



# SLAM

## Medical Education





Like healthcare itself, the world of medical education facility design is in constant flux. As advocates of change, we thrive in these moments of innovation. Our team is committed to using recent trends to blaze the trail for the next new idea. In health sciences education, informal learning spaces are becoming as important as formal instructional space in the age of active learning and “flipped” classrooms as schools strive to be “the preferred partner” for their students. As programmers/planners and designers of health science buildings across the U.S., the SLAM team brings a national perspective and first-hand knowledge of how the physical environment impacts the medical school experience.



University of Texas at Austin  
Dell Medical School

# SLAM EXPERIENCE

## SCHOOLS OF MEDICINE

- Baylor College of Medicine
  - New Education & Research Building
- Charles Drew University
  - School of Medicine
- Drexel University College of Medicine
  - Tower Health Regional Campus
- Duke University School of Medicine
  - Trent Semans Learning Center
- Duquesne University
  - College of Osteopathic Medicine
- Emory University School of Medicine
  - Medical Education Building
- Icahn School of Medicine at Mt. Sinai
  - School of Medicine Programming
- Indiana University, School of Medicine
  - Stone Family Center for Health Sciences
- Johns Hopkins School of Medicine
  - Center for Individualized Medicine
- Medical University of South Carolina
  - Medical Office & Academic Building
- Oakland University
  - William Beaumont School of Medicine
- Saint Louis University
  - School of Medicine Programming
- Sam Houston State University
  - College of Osteopathic Medicine
- SUNY Upstate Medical University
  - Innovation Center
- University of Houston
  - College of Medicine
- University of Minnesota School of Medicine
  - Health Sciences Education Center
- University of North Carolina-Chapel Hill
  - Medical Education Building
- University of Texas at Austin
  - Dell Medical School
- University of Utah
  - Medical Education & Discovery Building
- University of Washington
  - Health Science Education Building
- University of Wisconsin-Madison
  - Health Science Learning Center
- Virginia Commonwealth University
  - SOM, Sanger Hall Renovation
- Virginia Tech Carilion
  - School of Medicine
- Western Michigan University
  - School of Medicine

## NURSING & HEALTH PROFESSIONS

- Augusta University
  - School of Nursing & Allied Health
- Georgia Southern University
  - School of Nursing & Health Professions
- Grand Valley State University
  - College of Nursing & Health Professions
- Iona College
  - School of Nursing & Health Professions
- Notre Dame of Maryland University
  - School of Nursing
- Penn State University
  - School of Nursing
- Providence College
  - School of Nursing & Health Sciences
- Sacred Heart University
  - Center for Healthcare Education
- Springfield College
  - School of Health Professions
- SUNY at Brockport
  - School of Nursing
- University of California, Irvine
  - College of Nursing & Health Sciences
- University of San Diego
  - Institute for Nursing, Practice, and Simulation
- University of Southern Indiana
  - Nursing School
- University of Texas at Austin
  - School of Nursing
- Virginia State University
  - Hunter McDaniel Hall

## SIMULATION CENTERS

- Johns Hopkins School of Medicine
  - Simulation Center
- SUNY Upstate Medical University
  - Simulation Center
- University of Illinois at Chicago
  - Simulation Center
- University of San Diego
  - Simulation Center
- Grand Valley State University
  - Simulation Center
- Tufts University
  - Simulation Center
- Florida State College at Jacksonville
  - Medical & Nursing Simulation Center
- St. Francis Hospital
  - Innovation & Learning Center



# EXPERIENTIAL LEARNING WITH SIMULATION



**Western Michigan University's Homer Stryker M.D. School of Medicine** comprises a renovated former corporate research lab donated to the School and an addition that redefines the building's identity, integrates the complex in the urban context and brands WMed. Embracing the Kalamazoo community, WMed is located in the heart of the downtown commercial district with its state-of-the-art Simulation Center being a shared resource, and, from its first year, has had an impact on the revitalization of the city.



The **Simulation and Integrated Learning Institute at University of Illinois at Chicago**, offers daylight and views, right-sized rooms, robust technology, and needed space and functions for hands-on learning in an immersive environment.



**Duke University School of Medicine, Trent Semans Interdisciplinary Learning Center** provides the ultimate flexibility for multiple hi-fidelity simulation scenarios.



# EXPERIENTIAL LEARNING WITH SIMULATION

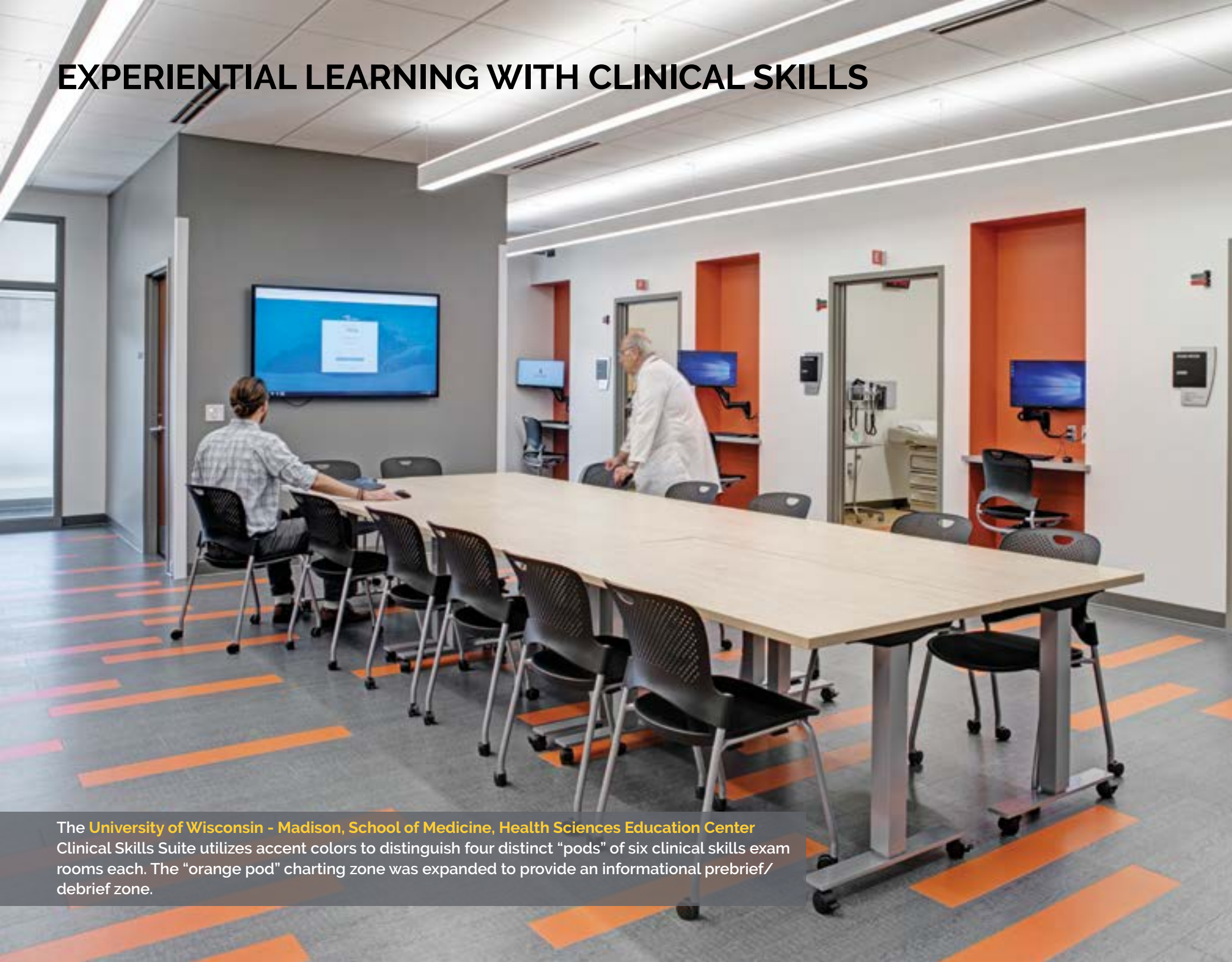


The **Johns Hopkins University, School of Medicine, Simulation Center** incorporates labor delivery rooms, operating rooms, trauma/ICU rooms, flex/debrief space which alternates between simulation rooms, a "Just-In-Time Lab" and flexible conference space. The Simulation Center provides training for interprofessional teams of students, caregivers and clinical staff, allowing them to explore, analyze, and synthesize their actions and thought processes, emotional states, and other information to improve performance in real-life situations.





# EXPERIENTIAL LEARNING WITH CLINICAL SKILLS



The **University of Wisconsin - Madison, School of Medicine, Health Sciences Education Center** Clinical Skills Suite utilizes accent colors to distinguish four distinct "pods" of six clinical skills exam rooms each. The "orange pod" charting zone was expanded to provide an informational prebrief/debrief zone.



# SIMULATION WITH CLINICAL SKILLS



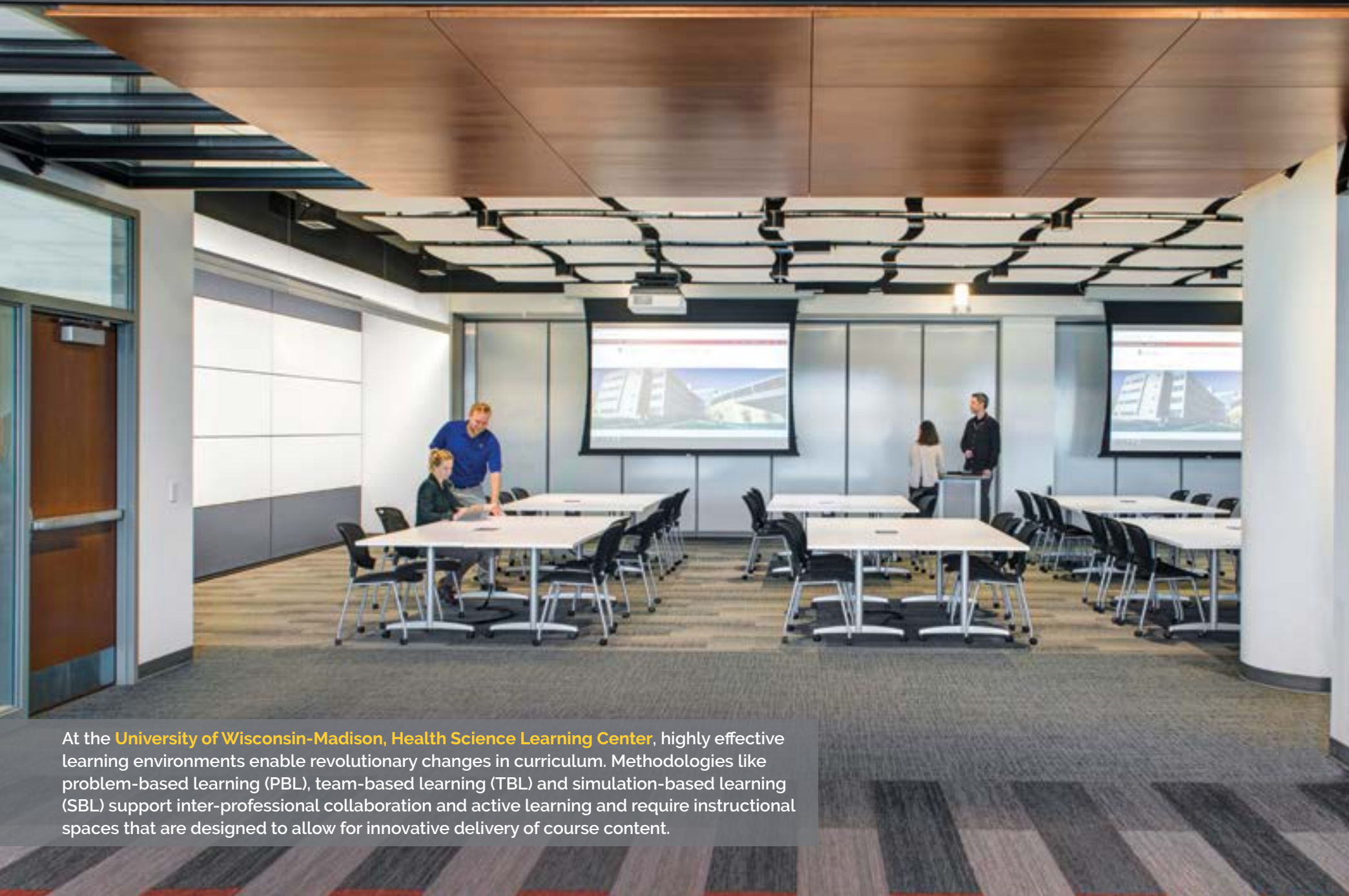
Six debriefing rooms are located throughout the **Simulation and Integrated Learning Institute at University of Illinois at Chicago** offering opportunities for informal pre-briefing and staging areas.



The transformer skills lab at **Thompson Clinical Skills Simulation Center at Tufts University School of Medicine**, includes 16 exam rooms in pods of four, each expanding into a large suite to support procedural skills.



## ACTIVE LEARNING ENVIRONMENTS



At the **University of Wisconsin-Madison, Health Science Learning Center**, highly effective learning environments enable revolutionary changes in curriculum. Methodologies like problem-based learning (PBL), team-based learning (TBL) and simulation-based learning (SBL) support inter-professional collaboration and active learning and require instructional spaces that are designed to allow for innovative delivery of course content.

The large active learning classroom at the **University of Houston School of Medicine** will accommodate the projected class size of 120 in small groups. The flat-floored room has flexibility beyond instruction, for student groups, poster sessions, and other events.



The Terraced Active Learning Theatre at **Dell Medical School at the University of Texas at Austin**, enables team-based learning in a large group environment. Students can quickly switch from a forward-facing setting to a small group setting in seconds.





# FIRST-IN-KIND SPACES



The **Tilman J. Fertitta Family College of Medicine Building at the University of Houston** boasts state-of-the-art learning environments including classrooms, immersive learning spaces, faculty and staff offices, as well as student study and social lounges. The second floor is home to the first of its kind “Sky Box Team-Based Learning Lecture Hall”, which seats 128 learners at traditional rows in the lower section while offering a quick transition to team-based learning. Four seminar rooms serve as a balcony level and allow for an additional 50 people during a lecture or event. These “sky boxes” provide a view of learning in action and can serve as a “VIP Suite” for special events. Audio and video link these rooms to the lecture hall below.

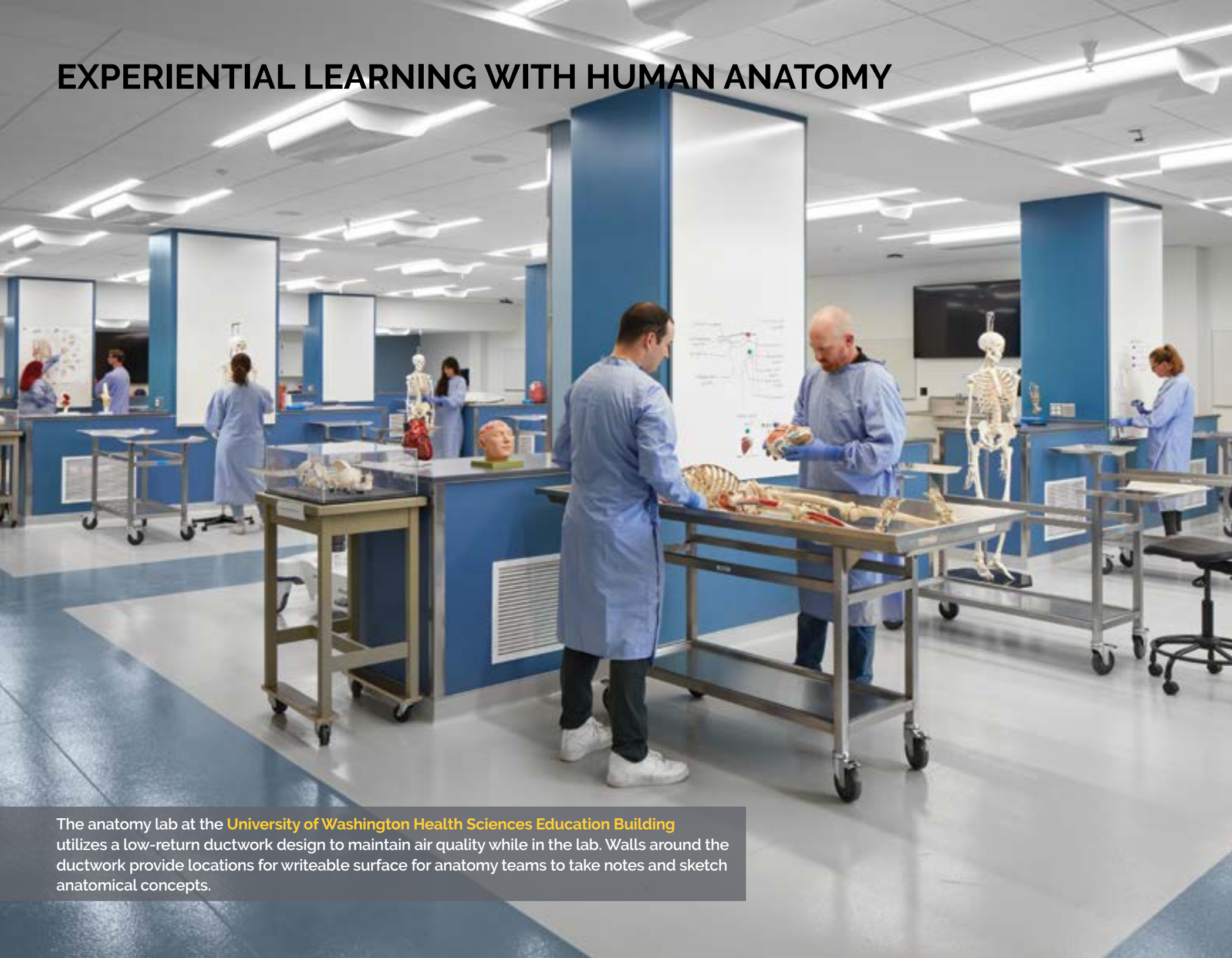


At **UNC School of Medicine** Experiential Labs can be used for Microbiology and seat half the medical school class. The lab can be reconfigured for Human Anatomy by opening the operable partition and replacing the furniture and equipment.





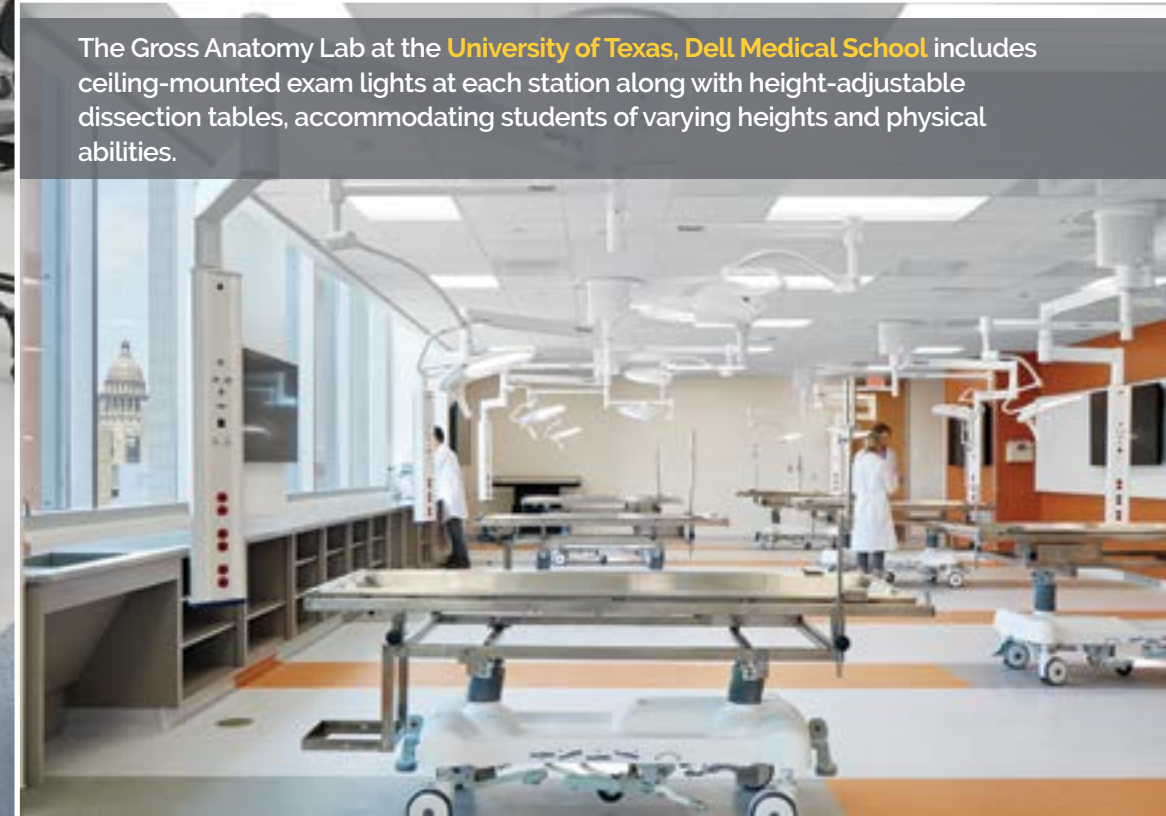
# EXPERIENTIAL LEARNING WITH HUMAN ANATOMY



The anatomy lab at the **University of Washington Health Sciences Education Building** utilizes a low-return ductwork design to maintain air quality while in the lab. Walls around the ductwork provide locations for writeable surface for anatomy teams to take notes and sketch anatomical concepts.



Despite new technologies, the Gross Anatomy Lab remains a rite of passage for most medical students. The Anatomy Lab at the **University of Houston College of Medicine** is located across the hall from a Dry Lab full of anatomical models. Students can learn in a classroom setting then cross the hall into the lab for experiential learning.



The Gross Anatomy Lab at the **University of Texas, Dell Medical School** includes ceiling-mounted exam lights at each station along with height-adjustable dissection tables, accommodating students of varying heights and physical abilities.



# STUDENT LIFE



The **Health Sciences Education Building at the University of Washington** is designed to provide a “social edge” for student study, collaboration, and relaxation on all four floors of this interprofessional education with windows along this north face.

A true Med School “Home” will accommodate students in a variety of ways, including social/break out time such as the ping-pong lounge at the **College of Osteopathic Medicine at Sam Houston State University**.



An indoor/outdoor crossroads at **UNC School of Medicine** offers a variety of individual and small group seating convenient to the coffee bar and close to an existing dining venue for all of the health sciences to enjoy.





# INNOVATION AND RESEARCH



The Maker Space at the **University of Minnesota, School of Medicine, Health Science Education Building** provides opportunities for students to develop adaptive tools and solve the problems patients face in day-to-day life. The room is equipped with 3D printers, sewing machines, tools, laser cutters and other supplies.

The research lab at **Sam Houston University** provides **College of Medicine** students access to wet bench research early in their educational experience, and helps them to understand medicine at the cellular level.

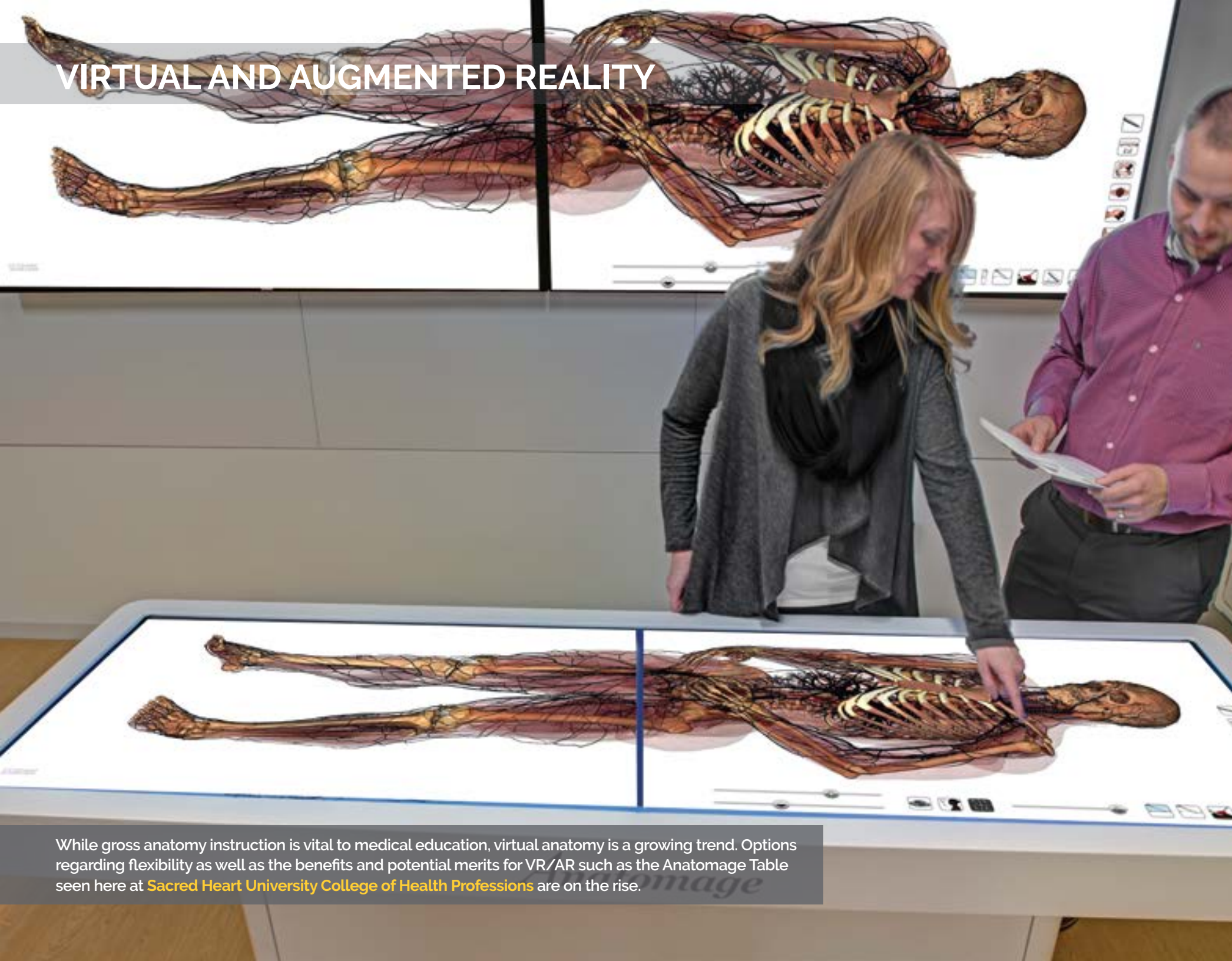


In most health sciences disciplines, research extends far beyond the wet lab. At **Sacred Heart University College of Health Professions**, a motion analysis lab includes force plates and multiple cameras to assess human performance. These specialty spaces require precision in design to be most effective for research teams.



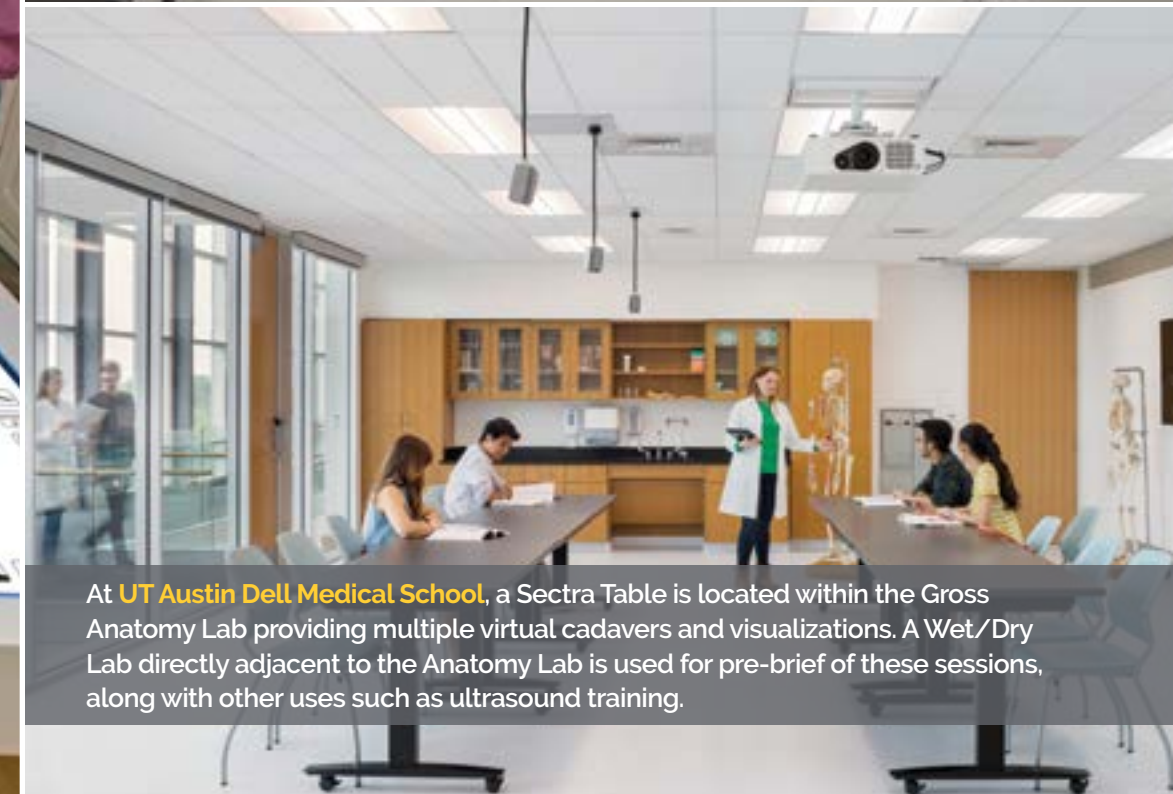


# VIRTUAL AND AUGMENTED REALITY



While gross anatomy instruction is vital to medical education, virtual anatomy is a growing trend. Options regarding flexibility as well as the benefits and potential merits for VR/AR such as the Anatomage Table seen here at [Sacred Heart University College of Health Professions](#) are on the rise.

At the [University of Houston](#), the dry anatomy lab offers a virtual tool for student exploration, gaining a deeper understanding of human anatomy through models, without the need for dissection.



At [UT Austin Dell Medical School](#), a Sectra Table is located within the Gross Anatomy Lab providing multiple virtual cadavers and visualizations. A Wet/Dry Lab directly adjacent to the Anatomy Lab is used for pre-brief of these sessions, along with other uses such as ultrasound training.



# BLURRED BOUNDARIES



The **School of Public Health at Emory University** envisioned as a collection of buildings connecting people to place, serves as a global wellness destination. The **R. Randall Rollins Building** is comprised of a vibrant mix of spaces focused on community, identity, flexibility, and wellness, allows students to collaborate in new ways and blurs the lines between formal and informal learning.

**Emory University's Claudia Nance Rollins Education and Research Building** is vertically organized on a constrained urban site, breaking down the previously arranged levels stratified by department that proved to be a hindrance for boundary crossing between departments and cross-cutting exchange between scientific disciplines. Intervening levels contain interdisciplinary research spaces with each floor dedicated to problem-based research teams, a significant departure from the current departmental organization.





# GROUND UP



**Sam Houston University College of Osteopathic Medicine** is a true home to students with social lounges, learning environments for simulation, anatomy, and Osteopathic Manipulative Medicine, along with wet bench research labs. The lobby mural created by a local artist spans two floors and is a show-stopper.



The **University of Texas at Austin, Dell Medical School, Education Building** is part of the first phase of a masterplan to create a new academic medical center at one of the nation's leading research universities. The program and plan identified "signature spaces" including Academic Societies that blur the lines between formal and informal learning.



**Drexel University College of Medicine** welcomed its inaugural class of 40 first-year medical students to an inviting new COM home equipped with classrooms, sim labs, patient exam and counseling rooms, and student amenities such as the fitness center, library, lounges, game room, and cafe space to enhance wellness.



# PARTNERSHIPS



The inaugural building for a new Medical Innovation District — **The Stone Family Center for Health Sciences** serves three institutions: **Indiana University** (new 4-year program for Medical Education, Dentistry and Research), **University of Southern Indiana** (Occupational Therapy, Nursing and Health Informatics), and the **University of Evansville** (Physical Therapy and Physicians' Assistant Program). Delivered as a public-private partnership (P3), the new facility's downtown location enhances community-wide visibility and provides access to potential partnerships between the three public/private institutions and the surrounding commercial, civic, corporate industry and health care institutions.



Through its location at the heart of **Duke Medicine** campus, **the Mary Duke Biddle Trent Semans Center for Health Education** is a nexus for users from hospital facilities, research labs and other health professional schools. Spaces of convergence, such as the meeting halls, café and small group rooms, support planned and unplanned events and activities enhancing community and sparking innovation.





The new **Medical Education and Office Building at the Medical University of South Carolina** will create a home for the medical school students, faculty, and staff.



The new **College of Osteopathic Medicine at Duquesne University** will celebrate student initiatives through an ever-changing video and graphic wall displayed at the main entry.



**Baylor College of Medicine's Health Sciences Building** will be the new home and flagship building to enhance their "Learning Health System of the Future". Leveraging the juxtaposition of education, research, and patient care, the complex will be a place where Baylor's culture of excellence and inclusion thrives.



The new **Integrative Health Sciences Complex** at the **University of California Irvine** is home to both the **Sue & Bill Gross Nursing & Health Sciences Hall** and the **Susan Samuelli Integrated Health Institute**.



Seeking to Reimagine Public Health in its fullest form, the 310,000 SF expanded **College of Public Health at Temple University** will include a new 28,000 SF Simulation Center with an innovative simulated community suite for continuum of care scenarios and Public Health programs.





Control Rooms are integral to the learning process creating the “backstage” environment in conjunction with recording software for a comprehensive optimal learning experience. **Johns Hopkins Blalock Simulation Center**