined range. Occupants also have the ability to adjust light levels to suit their needs.

Carbon dioxide sensors are in classrooms and other large spaces as well as the ventilation system to monitor levels and maintain appropriate ventilation.

Innovation and Design Process

This category within LEED recognizes exemplary performance and innovative strategies not covered in previous categories. The construction waste diversion rate of 96% earned exemplary credit. The University's green cleaning program is being utilized in the Francis Center and was also recognized. Green cleaning improves indoor environmental quality for all occupants. It limits the amount of chemicals that affect human health and those that are released back into our waterways and environment.

The Francis Center will be added to the online real-time electricity monitoring system ([Building Dashboard](#)). The following items will be monitored and displayed: electricity (total consumption and broken down by HVAC, lighting and plug loads), water and natural gas. This system will allow occupants as well as anyone else to view and track the utility consumption in the building. Providing this information is part of the educational program for this building as is this web site and providing tours.

[If you would like a tour focusing on the sustainable features of the Francis Center, please contact us.](#)