

The University of  
**KANSAS**



**The Department**

The Department of Civil, Environmental, and Architectural Engineering is in Learned Hall, which has excellent teaching, laboratory, and research facilities. The department has a diverse and capable group of 27 faculty members with interests in all major areas of architectural and civil engineering. Three members of the faculty are University Distinguished Professors and one is a member of the National Academy of Engineering.

**Graduate Programs**

The department offers several programs leading to the degrees of Master of Science, Doctor of Philosophy, and Doctor of Engineering. Master of Science degree programs are offered with majors in architectural engineering, civil engineering, environmental engineering, environmental science and water resources science. The department also offers a Master of Construction Management degree and a Master of Civil Engineering degree. A Doctor of Engineering degree is available in civil engineering. Ph.D. programs lead to the Doctor of Philosophy in civil engineering, environmental engineering, and environmental science.

**Admission Requirements**

Admission ordinarily requires a Bachelor of Science degree from an ABET-accredited architectural or civil engineering program, or a closely related engineering field, with a minimum grade-point average of 3.0 (B). Students with other baccalaureate

degrees will be considered for admission, but additional prerequisite course work may be required. Probationary or provisional status may be possible for those with lower grade-point averages if other factors such as substantial engineering experience or professional engineering registration indicate the potential for success. Students with undergraduate degrees in a relevant field of science such as physics, chemistry, biology, geology, or atmospheric science may be admitted to the environmental science program. A grade-point average of 3.3 or higher normally is required for admission to the M.S. degree program in environmental science, but students with lower grade-point averages may be admitted on a probationary or provisional basis if other factors indicate the potential for success. Students with undergraduate degrees in geology, meteorology, geography or another suitable scientific field may be admitted to the water resources science program. Admission to a doctoral program requires an outstanding academic record at the master's level with a grade-point average of 3.5 or higher and documented ability to conduct research at the required level.

For the Master of Construction Management, an undergraduate degree in engineering, architecture, construction or business is expected, although other degrees will be considered. The grade-point average requirement is the same as for the Master of Science. Experience in construction is desirable.

Graduate Record Examination scores are required. The department admits for all semesters; students may



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pursue their degrees full-time or part-time. Domestic students should submit completed applications at least two months before each semester begins. International applicants should apply much earlier to allow time for processing of visas.

**Requirements for a Master's Degree**

Completion of the various Master of Science degree programs ordinarily requires a minimum of one year of full-time study. Students may choose a thesis option, which requires 30 total hours of credit including a thesis of 6 to 10 hours, or a nonthesis option, which requires 30 total hours of credit including a 3- or 4-hour special problem. Students select specific programs of study in consultation with faculty advisers, following established departmental guidelines for the degree programs. All students must take a final examination, which may be oral or written or both.

The Master of Civil Engineering degree requires 34 semester hours of course work, including a minimum of 7 hours of engineering management courses. There are no thesis or special project report requirements. A final examination is required in the specialty area unless the Professional Engineering (PE) exam has been passed.

The Master of Construction Management degree requires at least 33 credit hours, including 18 credit hours of required core courses and 3 credit hours of Master's Report. Most construction management courses are taught in the evenings at KU's Edwards campus in Overland Park. Course

work in statistics and engineering economics is expected either as previous undergraduate credit or as an additional degree requirement.

**Requirements for the Doctor of Philosophy**

Completion of the Ph.D. programs requires a minimum of three years beyond the master's degree. Ph.D. candidates must complete a plan of study approved by the department that includes course work, a dissertation, and the development of research skills in any two of the following areas: foreign language, computer skills, mathematics skills, laboratory techniques, physical and biological science skills, or other special skills.

**Inquiries and Applications**

For more information on the graduate programs of the Department of Civil, Environmental, and Architectural Engineering, visit our Web site at [www.ceae.ku.edu](http://www.ceae.ku.edu) or write to

**The University of Kansas  
Department of Civil, Environmental,  
and Architectural Engineering  
Director of Graduate Studies  
1530 West 15th St.  
Lawrence, KS 66045-7609**

Telephone inquiries may be made to Graduate Secretary at (785) 864-3826. For admission information or to submit an application, visit the Graduate School's virtual Graduate Applications Processing Center at [www.graduate.ku.edu/GAPC](http://www.graduate.ku.edu/GAPC).



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# CIVIL, ENVIRONMENTAL, AND ARCHITECTURAL ENGINEERING

The University of Kansas



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## The Faculty and Their Research

### Professors

**Thomas E. Mulinazzi**, Dept. Chair, Ph.D., Purdue Univ., 1973. Traffic engineering, highway engineering, surveying, airport and railroad planning and design.

**David Darwin**, Deane E. Ackers Distinguished Prof., Ph.D., Univ. of Illinois at Urbana-Champaign, 1974. Structural engineering, engineering materials, reinforced concrete design and analysis, plain concrete, composite construction, finite-element analysis, earthquake engineering, experimental studies.

**Carl E. Kurt**, Ph.D., Oklahoma State Univ., 1969. Inspection, analysis, and rating of highway bridges; structural steel design; fatigue of steel connections; lateral-torsional buckling of crane girders; microcomputer applications; thermoplastic pipe behavior and design.

**Dennis D. Lane**, N.T. Veatch Distinguished Prof., Ph.D., Univ. of Illinois at Urbana-Champaign, 1976. Air pollution, aerosol science, acid rain, pesticide runoff from agricultural lands.

**Joe Lee**, Ph.D., Ohio State Univ., 1971. Traffic flow theory, traffic control, transportation planning, system analysis, transportation design.

**Glen A. Marotz**, Ph.D., Univ. of Illinois at Urbana-Champaign, 1971. Air quality, air quality modeling, toxic air pollutants, hydrometeorology.

**Steven L. McCabe**, Ph.D., Univ. of Illinois at Urbana-Champaign, 1985. Structural dynamics, structural analysis and design, earthquake engineering, structural mechanics.

**Bruce M. McEnroe**, Ph.D., Univ. of Kansas, 1983. Hydraulics, hydrology, water resources engineering, stormwater management, subsurface drainage.

**A. David Parr**, Ph.D., Univ. of Iowa, 1976. Hydraulics, geohydrology, surface water hydrology, dispersion processes, aquifer thermal energy storage.

**Stephen J. Randtke**, Ph.D., Stanford Univ., 1977. Environmental engineering, water and wastewater treatment, removal of soluble organic contaminants, byproduct formation and control.

**W.M. Kim Roddis**, Ph.D., MIT, 1988. Structural design, bridge fatigue, earthquake engineering, AI and advanced computing; steel design/fabrication/construction.

**Stanley T. Rolfe**, A.P. Learned Distinguished Prof., Ph.D., Univ. of Illinois at Urbana-Champaign, 1962. Fracture mechanics, fatigue, fracture control plans for structures, structural mechanics.

**Francis M. Thomas**, Ph.D., Univ. of Illinois at Urbana-Champaign, 1969. Structural mechanics, stress analysis, vibrational analysis and structural dynamics.

### Associate Professors

**Thomas E. Glavinich**, D.E., Univ. of Kansas, 1990. Power systems, construction management.

**David W. Graham**, Ph.D., Univ. of Arizona, 1992. Biological wastewater treatment, bioremediation, applied microbiology, biotechnology.

**Brian A. Rock**, Ph.D., Univ. of Colorado, 1992. Building mechanical systems, indoor air quality, solar energy, automatic controls.

### Assistant Professors

**Yong Bai**, Ph.D., North Carolina State Univ., 1996. Construction engineering and management, highway construction safety, international construction management.

**JoAnn P. Browning**, Ph.D., Purdue Univ., 1998. Structural dynamics, earthquake engineering.



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**Tatsuji Ebihara**, Ph.D., Univ. of Cincinnati, 1999. Industrial wastewater treatment, biological wastewater treatment, green technology.

**Adolfo Matamoros**, Ph.D., Univ. of Illinois at Urbana-Champaign, 1999. Experimental analysis of reinforced concrete structures, auto-adaptive media, earthquake engineering.

**Mario A. Medina**, Ph.D., Texas A&M, 1992. Thermal analysis, building mechanical systems.

**Robert L. Parsons**, Ph.D., Georgia Institute of Technology, 1998. Geographic Information Systems (GIS), uncertainty in site characterization, soil modification and stabilization.

**Guillermo Ramirez**, Ph.D., Univ. of Texas at Austin, 1999. Structural analysis and design, composites, nondestructive evaluation.

**C. Bryan Young**, Ph.D. Univ. of Iowa, 2000. Hydrology, NexRad radar, GIS applications in water resources, environmental dispersion processes.

## Emphases

### Architectural Engineering

- Building Mechanical Systems
- Power Systems
- Construction Management
- Energy Management
- Structural Systems

### Civil Engineering

- Construction Engineering
- Geotechnical Engineering
- Structural Engineering
- Transportation Engineering
- Water Resources Engineering

### Environmental Engineering

- Air Quality and Air Quality Modeling
- Water Quality
- Biomediation and Biotechnology
- Solid and Hazardous Waste Management
- Wastewater/Water Treatment

To request a copy of the *Graduate School Catalog*, call (785) 864-9036, or send e-mail to [graduate@ku.edu](mailto:graduate@ku.edu).

## Financial Aid

Various types of financial aid are available to full-time students, including teaching and research assistantships that pay up to \$1,250 per month for half-time appointments. Research or teaching assistants may pay reduced tuition. Scholarships and fellowships with stipends up to \$18,000 plus tuition may be available for outstanding students. Applications for aid should be submitted before February 15 for scholarships and fellowships and before April 15 for teaching or research assistantships.

## The University

The University of Kansas is a major educational and research institution with 29,000 students and 2,100 faculty members. KU includes the main campus in Lawrence; the Medical Center in Kansas City, Kansas; the KU Edwards campus in Overland Park; a clinical campus of the School of Medicine in Wichita; and educational and research facilities throughout the state. KU has 14 major academic divisions: the College of Liberal Arts and Sciences, the Graduate School, and the Schools of Allied Health, Architecture and Urban Design, Business, Education, Engineering, Fine Arts, Journalism and Mass Communications, Law, Medicine, Nursing, Pharmacy, and Social Welfare. Visit KU's Web site, [www.ku.edu](http://www.ku.edu).

Research is an integral part of the university's educational process. KU has more than 40 special research facilities, in addition to those in individual departments and schools. KU set a record of \$258 million for total research expenditures in 2003. The National Science Foundation classifies KU as a major university receiving substantial research support.

KU offers visits from distinguished lecturers, scholars, and artists; concert and chamber music series; theatre and ballet performances; classical, popular, and experimental films; special exhibitions in the Helen Foresman Spencer Museum of Art and the Natural History Museum and Biodiversity Research Center; and informal activities. The Lied Center of Kansas, a 2,020-seat performing arts hall, brings outstanding performers to the KU campus each year. There are sports for spectators and participants with exciting Big 12 athletics, intramurals, and extensive recreational facilities.

KU's main campus occupies 1,000 acres on and around Mount Oread in Lawrence, a community of more than 80,000 among the forested hills of eastern Kansas. Lawrence offers shopping areas, malls, restaurants, entertainment, and recreational facilities near the campus or on KU bus routes. Metropolitan Kansas City with its international airport, professional sports, ballet, opera, concerts, night spots, galleries, museums, and festivals is about 45 minutes away by interstate highway.

The University of Kansas prohibits discrimination on the basis of race, color, religion, sex, national origin, age, ancestry, disability, veteran status, sexual orientation, marital status, and parental status.