Architectural Engineering
Bringing Buildings to Life

For every iconic building — the Roman Colosseum, the United States Capitol, the Dallas Cowboys AT&T Stadium and many more — an architectural engineer has been behind it. While civil engineers develop bridges and other infrastructure, and while architects envision a building’s form and aesthetic qualities, architectural engineers actually put buildings together and make them livable. From designing the integrated systems to improving energy efficiency, architectural engineers bring buildings to life.

DESIGNING A SUSTAINABLE FUTURE
Buildings consume 40 percent of all energy, 74 percent of all electricity, 40 percent of all raw materials and 14 percent of all water used in the U.S. The next generation of architectural engineers will be asked to design more efficient buildings that reduce energy and water consumption and that utilize more sustainable construction materials.

SAVING LIVES
There are over 7 billion people who occupy over a billion buildings around the world. Architectural engineers assure that these buildings are resilient in the face of natural disasters, and they design advanced heating, cooling and ventilation systems that provide comfort and save lives during extreme heat waves and freezing conditions.

IMPROVING LIVES
The average life expectancy of an American is 79 years, and we spend 70 of those years indoors where we are most exposed to air pollution and toxic chemicals. Architectural engineers design buildings to minimize intrusion of outdoor air pollution and interior emissions of toxic chemicals, thus keeping us living longer.

EXCITING CAREER OPPORTUNITIES
Architectural engineering offers a career path like no other. By combining strategic problem solving with creativity and math skills, architectural engineers are both engineers and design innovators. In the Cockrell School of Engineering at The University of Texas at Austin — one of the world’s premier engineering schools — nearly 100 percent of architectural engineering students receive job offers upon graduation, often hired by top firms in the U.S. and across the world.

WHAT ARCHITECTURAL ENGINEERS DO
- Design green buildings
- Devise building energy systems
- Help conserve building energy
- Engineer structurally resilient buildings
- Select and implement sustainable materials
- Optimize building construction and operation
- Assure effective building lighting systems
- Develop optimum building acoustics
- Design building heating and cooling systems
- Investigate building failures
- Identify fire risks and design safeguards
- Deliver sustainable facilities in the built environment

THE TOOLS THEY USE
Architectural engineers work in teams and apply cutting-edge tools to make buildings safer, healthier, more environmentally responsible and resource-efficient. These tools include a wide range of wireless sensors, robotic and micro-robotic systems, building information modeling (BIM) and the latest information technology.
At The University of Texas at Austin, architectural engineering students test and utilize both sides of their brain to become the sustainable engineers of the future. We blend the creative and the technical to provide an architectural engineering program that trains students to be tech-savvy, aesthetically minded and globally conscious problem solvers.

Our world-renowned professors teach through hands-on experiments and team-based projects, and our program is truly cross-disciplinary — our students graduate with an advanced understanding of how the engineers, the architects and the construction team collaborate to build, operate and maintain buildings.

We’ll teach you how to incorporate the fundamentals of math, science and engineering with architectural design concepts. Inside our newly renovated architectural engineering suite — which our students helped to design — you’ll learn to model and construct transformative building facilities. Outfitted with the latest equipment, the suite features a virtual lab, studio space and collaboration center that nurture the university’s vibrant architectural engineering community.

The Cockrell School’s architectural engineering program is the place for students who want to be both creative problem solvers and engineers.

Learn more at caee.utexas.edu/architectural »

ARCHITECTURAL ENGINEERING ALUMNI
Here is just a sampling of the building projects our graduates have brought to life:

Eleanor Reynolds
LEVI’S SAN FRANCISCO 49ERS STADIUM
A design engineer at Magnusson Klemencic Associates in Seattle, Reynolds has worked on major large structure projects. She helped design the first new NFL stadium in California in nearly 50 years, the Levi’s Stadium in Santa Clara, home of the San Francisco 49ers, as well as the Brickell City Centre, a mixed-use development in Miami’s financial district.

Jeff Courtney
PEROT MUSEUM OF NATURE AND SCIENCE
Courtney is a structural design engineer at Datum Engineers. He and his team have been honored for accomplishing the uniquely challenging steel reinforced concrete slabs, walls and Y-columns central to the design theme of the Perot Museum of Nature and Science in Dallas (pictured on front).

G. Charles Naeve
LONG CENTER FOR THE PERFORMING ARTS
Naeve is a founding member and managing principal of the consulting firm Architectural Engineers Collaborative. He has managed the structural design of several major building projects in Austin, including the Long Center for the Performing Arts, the U.S. Courthouse and the Austin Bergstrom International Airport.

The University of Texas at Austin
Civil, Architectural and Environmental Engineering
Cockrell School of Engineering