rosstarrant architects

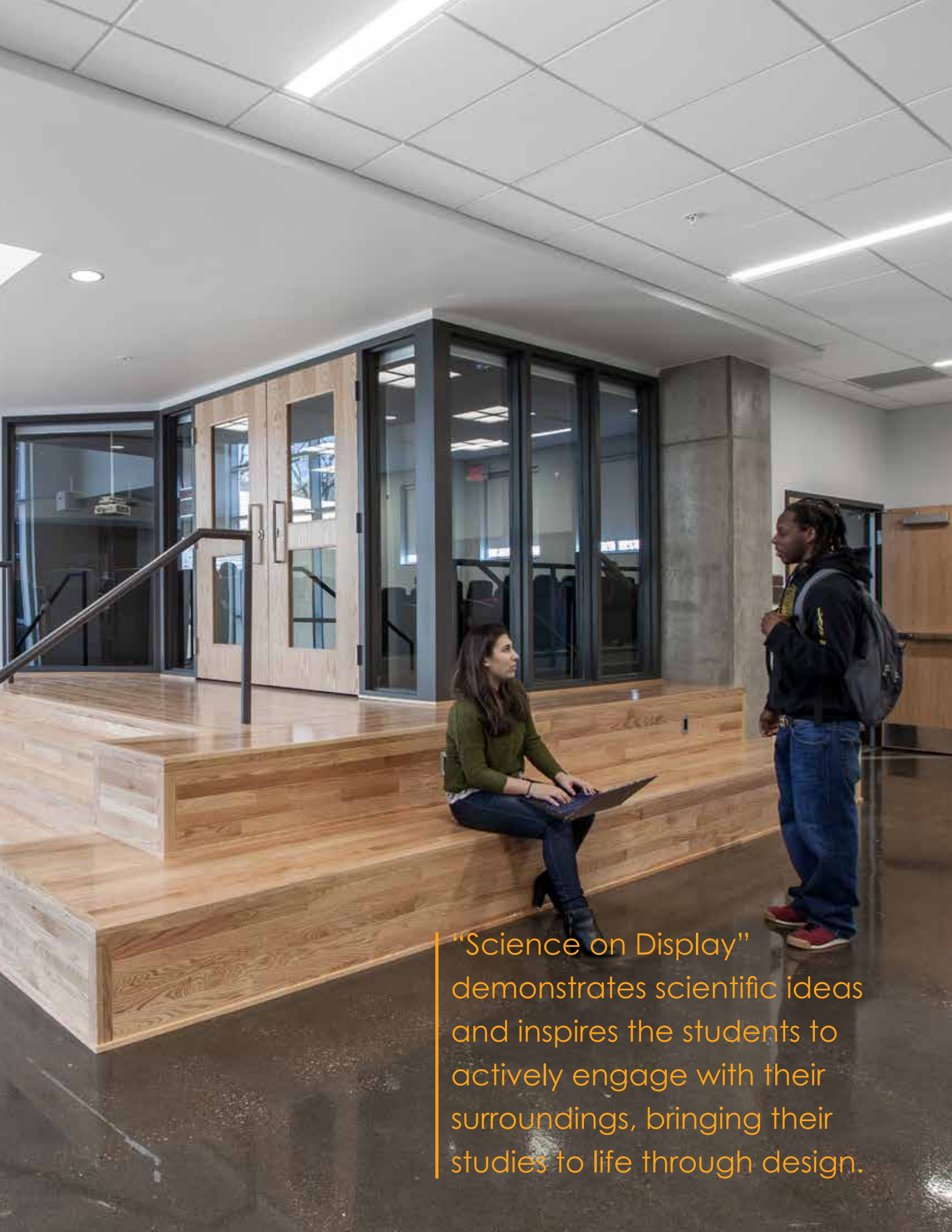
PUTTING SCIENCE ON DISPLAY

DESIGNING THE SILENT TEACHER AT WESTERN KENTUCKY UNIVERSITY'S OGDEN COLLEGE HALL

◀ BACKLIT METAL PANEL DEMONSTRATES THE CHANGING MOLECULAR STRUCTURE OF WATER AS IT CONVERTS FROM SOLID TO GAS

THE SILENT TEACHER

From the earliest phase of design, the concept of putting "Science on Display" was identified as an explicit goal for the Ogden College of Science and Engineering. The design team dug deep to explore materials, systems and design concepts that would create an environment that could teach through osmosis. The concepts the team explored went far beyond graphics adhered to the walls. The idea was to design a building that inspires engagement and critical thinking about scientific concepts. The design elements include artistic interpretations of scientific concepts as well as displays students can use while studying.

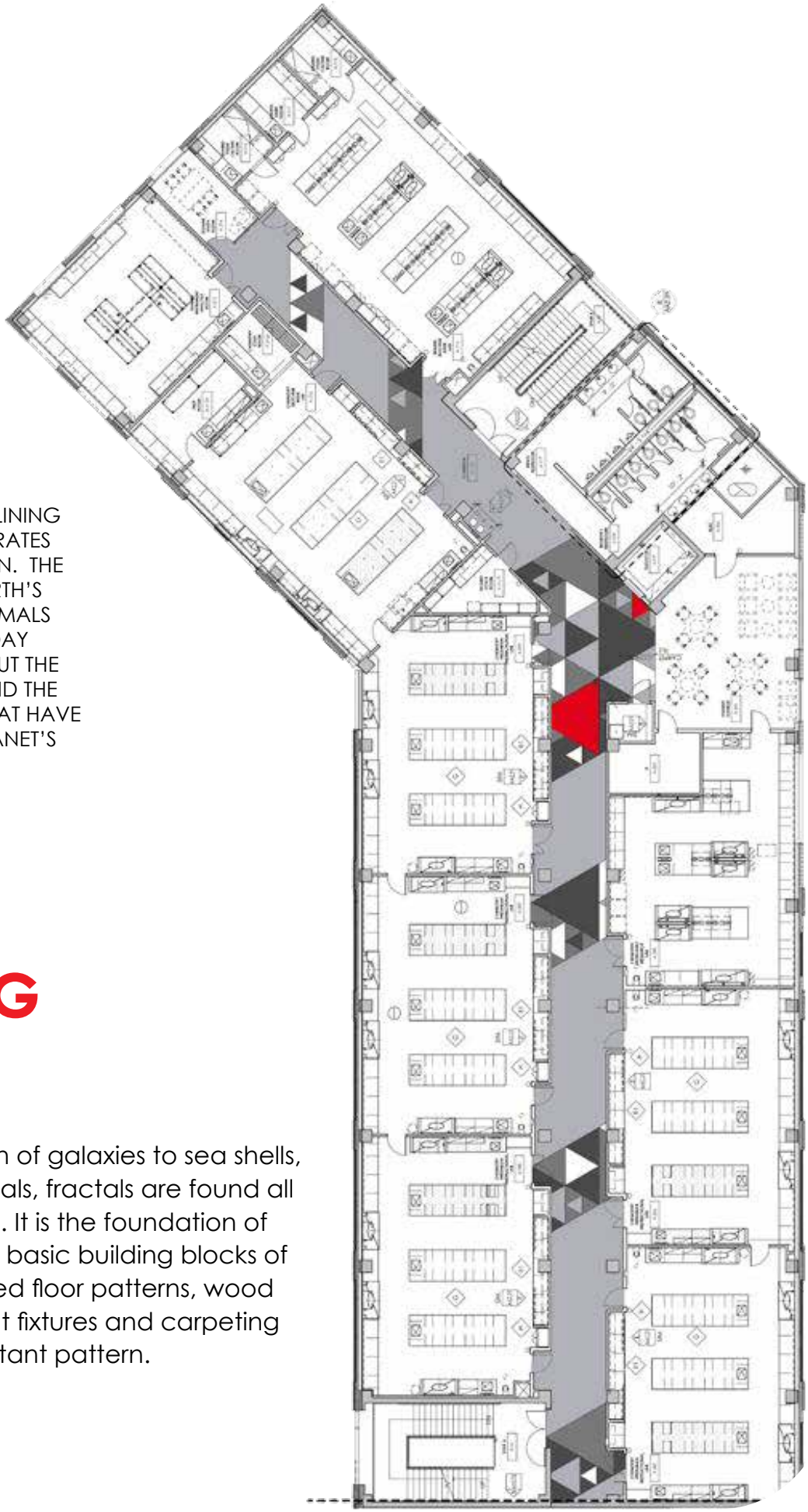


"Science on Display" demonstrates scientific ideas and inspires the students to actively engage with their surroundings, bringing their studies to life through design.

GROUND FLOOR

Fractals & Biology

When students realize they can interact with their environment, it becomes a teaching tool and they retain more.



A 146-FOOT-LONG, OVERSIZED GRAPHIC LINING THE CORRIDOR ILLUSTRATES PLANETARY EVOLUTION. THE PROGRESSION OF EARTH'S FIRST PLANTS AND ANIMALS TO THOSE FOUND TODAY TEACH STUDENTS ABOUT THE AGE OF THE EARTH AND THE MASS EXTINCTIONS THAT HAVE PUNCTUATED OUR PLANET'S RICH HISTORY.

◀

BUILDING BLOCKS

From the formation of galaxies to sea shells, lightning and crystals, fractals are found all throughout nature. It is the foundation of our DNA, the most basic building blocks of life. Custom-painted floor patterns, wood ceiling panels, light fixtures and carpeting illustrate this important pattern.

FIRST FLOOR

Sine Waves &
Astronomy / Physics

A UNIVERSAL SINE

All departments in the building share the first floor, so its design is inclusive of all sciences. A large display gallery is located outside the auditorium to showcase student and faculty work and will feature a space suit worn by Astronaut Terrence Wade Wilcutt, a WKU graduate.

A series of sine waves—the patterns found in wind, light and sound—are featured in lighting, floor patterns and carpet. A 70-foot-long soffit representing DNA hangs over a large study area.

▲

OTHER SCIENCE-BASED ART IS INCORPORATED INTO THE FIRST FLOOR, INCLUDING AN ART INSTALLATION CALLED "INCUBATE" BY KRISTINA ARNOLD AND A LIGHTED WALL REPRESENTING THE PHASE CHANGE OF MATERIAL FROM SOLID TO LIQUID (SEE PAGE 2).

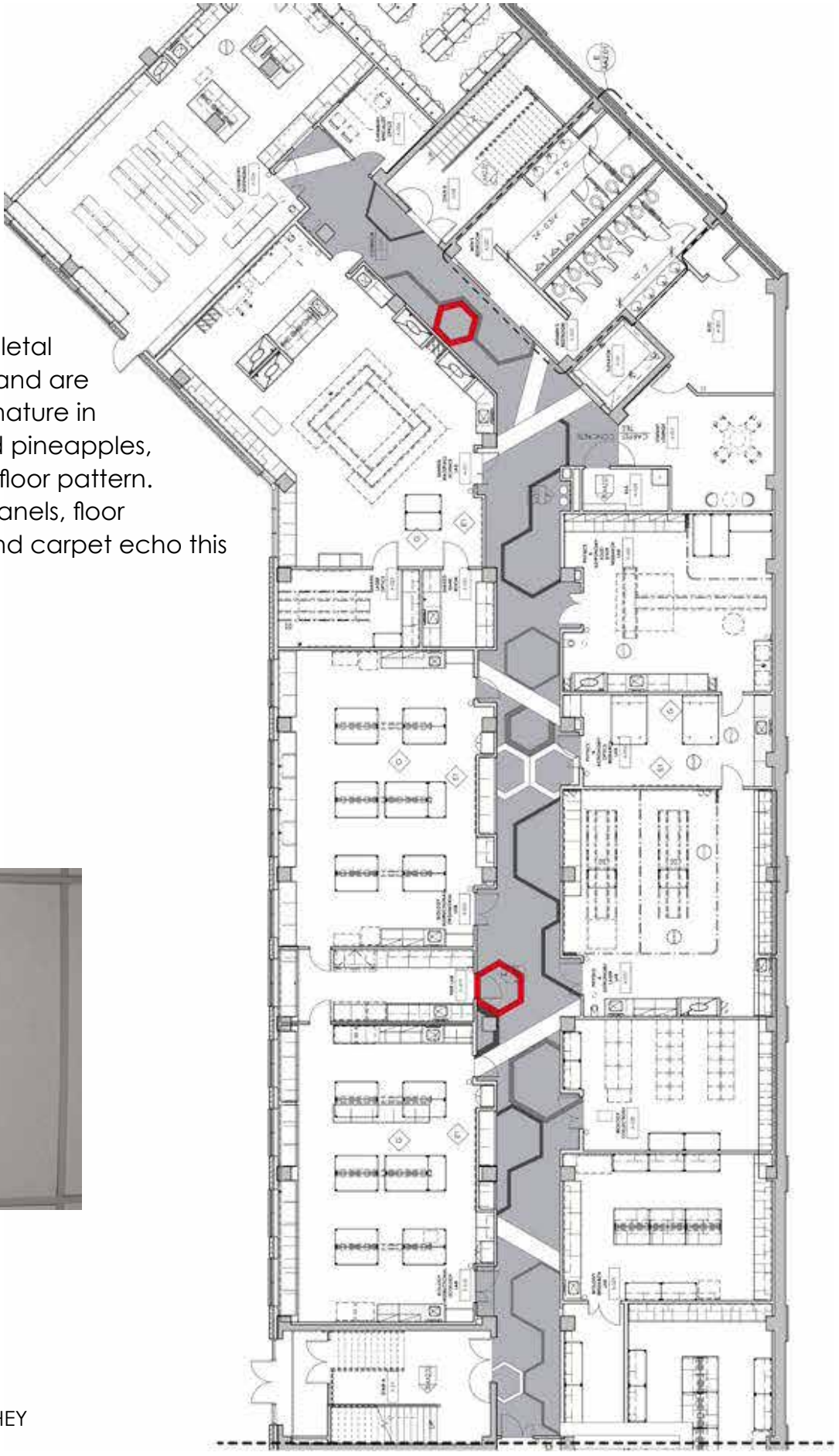
SECOND FLOOR

Hexagons & Chemistry

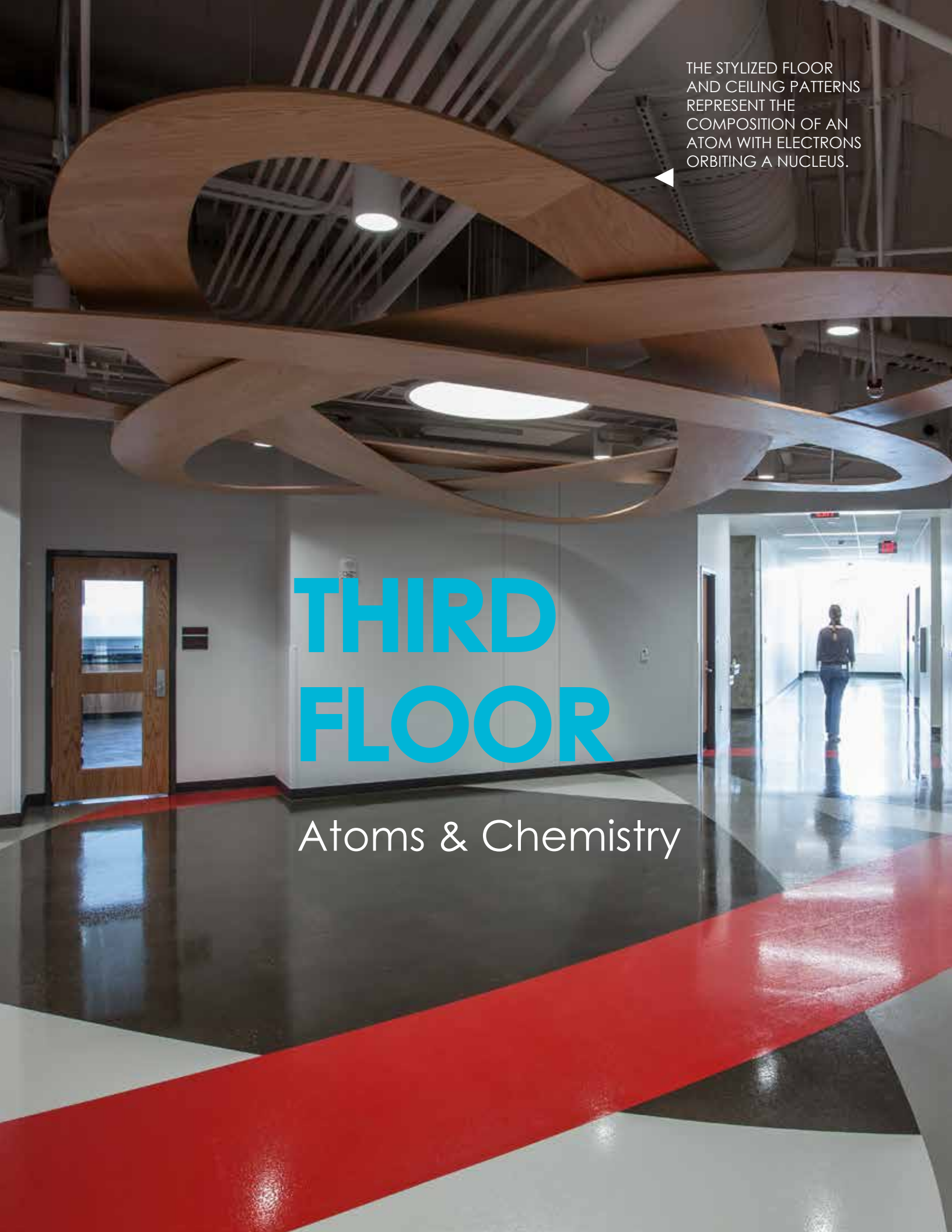
Educational facilities don't have to be static; they can be dynamic and students can and will learn from their surroundings if learning opportunities are presented to them.

NATURAL BEAUTY

The second and third floors are primarily chemistry labs. Hexagons, which are typically used in skeletal formulas for molecules and are also found throughout nature in things like beehives and pineapples, are used in the custom floor pattern. Custom wood ceiling panels, floor patterns, light fixtures and carpet echo this fundamental shape.



▲
THROUGHOUT THE SECOND AND THIRD FLOORS CEILING TILES DEPICT DIFFERENT PERIODIC ELEMENTS, CHALLENGING STUDENTS TO FIND ALL THE ELEMENTS AS THEY EXPLORE THE BUILDING.



THE STYLIZED FLOOR AND CEILING PATTERNS REPRESENT THE COMPOSITION OF AN ATOM WITH ELECTRONS ORBITING A NUCLEUS.

THIRD FLOOR

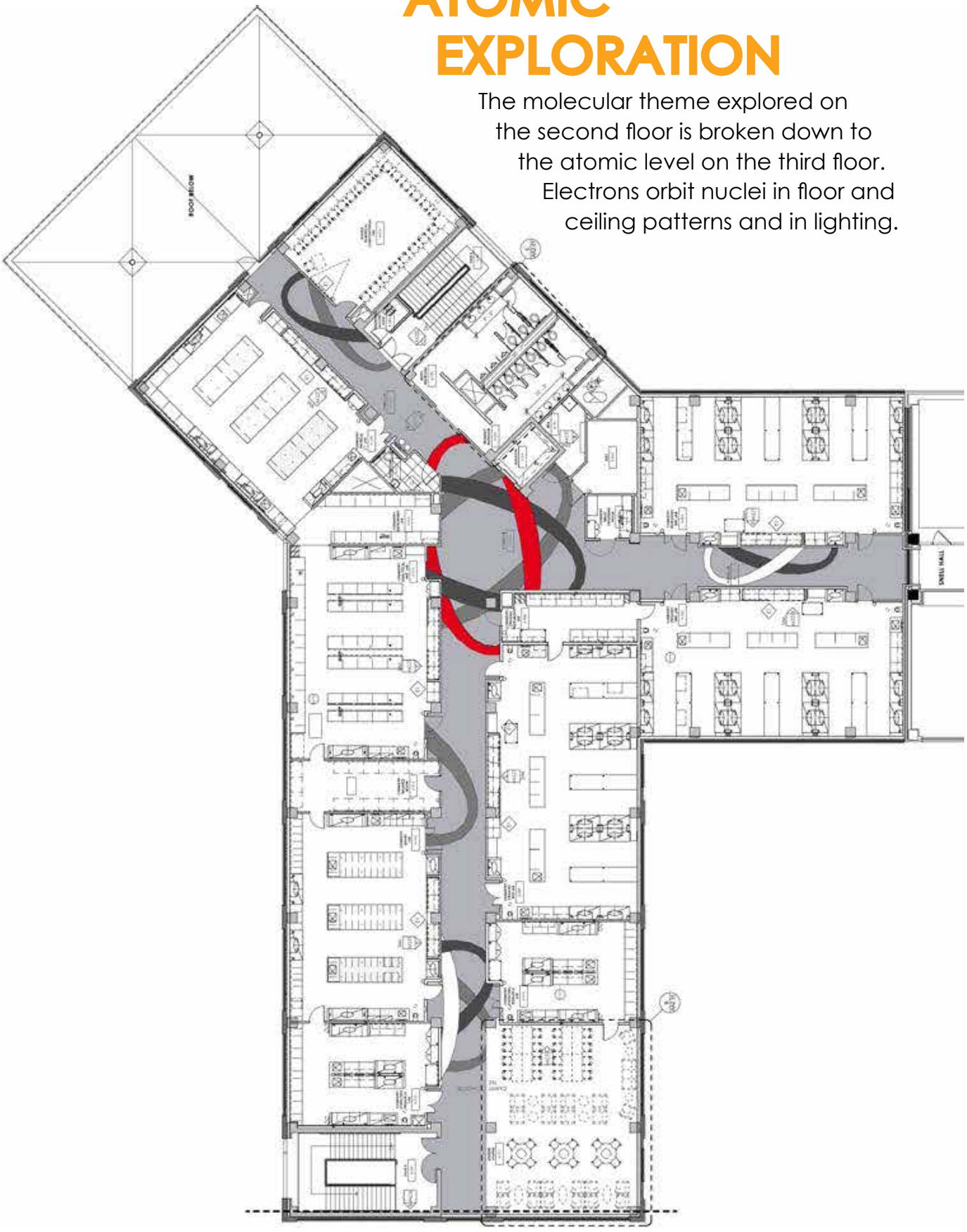
Atoms & Chemistry

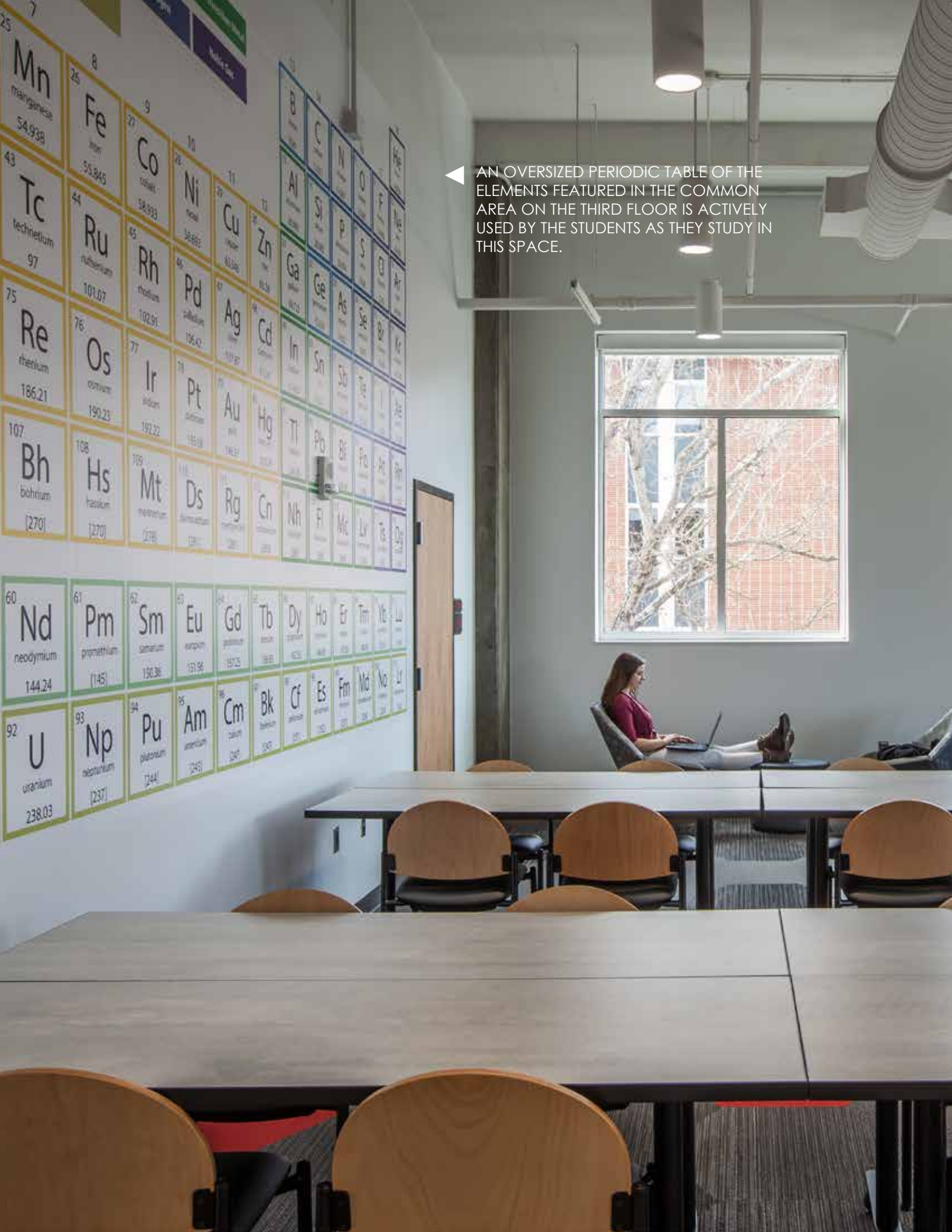
HEXAGONS ARE FOUND IN NATURE'S BEEHIVES, INSECT EYES, SNOWFLAKES AND TORTOISE SHELLS. WE HAVE SEVERAL BILLION HEXAGONS IN OUR BODIES IN THE FORM OF CARBON. HEXAGONAL ELEMENTS ARE ALSO FEATURED IN THE DESIGN OF THE THIRD FLOOR ▶

LIGHTING IN A SOFFIT ON THE THIRD FLOOR DEPICTS THE MOLECULAR FORMULA FOR CAFFEINE ▼

ATOMIC EXPLORATION

The molecular theme explored on the second floor is broken down to the atomic level on the third floor. Electrons orbit nuclei in floor and ceiling patterns and in lighting.





AN OVERSIZED PERIODIC TABLE OF THE ELEMENTS FEATURED IN THE COMMON AREA ON THE THIRD FLOOR IS ACTIVELY USED BY THE STUDENTS AS THEY STUDY IN THIS SPACE.

◀ OVERSIZED GRAPHICS IN EACH STAIRWELL SPELL OUT "WKU" AND "OGDEN" USING PERIODIC TABLE SYMBOLS. FULL-HEIGHT WINDOWS ENABLE THESE ELEMENTS TO SERVE AS A BEACON.

CONNECTIONS

Building Blocks

▲ A LARGE, CUSTOM DISPLAY PANEL OUTSIDE THE MAIN ENTRY REPRESENTS KENTUCKY NATURAL STATE SYMBOLS.

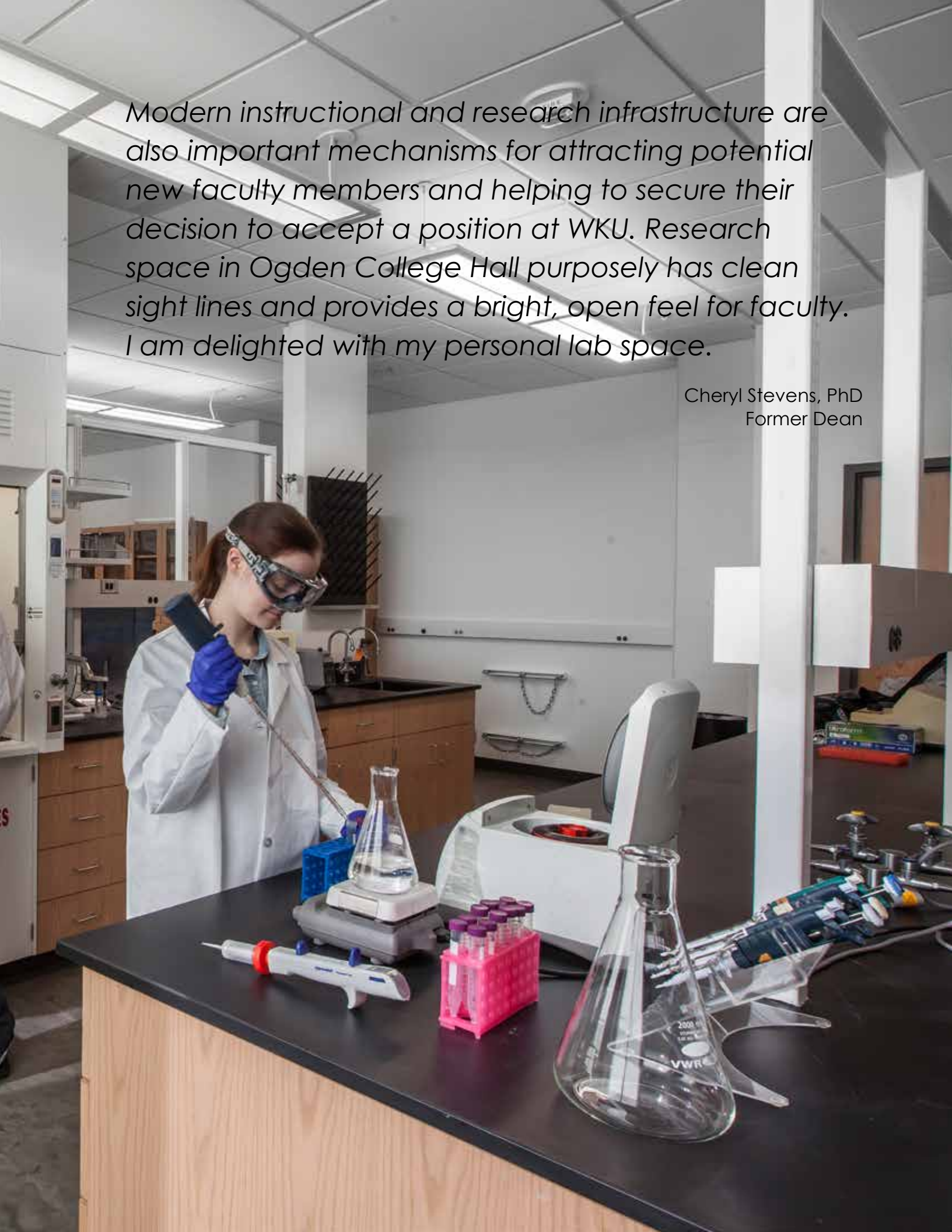
◀ TREES THAT HAD TO BE REMOVED TO ENABLE CONSTRUCTION WERE HARVESTED AND USED IN COMMON AREAS THROUGHOUT THE BUILDING.

RESULTS

Walking through the building today, it is evident that the overarching theme of "Science on Display" was a success. Students are found at all hours in each of the study lounges. They are working in groups, studying independently and talking to faculty.

BUILDING STATS

Project Size	82,900 square feet
Project Budget	$48,000,000
Recognition	LEED Gold Certified
	WELL Gold Certified (v2)
	2018 Shaw Contract Award for Education & People's Choice Finalist



Modern instructional and research infrastructure are also important mechanisms for attracting potential new faculty members and helping to secure their decision to accept a position at WKU. Research space in Ogden College Hall purposely has clean sight lines and provides a bright, open feel for faculty. I am delighted with my personal lab space.

Cheryl Stevens, PhD
Former Dean

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