

BOWIE STATE UNIVERSITY
CENTER FOR NATURAL SCIENCES,
MATHEMATICS, AND NURSING

Category: Institutional; **Location:** Bethesda, Maryland; **Project Completion Date:** June 2017;
Construction Cost: \$86.1 million; **Size:** 148,995 square feet; **LEED®:** Platinum

The design for Bowie State University's new Center for Natural Sciences, Mathematics and Nursing (CNSMN) directly addresses the mission and strategic plans put forth by the University System of Maryland, the Governor's STEM Taskforce, and Bowie State's expressed goals to produce highly skilled graduates in the scientific, mathematical, engineering, technological, and health professional fields. The design strategy intentionally co-locates mathematics, natural sciences and nursing into one connected community with shared facilities, resources, and programs.

The CNSMN building empowers students to discover a passion for their studies with features such as flexible classrooms, collaborative learning environments, a nursing simulation wing, glass-walled labs and classrooms with open floor plans, and a fully integrated greenhouse—with almost unobstructed access to outdoor views and daylight.

CNSMN features one of the nation's largest installations of Dynamic Glass, an important contributor to its expected LEED Platinum

Certification. By blocking sunlight, the controllable electrochromic properties of the glass will reduce energy demand, together with the chilled beam heating and cooling systems that separate fresh air ventilation needs from thermal loads.

The landscape seamlessly integrates with the building parti, emphasizing the continuity of space from the outside through the atrium. Math and science are also celebrated in the landscape through the use of the Fibonacci series as a recurring motif in stone banding, terraced benches, and stormwater elements.

The project's motto was "Arise, Advance, Amplify," signifying the institutional vision to engage students in studies that engender career interests. A comprehensive branding program reinforces the Vision: flat panel displays provide statistics, career path information, and inspirational stories, while wall murals in the departmental neighborhoods celebrate their respective disciplines, recalling organic and mathematical patterns of traditional African art.



East Elevation



North Elevation

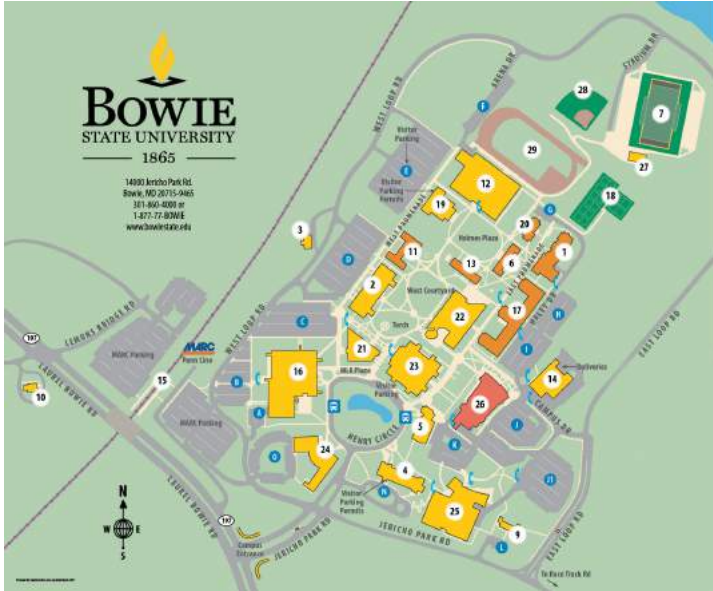


West Elevation

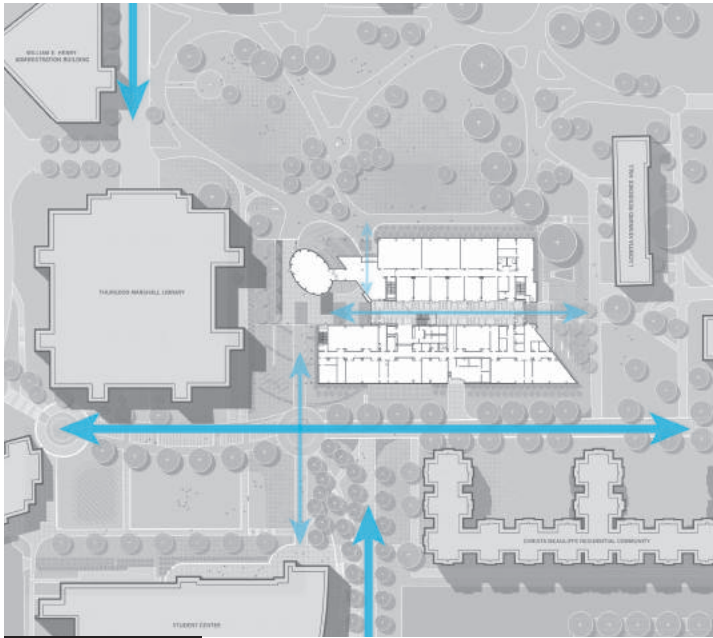


South Elevation(s)

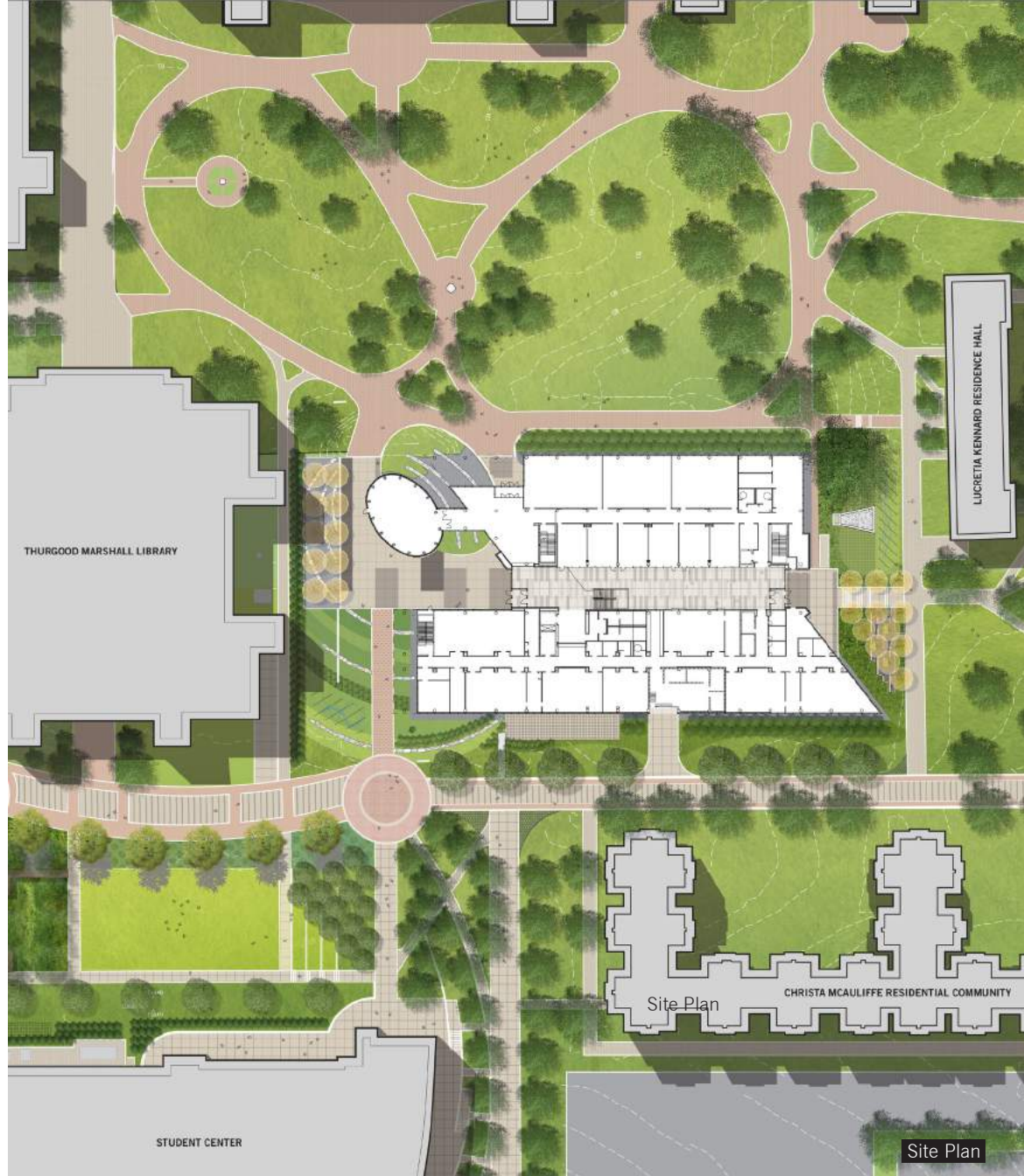


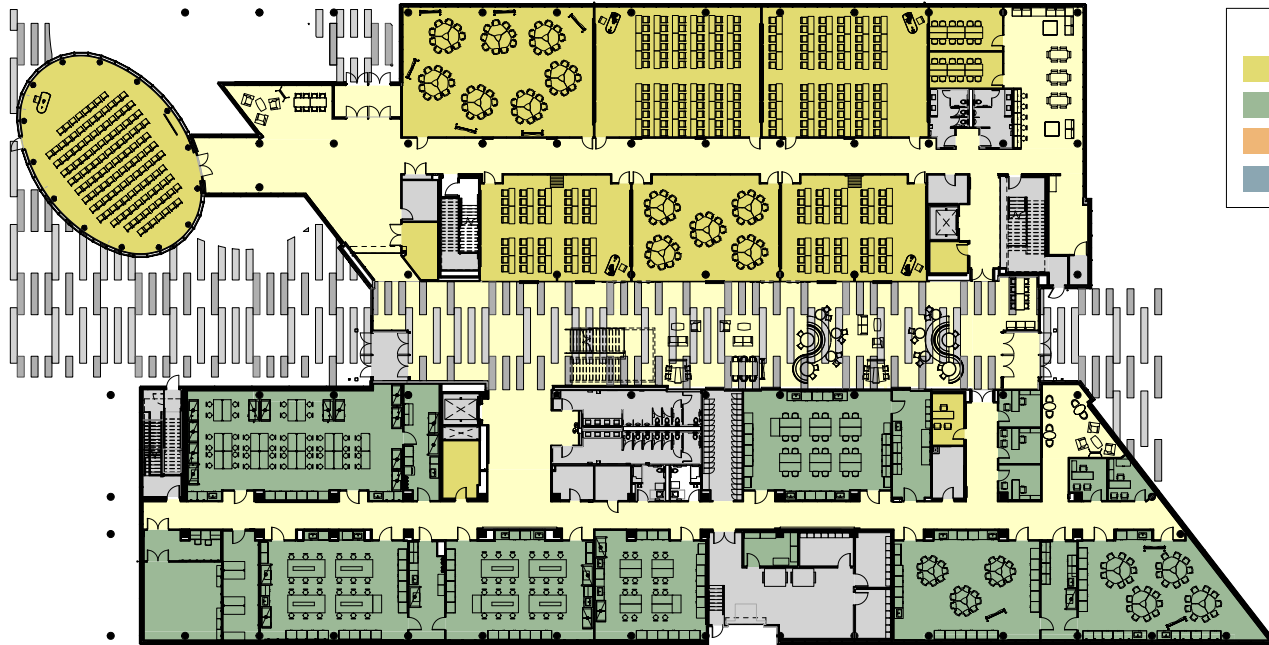


Campus Map

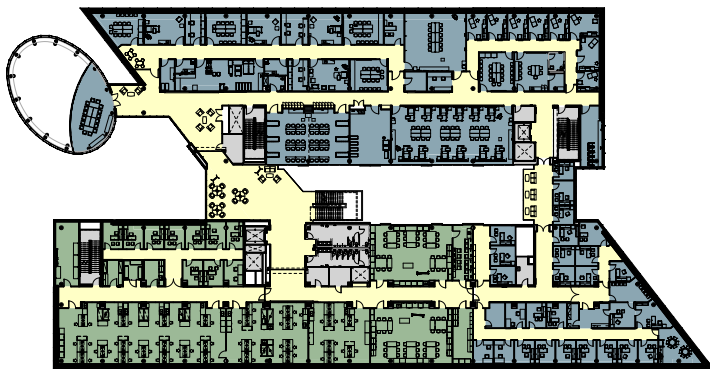
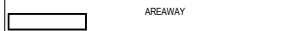


Circulation Diagram

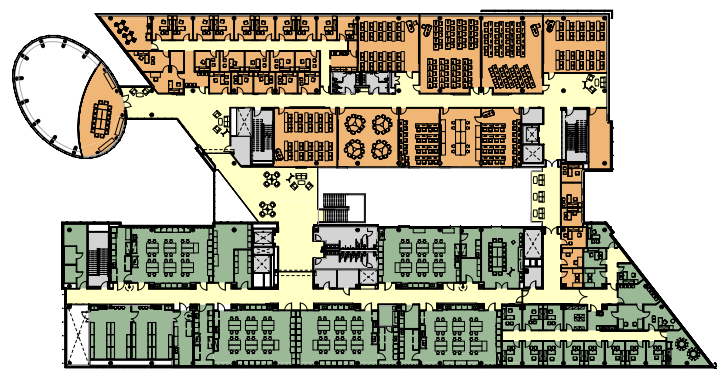




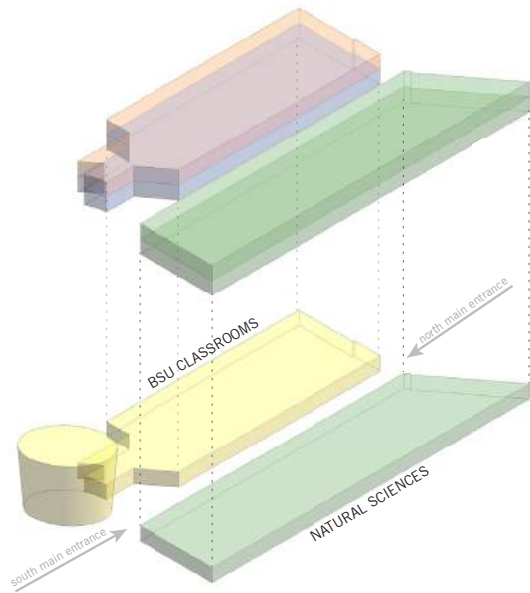
Level 01 Floor Plan



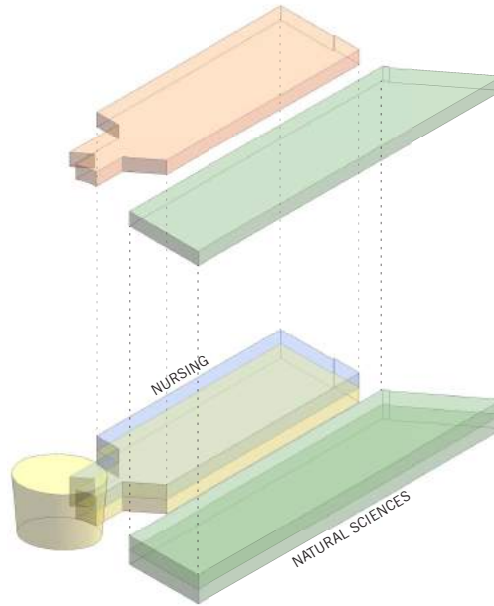
Level 02 Floor Plan



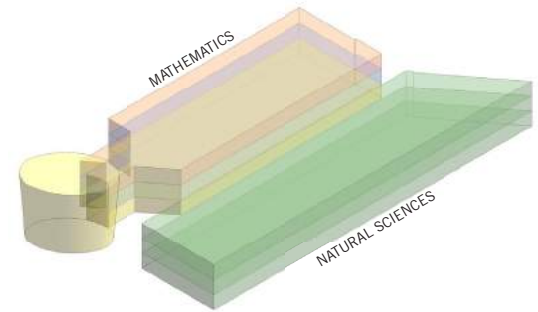
Level 03 Floor Plan



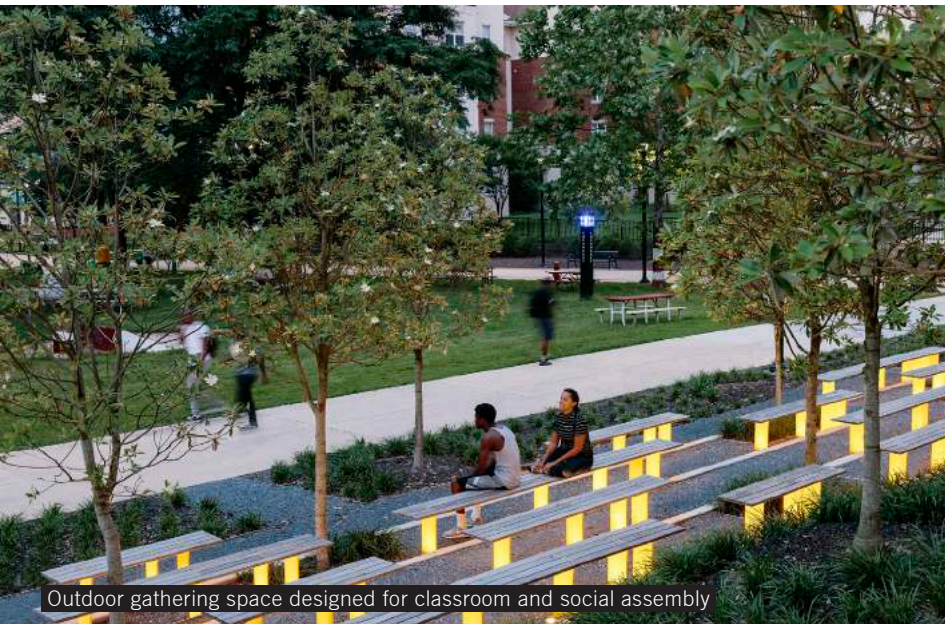
Level 01



Level 02



Level 03



Outdoor gathering space designed for classroom and social assembly



Glow of the Beacon with native drought tolerant plants



Classrooms overlook central commons



Ground level active learning classroom



General chemistry teaching lab



Patterns depicting images from each discipline



Nursing observation room



Clinical skills lab



Patient room

LEED Certification

With 89 points, the Center for Natural Sciences, Mathematics and Nursing at Bowie State University, earned high LEED Platinum Certification, becoming one of only three Maryland universities with this distinction. Some of the key sustainability features include:

- 25,000 square feet of dynamic glazing that tint on-demand to lower energy usage by 20 percent and peak energy demand by up to 26 percent
- A heating and cooling system including chilled beam technology with chilled water heat exchanger used as a convection to cut energy costs
- Sloped landscaping throughout the plaza that prevents rainwater from running onto paved surfaces
- A vibrant array of native deciduous shade trees in the building's plaza serving as a natural buffer from the sun's rays
- Native drought tolerant plants integrated to minimize water use

