# Health Education



# / firm overview

EYP is a global provider of high-performance building design, research, and consulting services with projects in over 100 countries. Our 650+ professionals work across sixteen offices in the United States and Europe.

We are five sectors - Higher Education, Government, Healthcare, Science & Technology, and Energy - who work as one firm. Together, our award-winning teams of EYP Architecture & Engineering, WHR Architects, and The Weidt Group® address some of the most critical issues facing our nation.

#### Disciplines

Architecture, Engineering, Planning, Energy, Interior Design, Graphic & Environmental Design

#### Integrated Design Expertise

- Academic Innovation
- Embassies
- Energy & Sustainability
- Health Education
- Healthcare
- Historic Preservation
- Libraries

- Master Planning
- Mission Critical
- Modernization
- Science & Technology
- STEM
- Student Life
- Workplace

#### Research

The right building design can help organizations advance their mission and goals. Our research program makes us better designers and more valuable advisors to our clients – and helps our clients make more strategic decisions about their buildings. Our open innovation approach values collective intelligence. We partner with outside experts in many disciplines to transcend the limits of current thinking and expectations by collaboratively exploring and testing ideas in Building Science, Energy, Healthcare Design, Living-Learning, STEM, and Workplace.

#### **High-Performance Design**

EYP is the only firm to have been ranked #1 for Energy and Sustainability for two consecutive years by *Architect Magazine*. We are committed to creating rich, productive, and inspiring environments that promote human well-being, preserve natural resources, and provide flexibility and resilience for the future. Our knowledge-based innovation strategy helps promote action-oriented public dialogue about the future of the built environment.

#### Recognition

- 2016 Architect 50 Architect Magazine
- 2016 Top 25 Architecture Firms Architectural Record
- 2016 Top 25 Architecture & Engineering Firms Engineering News-Record
- 2016 MEP Giants Consulting-Specifying Engineer
- 2016 Giants 300 Building Design + Construction
- 2016 Top 500 Design Firms Engineering News-Record
- 2016 Top Architects #1 for Healthcare Renovation *Health Facilities Construction Quarterly*
- 2012-2015 AIA National IDP Outstanding Firm Award



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# / expertise driven design®

We believe that knowledge is as critical to great design as creativity. Expertise – the deep knowledge that comes from research and experience – enables us to harness creativity in ways that deliver exceptional value to clients. Creativity, in turn, drives us to explore, question, and continuously advance our understanding of how the built environment influences human behavior – and how buildings and their systems impact the natural environment. The fusion of expertise and creativity yields a powerful dynamic that advances each client's mission through unique architectural expressions that enrich human experience.

# / health education

We are committed to helping our nation address some of today's most critical issues – education, healthcare, and energy. Working with clients whose mission embodies the intersection of these issues is our passion and privilege. Our integrated AEEI team is helping advance integrated, systems- and team-based education for medical, nursing, dentistry and allied health professionals through client-centered, high-performance design.

Our evidence-based approach yields flexible, immersive, and active spaces that support diverse learning styles, promote synergies for collaboration, and help ease students' transition to clinical work. From technology-infused environments for medical simulation, to smart classrooms and labs, and to gracious soft spaces, our goal is a unified spatial experience that fosters learning in community. This is how we define high-performance design – beautiful facilities that express institutional vision and identity, promote occupant health and well-being, encourage inter-professional community, and maximize energy performance for fiscal sustainability.

### Contact

Andy Wong, AIA, NCARB 917 981 6007 / awong@eypae.com / East Carolina University
 School of Dental Medicine Greenville, NC
 Ledyard Ross Hall



A new on-campus instructional facility and its associated rural satellite clinics are advancing ECU's innovative model of service-oriented dental care, in which fourth-year students work off campus to provide dental services to underserved citizens under the guidance of experienced faculty.

Ross Hall is designed to support the latest trends in dental medicine and clinical training. The facility includes 133 dental operatories, five specialty clinics, smart classrooms, teleconference rooms, and state-of-the-art simulation labs, as well as administrative/support spaces. In particular, the Preclinical Technique and Clinical Simulation Labs promote hands-on training and collaboration. The satellite Service Learning Centers are designed to enhance the patient experience, enabling students to easily transition into the clinical environment.

The EYP-led design team, including consulting architects Bohlin Cywinski Jackson, worked with a wide variety of stakeholders, including faculty from dental schools nationwide. Two of the satellite clinics are open (Ahoskie and Elizabeth City), four are under construction, and several more are in the planning stages.

- 185,000 GSF new construction (Ross Hall)
- 7,700 GSF new construction (Service Learning Centers)
- Programming & Planning, Architecture











/ New York University New York, NY

College of Nursing, College of Dentistry & Bioengineering Institute



To attract and better serve the very best students, 433 First Avenue is designed to provide a gracious, unified spatial experience appropriate to those who will lead the future of healthcare. The signature facility collocates programs in nursing, dentistry, and bioengineering to cultivate a unique model for educating healthcare professionals in environments that foster synergies for collaboration, research, teaching, and community service.

The LEED Silver-designed facility is conceived as an innovative vessel for human-focused technology. The latest systems and equipment - from LED lighting to controllability of HVAC systems - enhance occupant experience and improve building energy performance. Technology-infused teaching spaces are designed to ease the transition from education to clinical environment. Medical simulation training improves patient safety by enabling future health care professionals to "practice on plastic," presenting students with increased opportunities to refine skills and advanced techniques.

NYU's world-class brand is pervasively expressed through attractive finishes, comfortable furnishings, and one-stop shops for student services that recognize their constituencies are discerning customers as well as active learners. Strategic glazing showcases the activities within and opens expansive views of the city's million-dollar views – a design solution that enhances the facility's spacious feel despite the space constraints of its tight urban site.

KPF was collaborating architect on this project.

- 170,000 GSF new construction
- Programming & Planning, Architecture, Laboratory Planning









/ University of Texas Health Science Center at Houston Houston, TX School of Dentistry



The School of Dentistry is a new, six-story dental education and clinical facility complete with dental clinics, simulation and pre-clinical labs, clinical support labs, a clinical research lab, classrooms, a learning resource center, a student center, and administrative space.

The school houses some of the industry's most advanced equipment and education technology, allowing for the highest quality in patient care, research, and education, assisting the University in reaching its goal of graduating the most well-trained dental professionals in the world.

The facility enabled UTHealth to expand its program by 20 percent to accommodate 100 Dental Medicine students and 50 Dental Hygiene students per cohort.

- 296,500 SF new construction
- Programming, Planning, Architectural Design, Furniture Planning, Graphics, and Wayfinding
- Three distinct zones: public (patient care), education and simulation, and faculty and staff
- Diagnostic center
- Imaging suite
- Special patient clinic
- Fourth-year/dental hygiene clinic
- Specialty clinics for oral and maxillofacial surgery, orthodontics, pediatric dentistry, endodontics, prosthodontics, and periodontics
- Faculty practice clinic
- 285 operatories
- Clinical labs
- Simulation lab
- Pre-clinical lab
- Central sterile
- Tierred and flexible flat-floor classrooms
- Student Lounge
- Learning Resource Center
- Departmental and administrative offices
- Biomaterials lab
- Diagnostics lab









/ James Madison University Harrisonburg, VA Health & Behavioral Studies Building



The new interdisciplinary facility is designed to foster the behaviors essential for success in the increasingly interprofessional healthcare work environment.

Larger departments – Nursing, Health Science (including Occupational Therapy, Athletic Training, and Dietetics), and Communication Sciences and Disorders – share floors and simulation spaces. Smaller departments and program elements – Social Work, Creative Services, and the Dean's suite – are located by functional adjacency. Specialized teaching laboratories anchor each floor, creating distinct identities for the departments, as well as destinations for other faculty and students.

The building houses three types of simulation learning technology: simulation mannequins, human patient simulation, and virtual patient simulation. In addition to teaching laboratories, classrooms, lecture halls, informal learning spaces, and administrative spaces, the program includes specialized research and clinical spaces to study and treat patients with hearing and communication impairments.

- 150,000 GSF
- LEED Silver design
- 13 research labs
- 17 classrooms
- 19 teaching lab
- Patient simulation lab
- Food production lab
- 2 165-seat lecture halls
- Hearing clinic











/ Virginia Commonwealth University Richmond, VA Allied Health Building



The new Allied Health Building will unite Gerontology, Health Administration, Nurse Anesthesia, Occupational Therapy, Patient Counseling, Physical Therapy, Radiation Sciences, Rehab Counseling, and the Technology Center, as well as the Dean's Office and the Virginia Center on Aging.

Variously sized, flexible classrooms located throughout the building will support strategic adjacencies and ease of sharing. The design enables departments to share teaching amenities and technologies, such as synchronous distance-learning classrooms; audiovisual capture of directed instruction; and observation of patientcare simulation.

The building houses a dedicated Nurse Anesthesia simulation suite, as well as one shared by all of the allied health disciplines working individually or in teams across specialties. Simulated hospital environments will be provided for operating rooms, acute care patient rooms, recovery rooms, and a range of imaging spaces including a high-tech virtual linear accelerator. The therapy departments will share a state-of-the-art Smart Home Apartment for training students.

The program also includes a double-height biomechanics research lab and several maker labs, where students and faculty can research, create, and test their own adaptive aids for therapy.

- 54,000 GSF new construction
- Architecture, Programming & Planning, Laboratory Planning, Fire Protection Engineering, Energy Analysis









/ University of North Carolina School of Medicine Chapel Hill, NC Bondurant Hall



The modernization of Bondurant Hall transformed an obsolete 1960s laboratory building into a thriving home for medical education and allied health programs appropriate to UNC's identity as the nation's leading public school of medicine. Two substantial additions double the size of the original building to create a new gateway experience for prospective students and the public.

UNC's design imperative was to foster more interaction and interdisciplinary study between Medical Education and Allied Health student groups – co-workers in their professional lives who have historically been isolated from each other in academia. User recommendations on adjacencies and functional requirements provided vital insights into how best to house the myriad of flexible and programspecific teaching spaces. We partnered with user groups to create best-fit design solutions, utilizing 3D modeling to develop strategies, convey design intent, and identify the full implications of critical decisions.

The building core was purged to create an open, vaulted lobby that seamlessly anchors the old and new classroom wings. This central space visually unites the street entrance to a courtyard with other medical school buildings. Administrative and support spaces for the Existing labs were converted to shared classrooms, fostering more interaction and interdisciplinary study between the two student groups.

- 61,320 GSF modernization
- 58,046 GSF new construction
- Programming & Planning, Architecture
  Bronze Citation, Educational Interior Design Excellence, American School & University









/ Montgomery College Takoma Park, MD Health Sciences Building



The new Health Sciences Building collocates previously dispersed health science programs – nursing, radiology, and surgical technology – with clinical, continuing education, and community outreach programs. The prominently sited facility faces the Silver Spring central business district on one side and a major urban park on the other. Communityoriented functions, including a health clinic operated by Holy Cross Hospital, a job resource center, and public outreach programs, are located on the ground floor for easy access. Facing the park, a monolithic glass and metal curtain wall façade softens the urban edge by reflecting the landscape and sky.

Shared and multiple-use spaces maximize building efficiency, while flexible building systems ensures spaces that can easily accommodate future changes in technology. Specialized learning environments with state-of-the-art medical equipment simulate hospital, occupational, and physical therapy environments.

The building's orientation, materials and mechanical systems were designed to optimize passive heating and cooling opportunities to help reduce artificial lighting and mechanical systems loads. Components and systems were designed to provide maximum operating efficiency. The engineering systems have the capability to connect to a future, district-wide central cooling plant.

- 100,000 GSF new construction
- Programming & Planning, Architecture, MEP Engineering











/ Tidewater Community College Virginia Beach, VA Regional Health Professions Center



The new Regional Health Professions Center collocates all of TCC's health professions programs in a unified interprofessional facility that serves as a new gateway on the Virginia Beach campus. The Center incorporates a wide range of teaching laboratories that simulate real-world medical environments with both Meti and Laerdal simulation mannequins. The activities of daily living, sonography, radiology, and polysomnography teaching laboratories are also used as functioning clinic spaces in support of community health. The sustainable design of the RHPC supports the LEED Platinum aspiration of the Operation Smile project.

The RHPC houses teaching laboratories, classrooms and offices for the Nursing, **Emergency Medical Technician**, Occupational and Physical Therapy, Health Information Technology, Sonography, Polysomnography, and Respiratory Therapy programs. Its innovative instructional ambulance bay allows students to extract an untethered simulation mannequin from a car, transfer that mannequin to a simulated ambulance that moves and is equipped with medical gases, and then to a simulated emergency room. Within the Facility, a two-story "house" functions as a teaching lab for both activities of daily living and emergency technician training.

- 65,000 GSF new construction
- Programming & Planning, Architecture, MEP Engineering









/ University of North Carolina School of Medicine Chapel Hill, NC Bioinformatics Building



The new home for the Department of Ophthalmology provides dry research and office space for a multidisciplinary group of researchers and will eventually anchor a new quadrangle on the School of Medicine Campus. A 125-seat lecture hall accommodates Grand Rounds in Ophthalmology and other campus events. A welcoming multistory lobby with snack bar accommodates informal gatherings.

The flexible designs of the floor plan and furnishings proved their worth when a temporary increase of 100 occupants had to be accommodated in the middle of construction without adversely impacting the construction schedule. Interior designers worked closely with the owner project manager and the systems manufacturer to make these changes during a 30-day period.

- 152,000 GSF new construction
- Programming & Planning, Architecture, Interior Design







/ Houston Methodist Houston, TX Methodist Institute for Technology, Innovation, & Education



Located within Houston Methodist's Research Institute, the Methodist Institute for Technology, Innovation & Education (MITIE) is a center for research and education on surgical procedures across multiple specialties. MITIE provides hands-on, skills acquisition training to physicians in a safe environment and offers research on new technologies.

MITIE creates a synergy between research and training by combining a procedural skills lab, a research core, and a virtual hospital.

The procedural skills lab includes 15 operating stations to teach minimally invasive techniques, using animate and inanimate subjects.

The research core includes a hybrid OR suite and three simulated ORs; of the simulated ORs two are outfitted for robotic surgery training using the DaVinci platform, and the third incorporates a CT scanner. Here, physicians and scientists develop new technology and procedural techniques.

The virtual hospital includes two simulation operating suites in which physicians, nurses, and allied health professionals train on specific clinical scenarios, using full-size human patient simulators.

The virtual hospital also has four partial task training rooms. These allow learners to focus on a narrow component of a procedure, such as how to manage a difficult airway or insert a central line using ultrasound guidance.

CO Architects were the Collaborating Architect

- 35,000 SF new construction within a 440,000 SF facility
- Architecture, Interior Design









## / Prairie View A&M University Houston, TX College of Nursing

Located in the densely urban Texas Medical Center, the College of Nursing is a 120,000 SF, state-of-the-art, educational, research, and clinical facility built atop a 425,000 SF parking garage.

The College is more of a stand-alone campus offering a bookstore, admissions office, lounge, group rooms, fitness room, library, and a large assembly space.

Education spaces include tiered and flat classrooms, distance education classrooms, high-fidelity simulation labs and computer labs. Skills teaching labs have convenient access to classrooms. Student amenities such as the bookstore, promote community and extend learning.

- 545,000 SF building and garage
- Program Verification, Planning, Architecture, Interior Design
- Tierred and flat-floor flexible classrooms
- Student Lounge and Fitness Room
- 7 types of Nurse Training Labs:
  - Standardized patient care lab
  - Adult health lab
  - Women's health lab
  - Pediatric health lab
  - High-fidelity simulation lab
  - CU lab with high-fidelity simulators
  - Community health lab







### / Stephen F. Austin State University Nacogdoches, TX Richard and Lucille DeWitt School of Nursing



The Richard and Lucille DeWitt School of Nursing is a two-building complex providing the school with space for administrative functions and high-tech, hands-on nursing education.

The simulation center has an assessment lab, a skills/emergency room/debriefing lab, and two simulation labs—one critical care/medical surgery laboratory, and one obstetrics/labor and delivery/pediatric nursery lab.

Equipment and systems (medical equipment, nurse call, code blue, audio visual equipment, and simulators) are fully integrated to replicate a nurse's work environment. Labs use wireless patient mannequins which are manipulated by instructors in a remote high-tech control room. A video-monitoring system allows students to be filmed as they treat the "patients," and the video can be streamed live into classrooms or recorded for later review.

The skills labs consist of 14 patient rooms with a total capacity for 21 patient simulators. This facility also includes an ambulance bay and capabilities for emergency room simulations. Additionally, the skills labs include IV stations with capabilities for learning basic skills and assessment. These labs are combined with debriefing facilities for immediate feedback on student performance.

The new school houses three classrooms seating 102 students each and one larger classroom which can also function as two separate, smaller classrooms. Other classrooms provide the platform for distance learning and computer testing.

- 44,268 GSF new construction
- Programming, Architecture, Interior Design, Furniture and Medical Equipment Specifications, Building Graphics Design
- Mock Nursing Unit with high-fidelity simulation
- Assessment Lab
- Ambulance bay and ER simulation
- Flexible classrooms









### / University of St. Thomas Houston, TX Center for Science & Health Professions

The Center for Science and Health Professions is the first step in realizing the master plan of creating a science quadrangle at the University of St. Thomas (UST). The proposed 180,000 SF building includes the Nursing, Biology, Chemistry, Environmental, and Mathematics Departments.

Built around a master plan created by Philip Johnson, the academic departments at UST are organized in two-story, modernist buildings around a shaded courtyard. Introducing a new building demanded a high level of sensitivity to the existing campus. However, the building's location at the southern boundary presented the opportunity to create a new gateway to the university.

In response, the design presents five interconnected pavilions around a courtyard, which reduces the large scale of the building. The five small pavilions, echoing the scale, form, and character of the existing campus and neighborhood context, are organized around a central courtyard at the width of the Academic Mall. Developing an outdoor plaza facing the Library and the southern terminus of Johnson's academic quadrangle strengthens connections to the existing campus.

Programming, Architecture, Laboratory
 Planning





### / services

### Architecture

- Design
- Planning
- Programming
- Interior Design
- Life Safety
- Signage & Wayfinding
- Workplace Strategy & Design
- Master Planning

#### Energy

- Energy Data Analysis
  - Energy modeling
  - Benchmarking
- DSM Programs for Utilities
- Building Performance Optimization
  - Energy Audits
  - Energy Master Plans
  - Retro-commissioning

### Engineering

- Electrical
- Fire Protection
- Mechanical
- Plumbing
- Security
- Structural
- Telecommunications

#### Software

- B3 Benchmarking
- NEO Net Energy Optimizer®
- Custom tools with WeidtSim<sup>®</sup>

#### Consulting

- Graphic & Environmental Design
- Marketing Communications
- Public Relations

# / health education client list

Boston University City College of New York Columbia University Columbia University Medical Center Dallas County Community College District Del Mar College Dominican College East Carolina University School of Dental Medicine East Carolina University School of Medicine George Mason University Georgetown University School of Medicine Houston Methodist Jackson Laboratory James Madison University Mitchell Community College Montgomery College New York University New York University College of Dentistry The Nathan Kline Institute for Psychiatric Research New York State Department of Health Sam Houston State University St. Johns University School of Pharmacy St. Luke's Episcopal Texas Heart Institute SUNY at Stony Brook SUNY Upstate Medical University Temple University Tidewater Community College Trinity Washington University University at Albany University of Charleston School of Pharmacy University of North Carolina, Chapel Hill University of North Carolina, Wilmington University of Pennsylvania School of Medicine University of Texas at El Paso University of Texas MD Anderson Cancer Center University of Texas Medical Branch USACE Baltimore Armed Forces UTHealth Virginia Commonwealth University Virginia Commonwealth University Medical College of Virginia Yale University School of Medicine



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