



Davis Global Center

Global leadership in improving human performance and effectiveness

The **Dr. Edwin G. & Dorothy Balbach Davis Global Center (Davis Global Center)** serves as headquarters for iXCEL. This multi-level, 192,000 gsf clinical simulation facility became fully operational in 2020 on the University of Nebraska Medical Center campus in Omaha, Nebraska. The Global Center for Health Security is located within the Davis Global Center, sharing simulation and visualization assets and staff expertise.

Proximal to the UNMC colleges and Nebraska Medicine, the Davis Global Center serves as the catalyst for an integrated statewide, national and global simulation initiative. All five levels of the facility work together as one collaborative unit to create safe, innovative and experiential training environments as well as a venue for research and business development.

Davis Global Center Capabilities: A Replicated Total Healthcare System

- 3D, augmented/virtual reality (AR/VR) technologies, including a holographic theater
- Dedicated spaces for the creation of innovative teaching modules and videos
- Designed to practice the transfer of patients between levels of care (“hand-offs”)
- Replicated clinics, hospitals, ambulatory and home care units for simulating incidents, events and patient care scenarios
- Opportunities for training to competency before encountering real-life patient care and emergency response situations
- Surgical skills procedure rooms/operating bays with fresh tissue simulation for practicing high-level, complex patient care procedures
- Collaboration with other disciplines, especially STEAM (science, technology, engineering, arts and mathematics) initiatives
- Tele-education, tele-presence and tele-mentoring capabilities
- Hosting and educating teams of interdisciplinary practitioners and learners – of all disciplines and at all levels of training
- Highly-specialized training in health security and biopreparedness in the Global Center for Health Security

Lower Level: iEXCEL Simulated Community Care

- Home care unit for training in emergency response, home safety evaluations and transfer from home to hospital
- Ambulance bay to practice transportation of patients and transfer of care from emergency medical services (EMS) to the hospital

Ground Level: Global Center for Health Security

- 6-bed biocontainment clinical training and simulation unit for professionals to learn to care for and conduct procedures for patients with highly infectious diseases
- 20-bed National Quarantine Unit
- Multi-purpose room with emergency operations center (EOC) capabilities and training facility

Level 1: iEXCEL Visualization and Virtual Reality

- 3D, AR/VR technologies to inspire and foster curriculum innovation and collaborations with industry and military
- Holographic Theater (70 seats): holographic stage produces extraordinary virtual images
- iEXCEL Helix: 200-degree 2D curved screen is an interactive, digital iWall displaying images individually or collaboratively with other sites
- iEXCEL Laser CAVE-5: Fully immersive, five-sided 3D laser cave expands learning and research and development opportunities

Level 2: iEXCEL Interprofessional Simulation

Realistic simulated hospital units where clinical competencies and team communication are learned, practiced and tested with lifelike simulators and real-world clinical equipment.

- The Acute Care Unit has a realistic, simulated operating room (OR), a labor and delivery room, patient rooms and a pediatric unit
- The Critical Care Unit has a realistic, simulated emergency department, trauma unit, intensive care unit and imaging room
- Procedural Skills Labs
- Pre-briefing and debriefing rooms for session preparation and review of recorded sessions

Level 3: iEXCEL Surgical and Interventional Skills

Advanced surgical skills training in replicated ORs using fresh tissue and surgical simulators. The facility provides a venue for collaboration with industry for training workshops and research and development.

- Surgical Skills Suite with 20 OR bays and a command center for recording and broadcasting locally, nationally and globally
- Hybrid OR/Interventional Suite for surgical training sessions
- Surgical Skills Labs with surgical simulators to practice and improve essential skills including hand-eye coordination, depth perception and suturing

The Davis Global Center is home to the EON/iEXCEL Virtual Reality Innovation Academy (VRIA) and Simulation in Motion-Nebraska (SIM-NE).



Virtual Reality Innovation Academy (VRIA) provides AR/VR skills training to students looking to enhance their careers. The course includes an intensive study in the underpinnings of various focus areas such as AR/VR, 3D content creation, coding and project management. Students also experience a project-based learning period, providing the opportunity to be part of a team project and build confidence in their skills. Upon completion, students will receive an AR/VR Developer Certification. This program is a collaboration between iEXCEL and EON Reality.



Simulation in Motion-Nebraska (SIM-NE) is a statewide, mobile education system bringing state-of-the-art hands-on training, using high-fidelity human patient simulators, to pre-hospital and hospital professionals throughout Nebraska. SIM-NE provides standardized high-quality training to ensure consistent outcomes to rural EMS agencies and critical access hospital emergency rooms across the state. The program caters offerings to different communities with a variety of courses that can be customized to meet local needs.