The University of Toledo Interprofessional Immersive Simulation Center: Virtual Immersive Reality Center

Our goal is to provide the best possible education and training so that patients are the beneficiaries of high quality, affordable care

Dr. Pamela Boyers, Executive Director of the Interprofessional Immersive Simulation Center

The most celebrated innovations in healthcare typically revolve around new, life-saving procedures and the tools and technologies that enable them. But some of the most astounding advances in medicine are happening in today’s medical schools in the form of new educational models for training future healthcare practitioners. The University of Toledo is one forward-thinking institution that is utilizing the latest immersive simulation solutions from Barco to fuel the next frontier in interprofessional learning, clinical practice and research.

Barco solution
• Barco I-Space
• Barco CADWalls

Key benefits
• Simulate entire training environments
• Enhance collaboration across disciplines

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The $34 million, 65,000 square foot Interprofessional Immersive Simulation Center (IISC) facility represents an innovative tri-center concept for medical simulation, featuring a 3D / Virtual Immersive Reality Center, an Advanced Clinical Simulation Center, and a Progressive Anatomy and Surgical Skills Center. The UT-IISC is purposefully designed to create a new, transformative model for the education of healthcare professionals as well as to stimulate new R&D opportunities.

These resources are also available to all colleges on The UT campus, offering transformative opportunities spanning engineering, the arts, humanities, and natural sciences as well.

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Redefining healthcare practitioner education

The IISC is built upon UT’s unique “Tri-Center” concept, a highly innovative learning setting designed to ensure patient safety and improve healthcare outcomes. In the Advanced Clinical Simulation Center, learners experience “hands-on” training using human patient simulators in a wide range of settings, then learn surgical procedures in the Progressive Anatomy & Surgical Skills Center.

Learning the human body in a new way

The Virtual Immersive Reality Center contains the Barco I-Space display “virtual room:” the world’s first five-sided, seamless, stereoscopic LED cave display used to simulate entire environments. Barco’s solutions – expertly designed and implemented by specialized systems integrator AVI-SPL – enable beginning to advanced learners to engage in simulated medical scenarios using 3D modeling technologies. In these immersive environments, it is possible to simulate an Operating Room, practice disaster preparedness, or even travel through the human heart, view real patient data and create 3D learning modules. The goal is to utilize this amazing technology to stimulate and accelerate the understanding of medical care.

The Barco CADWalls and Curved Display Wall portray 3D computer images of skeletons, organs, arteries and medical conditions, allowing participants to “walk through” parts of the body. 3D visualization of anatomy can also be projected to show normal and abnormal pathology as well as CT scan reading.

Learners from among all healthcare disciplines utilize this progressive education approach, often moving sequentially through these three simulation modalities.

Collaboration heightens real-world experience

Another keen aspect of the simulation environment is enhanced collaboration. The I-Space and CADWalls enable multiple students to cooperate as they would in a real operating suite or clinical consulting team.

“The whole goal of simulation is to provide a place where students from all healthcare disciplines can learn to work together in teams early in their education,” comments Dr. Pamela Boyers, Executive Director of the University of Toledo Interprofessional Immersive Simulation Center.