

## Architectural Engineering

In 1624, Sir Henry Wotton stated that a building should have “firmness, commodity, and delight.” Today these same properties are still of primary importance, although the statement might be rephrased to read “a building should be structurally sound and durable; it should provide a functional, comfortable, and economical environment; and it should be aesthetically pleasing.”

The task of an architectural engineer is to bring together various technologically advanced building systems and make them all work together as an integrated whole.

Architectural engineering at K-State is a five-year program that combines an engineering program (accredited by the Accreditation Board for Engineering Technology) with building systems courses. It covers engineering design theory and how to apply these tools to create completely functional buildings. The K-State architectural engineering program is one of only 16 accredited programs and is a leading source of building system design engineers.

### Employment

There is a tremendous demand for graduates of this program. Architectural engineering opens the door to a variety of interesting jobs with high starting salaries.

Some areas of employment are:

- Consultant in structural design, either independently or in association with an architectural or engineering firm. Structural engineers primarily design building structures.
- Associate with the building products industry, aiding with the development and marketing of new building products.

- Consultant in mechanical, electrical, lighting, or acoustical design, either independently or in association with an architectural or engineering firm.

- Mechanical designers work in heating, ventilating, air conditioning, plumbing, and fire protection systems for buildings.

- Lighting designers create lighting systems for buildings.

- Electrical designers work in power distribution and communication systems.

- Acoustical engineers work to control sound through the use of proper materials and shapes of spaces.

The strength of the architectural engineering program lies in the fact that our graduates are not only capable in these engineering fields, but also understand building design and construction and how the systems are integrated into the building.

Senior students in this program are eligible to take the Fundamentals of Engineering examination to qualify as an engineer-in-training. Successful completion of this examination entitles them to pursue the professional registration examination according to the individual state licensing laws.

### Curriculum

An architectural engineer must be aware of the practical, functional, and aesthetic possibilities of contemporary materials and mechanical, electrical, and structural systems. As an important member of the building design team, the engineer must be able to create designs that will answer the economic, safety, environmental, and aesthetic requirements of a project, and must have a feeling for the total design.

In the program, you will complete extensive work in mathematics and engineering science, as well as take courses in architectural design, materials, graphics, and building systems. You will also learn to apply these principles to structural, mechanical, electrical, lighting, and acoustical requirements of building design.

You will graduate with a basic competency in structural, mechanical, lighting, and electrical design for buildings, and may upon selection of the proper technical electives, strengthen personal knowledge in any of these areas. The primary goal of most students is to practice as a consulting engineer in one of the above fields.

Because the curriculum is primarily engineering, this requires a good background in mathematics and science, particularly physics, and also a talent for creative design and art.

### Admission to the pre-professional program

New and transfer students should submit an application for admission directly to the K-State Office of Admissions. The admission criteria are the same as those for the university and the College of Engineering.

### Admission to the professional program

Pre-professional architectural engineering students must complete the first four semesters of the program prior to taking any upper-division professional program courses in architectural engineering. This is based upon the criteria outlined in the undergraduate catalog for the professional program.