

College of Engineering

Construction Science and Management

Overview

Ever-changing technological advancements in the construction industry demand competent and technically skilled managers of construction. Construction professionals build buildings, highways, bridges, homes, utility systems and specialty construction by successfully managing manpower, material, equipment, schedules and costs that are the key resources under their control. The constructor must understand all aspects of the construction to assure a safe and productive work environment.

Those who are most successful have acquired the proper academic training and have an understanding of the technology available to meet the increasing complexity of this industry. Kansas State University's construction science and management program enables graduates to advance as far as their talent and determination will take them.

Professional options Careers

Graduates of this program are in high demand in the construction industry. Each year, jobs in the construction industry go unfilled because of a shortage of qualified managers with a college education in construction management.

Employment opportunities are diversified and are available not only in the construction industry, but also in related fields such as the building material industry and land development. Graduates may become a construction manager, general contractor, specialty contractor, project manager, general superintendent, estimator, cost engineer, scheduler, facility manager, expeditor, purchasing agent, office manager, sales engineer, building product technical representative, building inspector, field engineer, safety engineer or construction company owner.

Points of pride

The K-State construction science and management student competition teams have placed in the top three in at least one category in regional competition for five consecutive years. The teams regularly place in the annual construction management student competition for Region IV of the Associated Schools of Construction.

Students will enter the construction field in areas generally categorized as:

Building construction

Apartments, office buildings, industrial plants, hospitals, churches and schools.

Heavy or highway construction

Dams, tunnels, flood control projects, highways and bridges.

Utilities construction

Water and wastewater treatment plants, distribution systems, power lines and pipelines.

Specialty construction

This includes the installation of specialized material, equipment and systems that are specified in the construction project. Such areas would include mechanical, electrical, plumbing and other specialty construction.

Academics

The program is an engineering-based management program designed to prepare graduates to be a professional and a technically competent manager of personnel resources, financial resources, materials, equipment and methods.

The program includes courses in math, engineering science, materials, business and management, and prepares you to build the designs created by engineers and architects.

Degree options

Minors

Students are encouraged to consider broadening their course of study through pursuit of a minor. A minor requires completion of at least 15 designated hours of coursework in an area outside their major curriculum. Students completing all requirements for a minor will receive official recognition for their emphasis on their permanent records. Departments offering minors have specified courses that enable students to acquire moderate expertise in their discipline. Courses included in a minor may be used to satisfy the general requirements and electives of the major curriculum. A minor in business administration aligns particularly well with this curriculum.

Dual degrees

Some students enter dual-degree programs, which may include a major in architectural engineering, civil engineering or business administration. This usually requires extra years

of study to complete the coursework required of other degrees.

A cooperative education program is also available to students who wish to obtain construction experience beyond just summer internships. This provides valuable experience in construction before graduation.

Accreditation

The program is accredited by the American Council for Construction Education, acce-hq.org.

Faculty

Faculty in construction science and management are licensed professional engineers and architects or experts in their area or discipline. They have significant industry experience and bring it into the classroom to facilitate the understanding and practical application of engineering theory and construction practices. The department faculty remain up to date on the latest construction material, methods, equipment, construction management, operations and processes to assure students graduate with the most current understanding of design and construction requirements and technology to support the building process. Department faculty members have won numerous teaching and advising awards as a result of their dedication to students and their commitment to quality education.

Preparation

It is suggested that students take courses in math, physics, English and speech in high school or community college. The program includes courses in math, engineering science, construction science, materials, business and management to prepare the graduate to work as a valuable member of the design and construction team to build the designs created by engineers and architects.

Admission

Admission is selective based on academic performance. Submit application, application fee, all transcripts and ACT or SAT scores postmarked by the priority Feb. 1 deadline. Transfer students will be considered for all terms. Freshmen will be considered only for summer and fall terms.

Preprofessional program

Incoming students apply to Kansas State University through the general university admissions process. When enrolling in courses, those wishing to declare a major in construction science and management may enroll directly in the curriculum titled CNSM to start in the preprofessional program in construction science and management.

Professional program

Preprofessional construction science and management students must complete the first three semesters of the program prior to taking any upper-division professional program courses in construction science and management. The criteria for acceptance to the professional program are outlined in the undergraduate catalog for the professional program.

Activities

The department offers a number of very active student professional organizations that provide ample opportunity for involvement and leadership as well as interaction with industry professionals, field trips, scholarships and student competition teams. These student-run organizations include:

- Associated General Contractors
- Mechanical Contractors Association of America
- American Concrete Institute
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
- Illuminating Engineering Society
- Sigma Lambda Chi – Construction Science and Management Honor Society
- Department Student Ambassadors
- Engineering Open House
- Construction Management Competition Team for Associated Schools of Construction
- AEI Student Competition Team

Financial assistance

Applications for admissions are accepted up to 15 months before the first class day each semester. Apply for admission and fill out the Kansas State University scholarship application at k-state.edu/sfa/scholarships

Nov. 1 is the priority deadline for incoming freshmen to submit the K-State scholarship application, or Feb. 1 for transfer students. Students should submit their Free Application for Federal Student Aid by March 1. For additional details, go to k-state.edu/sfa.

Suggested coursework

Bachelor of Science degree in construction science and management (124 hours)

Pre-professional program

Hrs. First semester

| | | |
|---|----------|---|
| 3 | MATH 205 | General Calculus and Linear Algebra |
| 2 | CNS 100 | Construction Science and Management Orientation |

| | | |
|----|--|--------------------------------------|
| 3 | CNS 110 | History of Building and Construction |
| 3 | ENGL 100 | Expository Writing I |
| 0 | CNS 016 | Construction Seminar |
| 3 | Humanities and social science elective † | |
| 14 | | |

Hrs. Second semester

| | | |
|----|----------|---|
| 3 | ECON 110 | Principles of Macroeconomics |
| 4 | PHYS 113 | General Physics I |
| 3 | CE 212 | Elementary Surveying Engineering |
| 2 | CNS 200 | Computer Applications in Engineering and Construction |
| 2 | COMM 105 | Public Speaking 1A |
| 0 | CNS 016 | Construction Seminar |
| 14 | | |

Hrs. Third semester

| | | |
|----|-----------|------------------------------------|
| 3 | CNS 231 | Statics A |
| 4 | PHYS 114 | General Physics II |
| 1 | CNS 210 | Graphic Communication I |
| 2 | CNS 220 | Construction Materials |
| 3 | ACCTG 231 | Accounting for Business Operations |
| 3 | ENGL 200 | Expository Writing II |
| 0 | CNS 016 | Construction Seminar |
| 16 | | |

Professional program

Hrs. Fourth semester

| | | |
|----|-----------|------------------------------------|
| 1 | ARE 310 | Introduction to AutoCAD |
| 3 | CNS 321 | Graphic Communication II |
| 3 | CE 331 | Strength of Materials/Analysis |
| 1 | CE 332 | Strength of Materials Lab |
| 3 | CNS 330 | Site Construction |
| 3 | MANGT 420 | Management Concepts |
| 3 | STAT 350 | Business and Economic Statistics I |
| 0 | CNS 016 | Construction Seminar |
| 17 | | |

Hrs. Fifth semester

| | | |
|----|---------|-------------------------------------|
| 3 | CNS 325 | Construction Documents |
| 3 | CNS 440 | Construction Methods and Equipment |
| 3 | CNS 524 | Steel and Timber Construction |
| 3 | CNS 535 | Electrical Service and Installation |
| 2 | CNS 550 | Construction Safety |
| 1 | CNS 542 | Ethics and Professional Standards |
| 1 | ARE 312 | Building Information Modeling |
| 0 | CNS 016 | Construction Seminar |
| 16 | | |

Hrs. Sixth semester

| | | |
|----|---------|--|
| 3 | CNS 534 | Heating and Air Conditioning |
| 3 | CNS 536 | Water Supply and Plumbing |
| 3 | CNS 641 | Construction Estimating |
| 3 | CNS 642 | Construction Management |
| 3 | CNS 645 | Construction Scheduling and Cost Control |
| 0 | CNS 016 | Construction Seminar |
| 15 | | |

Hrs. Seventh semester

| | | |
|----|-----------|---|
| 3 | CNS 528 | Concrete and Masonry Construction |
| 2 | CNS 510 | Technology for Management of the Construction Process |
| 3 | CNS 643 | Preconstruction Services and Design-Build |
| 2 | CNS 646 | Construction Finance Management |
| 3 | ENGL 417 | Written Communication for the Workplace |
| 3 | MANGT 390 | Business Law I |
| 0 | CNS 016 | Construction Seminar |
| 16 | | |

Hrs. Eighth semester

| | | |
|---|--------------------------|-------------------------|
| 3 | CNS 660 | Construction Operations |
| 3 | Labor elective ** | |
| 2 | Professional elective ** | |
| 2 | Professional elective ** | |

| | | |
|----|---|----------------------|
| 3 | Management elective** | |
| 3 | Humanities and Social Sciences Elective † | |
| 0 | CNS 016 | Construction Seminar |
| 16 | | |

† Humanities and social science electives are to be selected from the College of Engineering humanities and social science elective course list approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 general education program.

** Management electives, labor electives and professional electives are to be selected from the current approved department lists.

Some courses in business and management require junior standing. Accounting courses require sophomore standing.

For more information about construction science and management, contact:

Department of Architectural Engineering and Construction Science
 Kansas State University
 240 Seaton Hall
 920 N. 17th St.
 Manhattan, KS 66506-2903
 785-532-5964
 Fax: 785-532-3556
arecns@k-state.edu
are-cns.k-state.edu
engg.k-state.edu

For more information about engineering, contact:

Office of Recruitment
 College of Engineering
 1141 Engineering Hall
 1701D Platt St.
 Manhattan, KS 66506-5201
 785-532-5455
kstateengg@k-state.edu
engg.k-state.edu



For more information about Kansas State University, contact:

Office of Admissions
 Kansas State University
 119 Anderson Hall
 919 Mid-Campus Drive North
 Manhattan, KS 66506-0102
 1-800-432-8270 (toll free) or
 785-532-6250
k-state@k-state.edu
k-state.edu/admissions

KANSAS STATE UNIVERSITY

Notice of nondiscrimination
 Kansas State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, ancestry, disability, genetic information, military status, or veteran status, in the University's programs and activities as required by applicable laws and regulations. The person designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: the Director of the Office of Institutional Equity, equity@k-state.edu, 103 Edwards Hall, Kansas State University, Manhattan, Kansas 66506, (785) 532-6220. The campus ADA Coordinator is the Director of Employee Relations, charlott@k-state.edu, who may be reached at 103 Edwards Hall, Kansas State University, Manhattan, Kansas 66506, (785) 532-6277.

Post-Graduation Statistics
k-state.edu/postgrad-stats
ksdegreestats.org