



Fowler Academic Building

Rose-Hulman Institute of Technology

CATEGORY: New Construction (Greater than \$5M)
PROJECT TYPE: Higher Education Teaching & Research Facility
ADDRESS: 5500 Wabash Ave., Terre Haute, IN 47803
COMPLETION: July, 2021
CERTIFICATION: WELL Silver

Architect's Statement

Rose-Hulman Institute of Technology is consistently ranked among the nation's top undergraduate engineering schools. With a legacy of innovation inside and outside the classroom, the institution strives to foster an environment of individual support. In an era of increasing student burnout, Rose-Hulman puts student wellness first.

This commitment is embodied in the Fowler Academic Building — a three-story hub of chemistry labs, active-learning classrooms, and flexible workshops designed for human comfort as well as scientific rigor. Backed by campus leadership, the design team pursued the highest standards of building wellness through all aspects of the project, achieving WELL Building Standards certification.

Sustainability and student appeal begin outside with intentional landscape features such as bioswales for stormwater management and extends to every inviting furniture choice and fractal-inspired fabric pattern inside. Interior spaces feature innovative daylighting strategies, unprogrammed "relief" areas with soft seating and sound control to combat lab fatigue, an "irresistible stair" that promotes physical activity, and an interactive art installation that reinforces Circadian rhythms with responsive light levels and hues.

Rose-Hulman is redefining the design paradigm for scientific facilities — and the world of higher education is taking note. Following the building's completion, Rose-Hulman was ranked #1 in the nation for its science lab facilities by The Princeton Review in 2022, and the Fowler Academic Building became Indiana's first WELL-certified higher education facility.



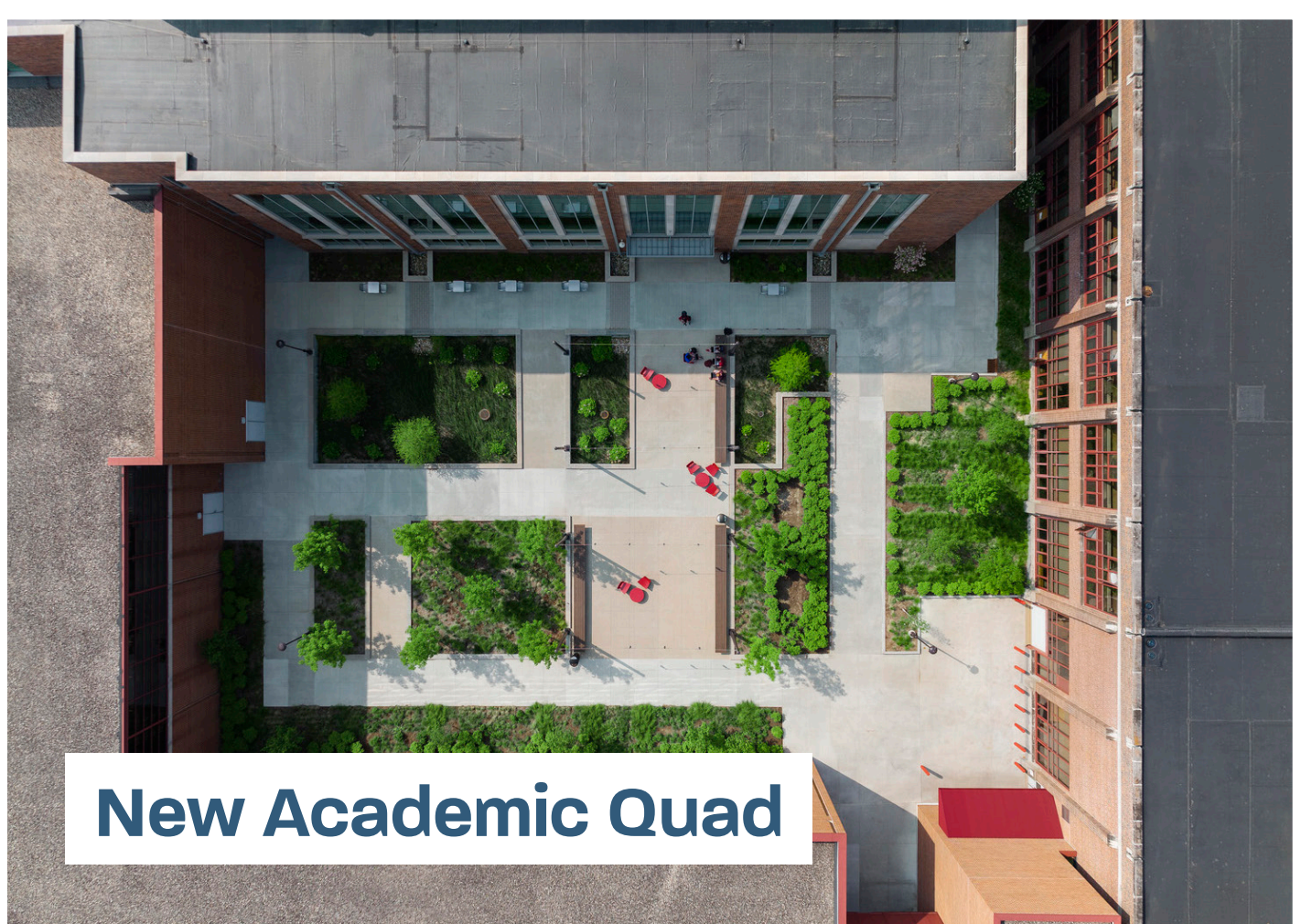


Myers Hall
(1997)

Fowler Academic Building

Moench Hall
(1992)

Root Quad



New Academic Quad

Design for Integration

Campus leadership envisioned this project as a “Window into Rose” — celebrating Rose-Hulman’s traditions while looking boldly to the future. This vision guided every design decision, from the exterior expression to the interior user experience.

The building fits harmoniously within the campus context, unifying the academic core through careful integration with adjacent Moench and Myers Halls, both in scale and materiality. Circulation connects all three buildings seamlessly.



Limestone cladding frames glazed openings as a direct nod to the “Window into Rose” concept, showcasing the learning within. Cantilevered glazing with integrated sunshades symbolizes forward thinking and connects users to the interior atrium where active learning is always visible.



Sustainability

Sustainability and biophilic design guide every aspect of the Fowler Academic Building. A three-story “canyon” sculpts daylight into all levels, while glass apertures connect occupants to exterior green spaces. Fractal patterns appear in carpet, wallcoverings, and upholstery, repeating at different scales to support mental well-being.

A central “irresistible stair” encourages movement, and an interactive custom art installation reinforces Circadian rhythms with dynamic light levels and hues.

The building achieved WELL Building Standards certification, meeting stringent requirements for clean air, pure water, daylight access, lighting quality, fitness, thermal and acoustic comfort, and cognitive and emotional well-being.

At the time of construction in 2021, only a handful of higher education STEM buildings in North America had achieved WELL certification — and this was Indiana’s first.

“Achieving WELL Certification for our New Academic Building is a significant step forward in our efforts to embed sustainability, health, and wellness into our campus. Our Board of Trustees supports healthy living for students, faculty, and staff and pursued WELL Certification to further that goal. We want our buildings to be functional, economical, and beneficial to our educational mission.”

Robert A. Coons
President, Rose-Hulman Institute of Technology





Design for Wellbeing

Biophilic Design

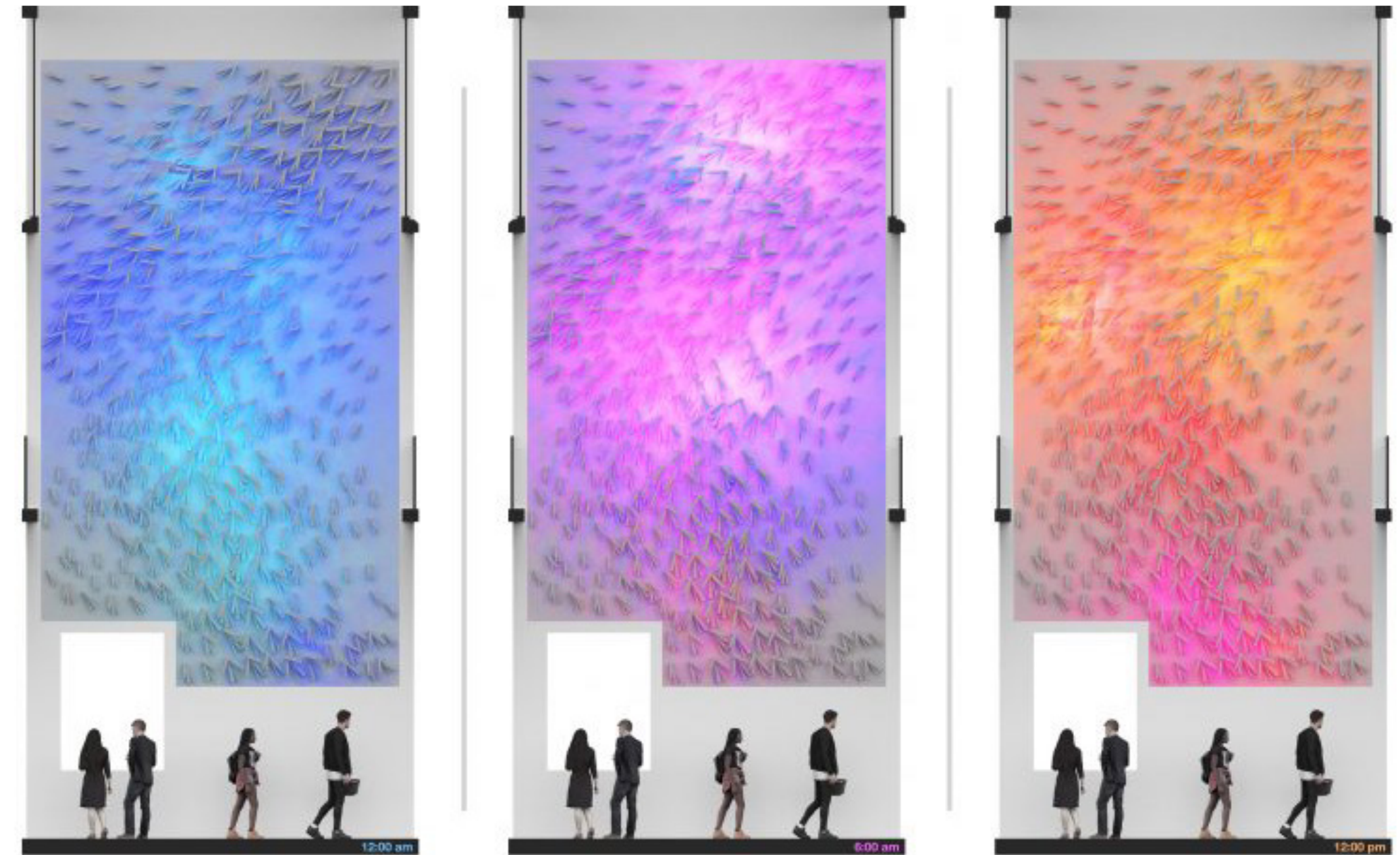
Nature is woven throughout the building, from custom interior planters and furniture choices to fractal-inspired fabrics and wallcoverings. Generous glazing ensures daylight reaches every habitable space. A three-story daylight "canyon" illuminates the central stair suspended within clerestory-lit light wells. In research labs, large fume hoods are positioned inward, prioritizing daylight and views to nature.



12:00 AM

6:00 AM

12:00 PM



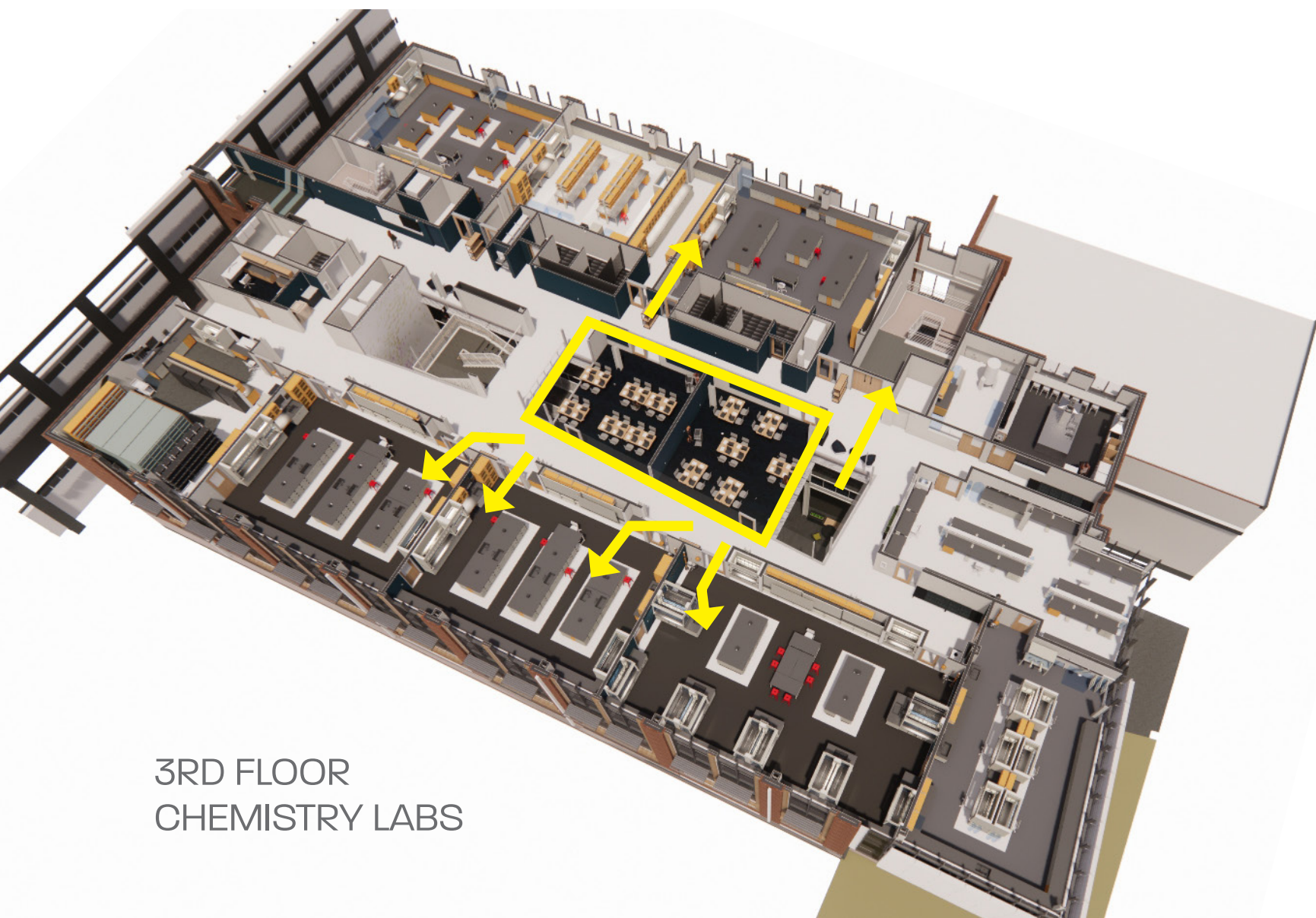
Design for Wellbeing

Art Installations

In conjunction with the design team, Project One Studio created *Depth of Field*, an art installation located in the atrium which can be viewed from all three levels. The work aims to promote interactions, creativity, and a healthy learning environment. To promote student wellness, the light levels and hues are designed to enhance user's Circadian rhythms: an ever-changing ambient lighting technique reflects the passage of time and changing seasons, as well as activity and occupancy of the space. This installation was also designed as a "building soundtrack." As the student activity increases in the atrium, sensors within the installation increase light levels and movement to correspond to the student activity of the space.

To enhance mental wellbeing the design team used fractal patterns as a design element – in carpet, graphic wallcovering, and upholsteries – repeating at different scales throughout the building. A central “irresistible stair” encourages movement, and an interactive custom art installation reinforces Circadian rhythms with appropriate light levels and hues.





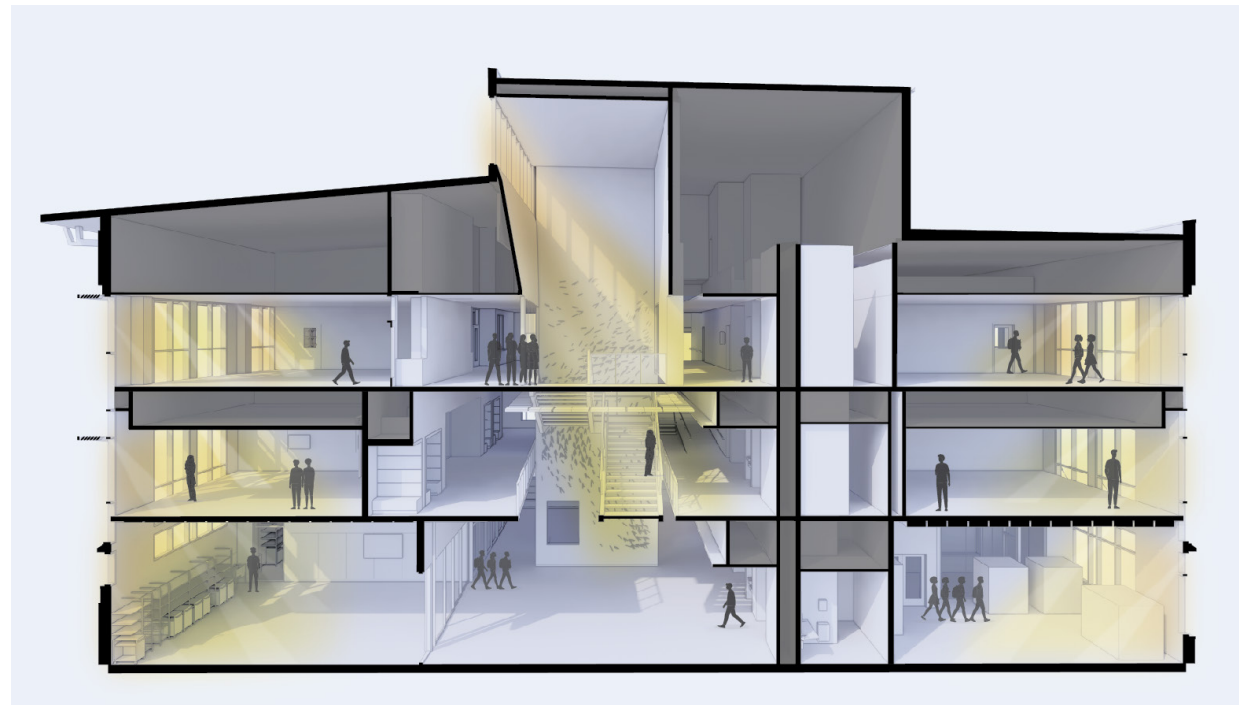
3RD FLOOR
CHEMISTRY LABS

Design for Wellbeing

Lab Relief Spaces

University lab spaces have traditionally subjugated student and faculty comfort in service of hard science, but a design paradigm shift is underway. In an effort to prioritize human needs — like daylight, hydration, and noise control — Rose-Hulman and the design team re-designed the lab and classroom experience. Non-scheduled data analysis classrooms provide a restorative break from the lab environment. Instead of enduring a lab environment for three to four hours straight, students start and end each lab day in a centrally-located, goggle-free classroom for instruction and write up where they can hydrate before starting labs and decompress afterwards.





The main building components are oriented around a three-story “canyon” which sculpts daylight from above to permeate each level. The central monumental stair is suspended within light wells produced from the clerestory glazing above. In research labs, large fume hoods are moved away from the building facade and positioned inward to prioritize daylight and connection to nature with views to the campus.



Generous daylight wells flank these classrooms, ensuring access to natural light at all times.

Design for Discovery

The user experience encourages collaboration and hands-on learning — core tenets of a Rose-Hulman education. Flexible workshop studios, prototype labs, and maker spaces directly support the engineering design program and senior capstone projects.

Rather than a single, multi-use maker space, the design separates activities by noise level, risk, and hours of use. Flexible wall systems allow workshop studios to open to the central atrium, creating larger spaces for presentations, events, or competitions as needed.



HEAVY MACHINE SHOP



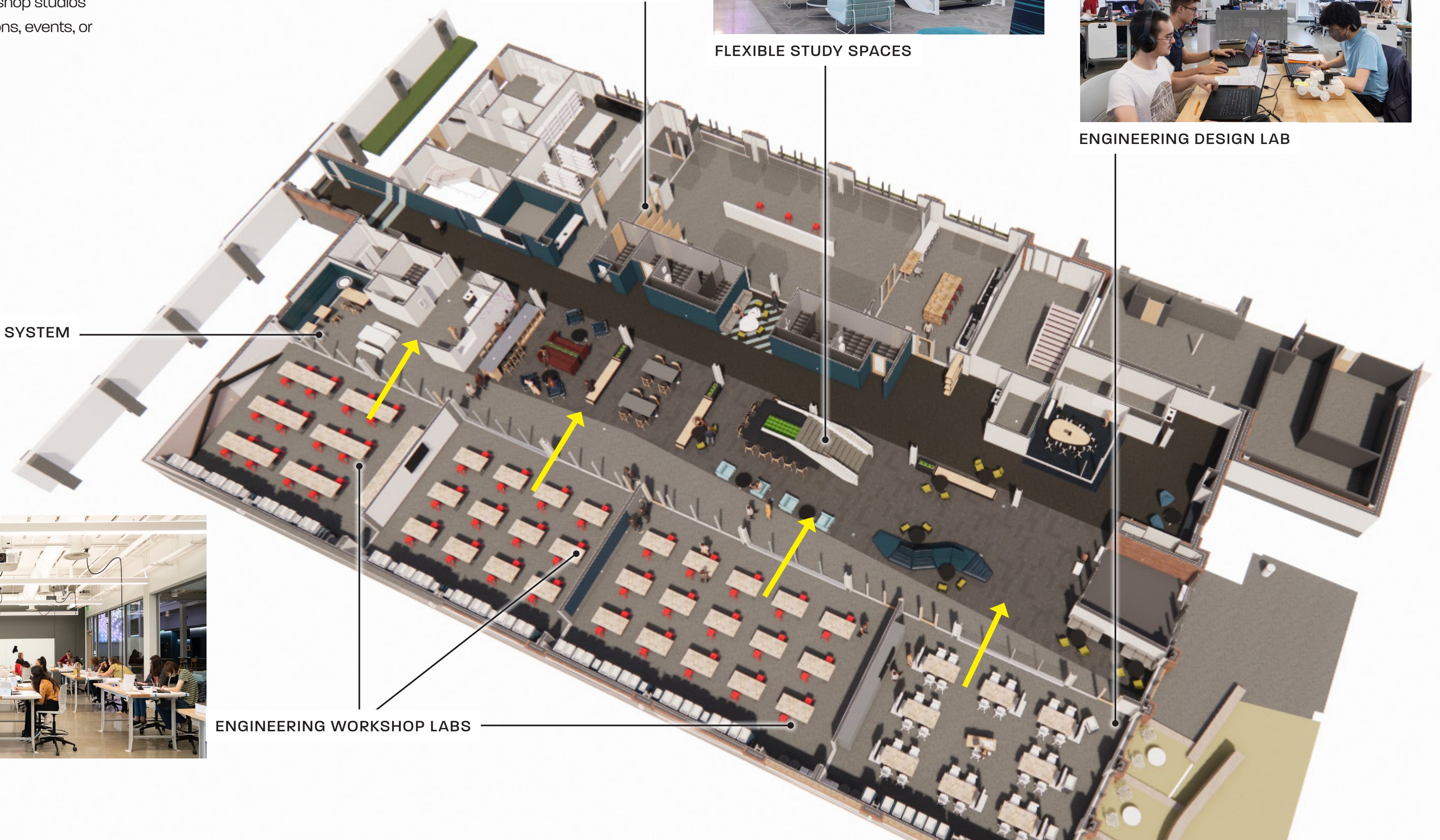
FLEXIBLE STUDY SPACES



ENGINEERING DESIGN LAB



FLEXIBLE WALL SYSTEM



ENGINEERING WORKSHOP LABS

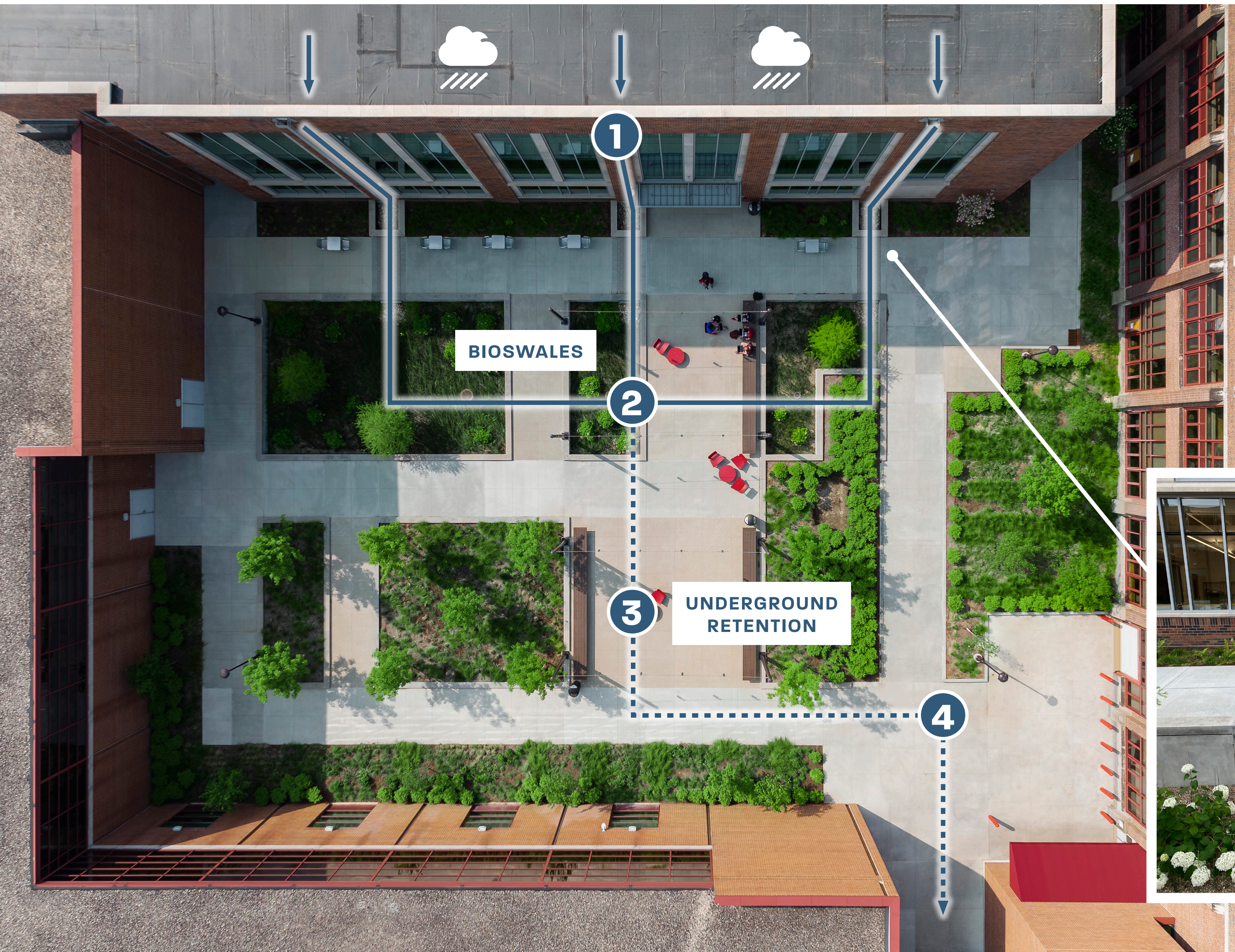
1ST FLOOR FLEXIBLE WORKSHOPS





Breakout spaces of different scales and configurations provide opportunities for students to team together outside the classroom.

These interaction zones are organized by noise and activity level, starting with quieter areas and transitioning to more active spaces near main pathways. This layout keeps noisier teamwork zones audibly separate from spaces meant for individual focus or quiet work.



Design for Water & Ecosystems

Thoughtful siting and landscape design create a new academic quad for Rose-Hulman. The central courtyard offers students a quiet, green gathering space adjacent to the bustling makerspace.

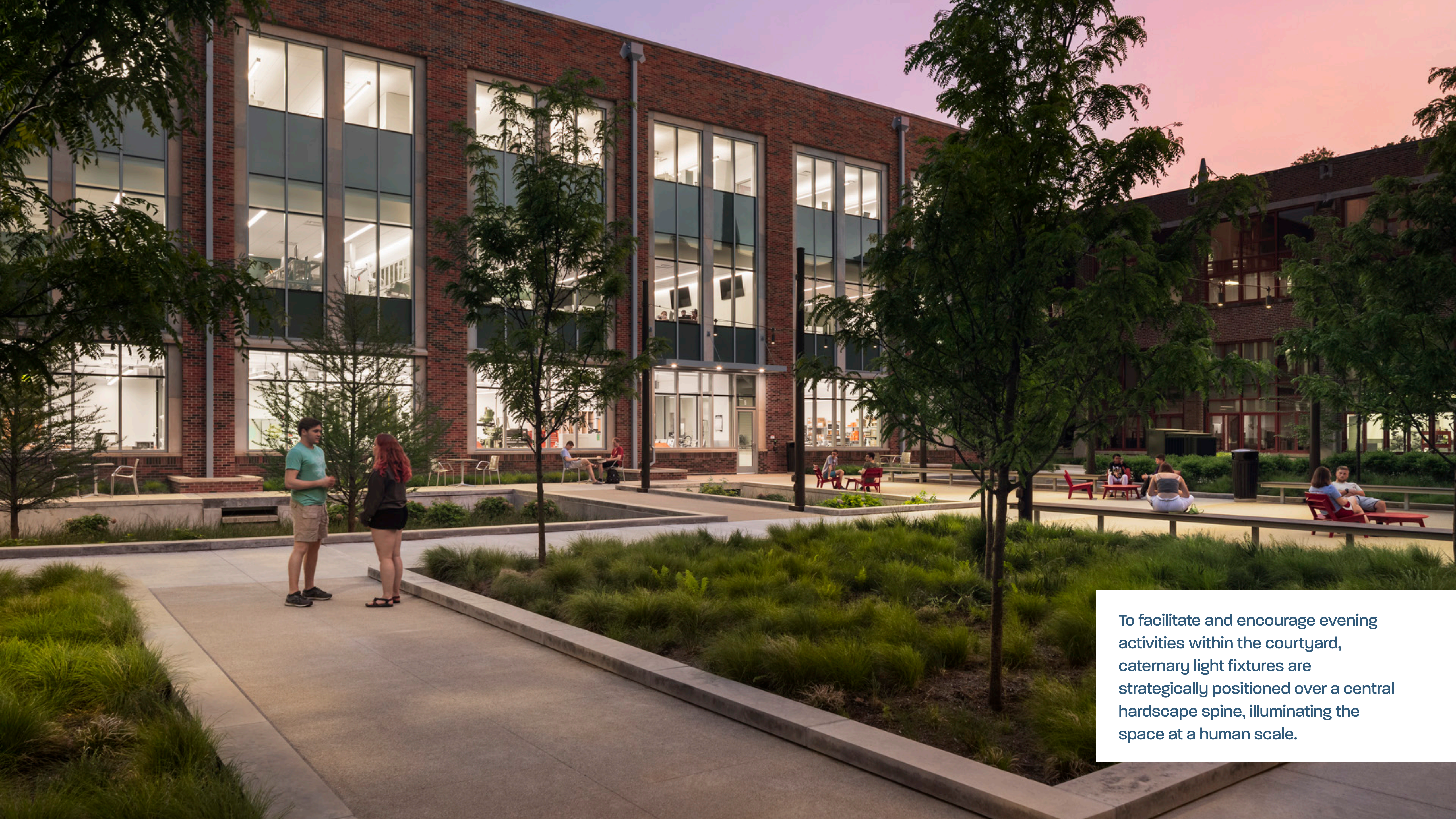
More than a social hub, the courtyard is an active water-filtration system. Three bioswales filter stormwater from the roof, holding and purifying runoff before gradually releasing it back to the storm system.

The entire water journey is celebrated: roof runoff flows down exposed downspouts into stone-filled capture basins, through sidewalk runnels, and finally into the bioswales — creating a visible, teachable system for civil engineering students.

The Journey of Water

- 1 Roof rainwater is diverted to three main scuppers and downspouts to grade.
- 2 Rainwater travels beneath the sidewalk in runnels to bioswales.
- 3 After filtration from plantings, water is held by underground detention structures.
- 4 Stormwater is released back to the public utility system.





To facilitate and encourage evening activities within the courtyard, catenary light fixtures are strategically positioned over a central hardscape spine, illuminating the space at a human scale.



Design for Equitable Communities

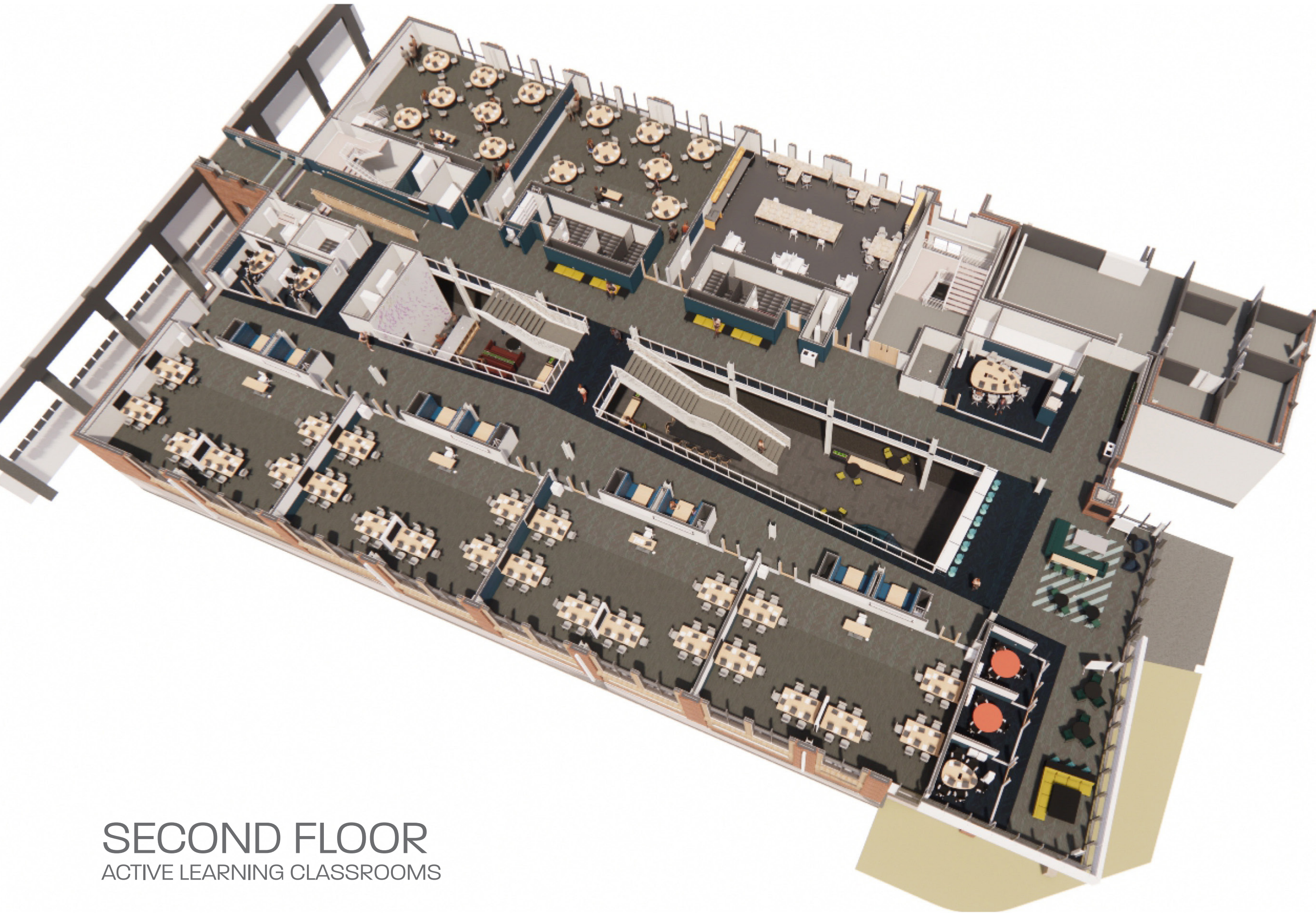
Community outreach is central to the Fowler Academic Building's mission. In summer, design and fabrication labs host local workshops and programs like Rose Power, which empowers 9th-grade girls to explore STEM alongside RHIT faculty and students. Flexible labs accommodate multiple programs at once and open up for group presentations through operable wall systems.

Several safety and security measures were considered to help facilitate these programs. Within the labs, a custom-designed furniture system in the design workshops allow for long-term project storage to be wheeled out to each project bench and stored away when not in use. The access control system was designed so that each camper is given a card that is programmed to allow access to their design lab/workshop at designated times. Finally, hand and power tools are kept in a separate secure room so that they can be checked out as needed by instructors based upon the skill level of the campers.

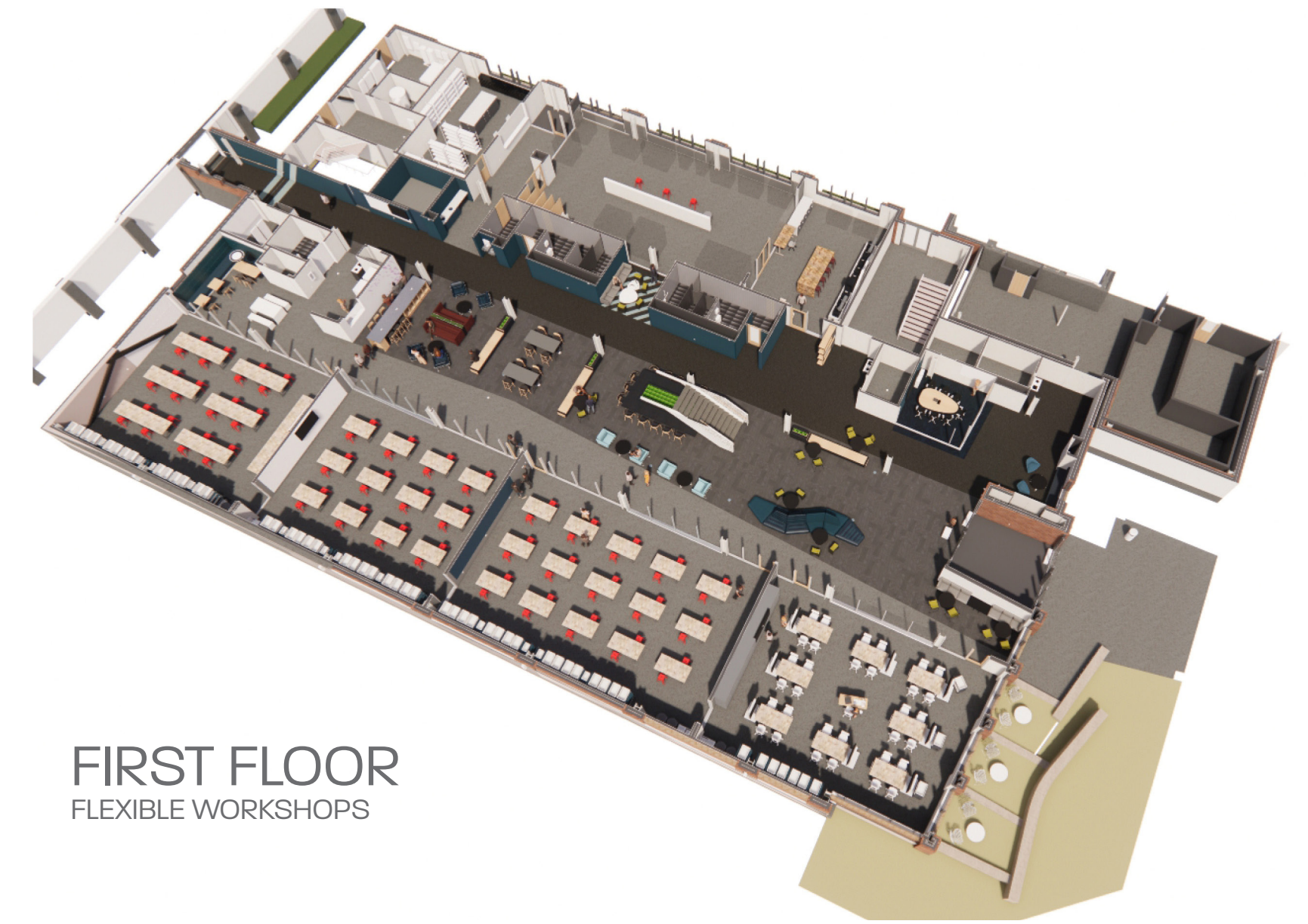
The building also houses a Food Science and Engineering Laboratory, where students test food chemistry concepts in a safe, goggle-free space — addressing real-world issues like nutrition, sustainability, and food production. This lab engages industry partners and hosts community classes, extending the building's reach beyond campus.

AXON DIAGRAMS

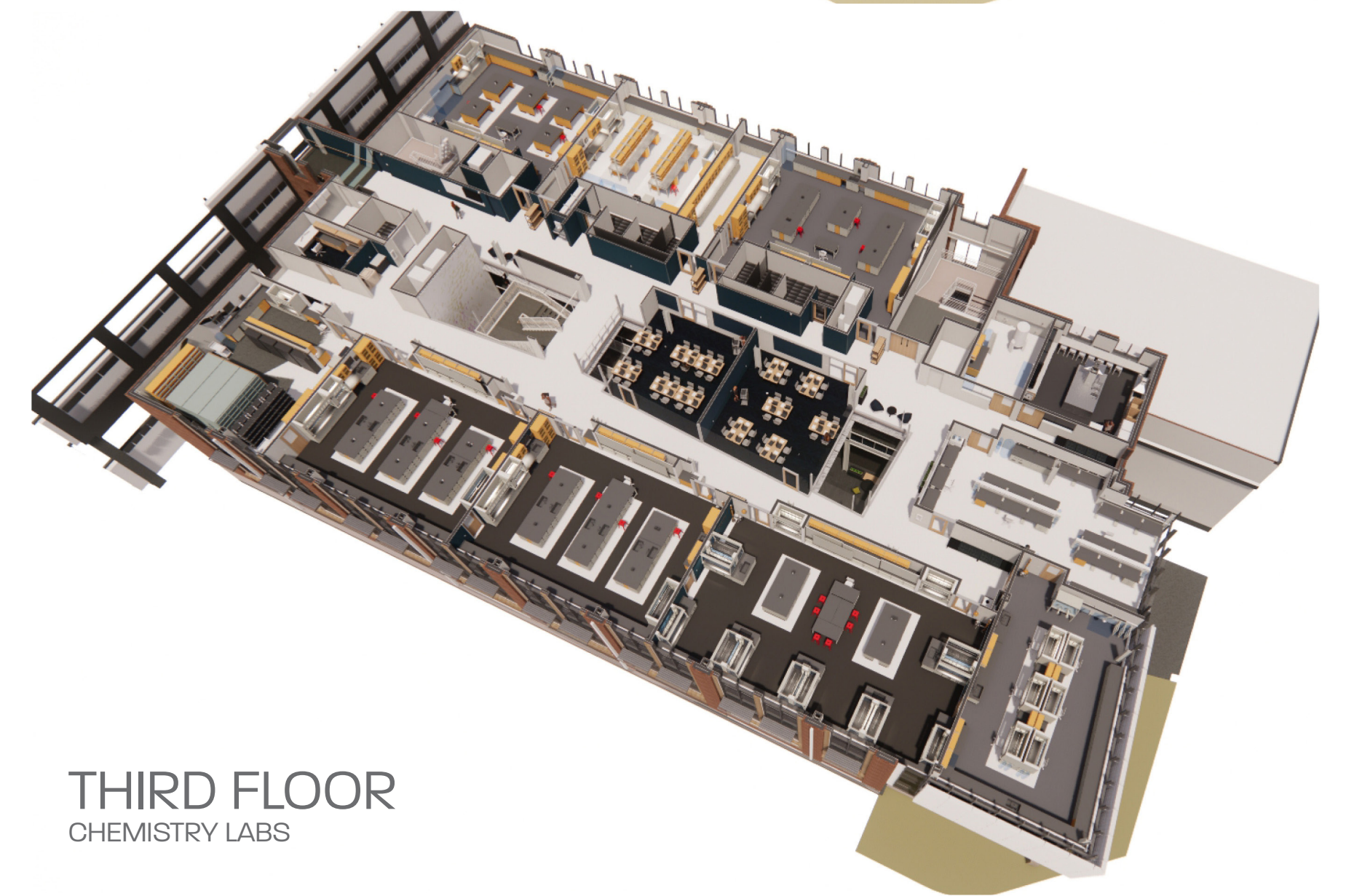
Rose-Hulman Institute of Technology
Fowler Academic Building



SECOND FLOOR
ACTIVE LEARNING CLASSROOMS



FIRST FLOOR
FLEXIBLE WORKSHOPS



THIRD FLOOR
CHEMISTRY LABS

FIRST FLOOR

FLEXIBLE WORKSHOPS

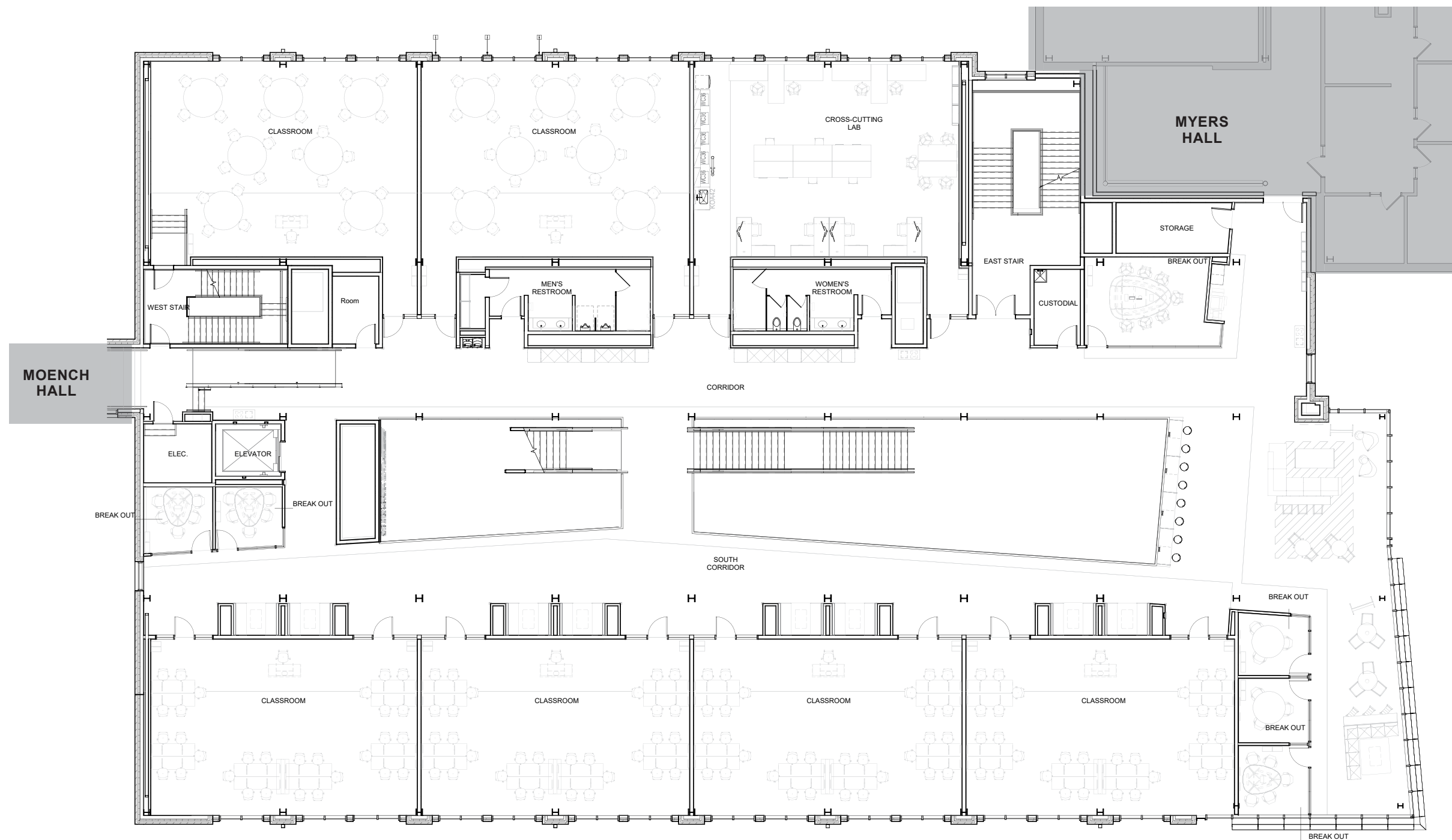
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SECOND FLOOR

ACTIVE LEARNING CLASSROOMS

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THIRD FLOOR

CHEMISTRY LABS



