

# k-state study guide

kansas state university

## Construction Science and Management

Rapid growth of the construction industry demands a new kind of professional: the manager of construction.

The construction industry is the largest single industry in the United States. The annual dollar volume of work is more than \$1 trillion (nearly 9 percent of gross domestic product). National contractors' organizations report that thousands of graduates a year find employment in the industry. And as the industry grows, so does the need for qualified, university-trained persons.

Ever-changing technological advancements in the construction industry demand competence and technical skill. Graduation from K-State's construction science and management program will enable you to advance as far as your talent and determination will take you. Those who are most successful have acquired the proper academic training to meet the increasing complexity of this industry.

The rewards of working in construction are many: an active life, self-satisfaction, a sense of accomplishment, generous salaries, and financial security for those graduates who eventually become owners of their own companies.

### Employment opportunities

Each year jobs in the construction industry go unfilled because of a shortage of qualified managers with a college education in construction management. This shortage means more job opportunities for those with the proper training.

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.

You may become a project manager, general superintendent, estimator, cost engineer, scheduler, facility manager, expeditor, purchasing agent, office manager, sales engineer, building inspector, field engineer, safety engineer, or a construction company owner.

### The program

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

In preparation for a degree in construction science and management, you should take all high school or community college courses available in math, physics, English, and speech.

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

### Dual degrees

Some students enter dual-degree programs with construction and a major in architecture, architectural engineering, civil engineering, or business administration. This usually requires extra years of study.

A cooperative education program is also available. You can obtain construction experience beyond just summer work. This provides valuable experience in construction before graduation.

### Minors available

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 course work 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 forming a minor may be used to satisfy the general requirements of a major curriculum, including free electives.

### Accreditation

The K-State construction science and management program is accredited by the American Council for Construction Education.

### Admission to the pre-professional program

Students should submit an application for admission directly to the 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 students must complete the first three semesters of the program before taking any upper-division professional program courses in construction science and management. This is based upon the criteria outlined in the undergraduate catalog for the professional program.

## BS in construction science and management

(130 hours)

### Pre-professional program

#### Hrs. First semester

4	MATH 220	Analytical Geometry and Calculus I
3	DEN 210	History of Building and Construction
1	CNS 100	Construction Science and Management Orientation
2	COMM 105	Public Speaking IA
3	ENGL 100	Expository Writing I
0	CNS 016	Construction Seminar
<hr/>		
13		

#### Hrs. Second semester

3	ECON 110	Principles of Macroeconomics
4	PHYS 113	General Physics I
3	CE 212	Elementary Surveying Engineering
2	CNS 320	Construction Materials
3	UGE humanities or social science elective†	
0	CNS 016	Construction Seminar
<hr/>		
15		

#### Hrs. Third semester

3	CNS 231	Statics A
4	PHYS 114	General Physics II
2	CNS 200	Computer Applications in Engineering and Construction
3	ACCTG 231	Accounting for Business Operations
3	ENGL 200	Expository Writing II
0	CNS 016	Construction Seminar
<hr/>		
15		

### Professional program

#### Hrs. Fourth semester

3	CE 331	Strength of Materials
1	CE 332	Strength of Materials Lab
3	CNS 321	Construction Technology and Detailing
3	CNS 330	Site Construction
6	UGE humanities or social science electives (upper level)†	
0	CNS 016	Construction Seminar
<hr/>		
16		

#### Hrs. Fifth semester

3	CNS 522	Theory of Structures
3	CNS 325	Construction Drawings
3	CNS 536	Water Supply and Plumbing
3	CNS 534	Heat and Air Conditioning
3	STAT 350	Business and Economic Statistics***
2	ARE 537	Acoustic Systems
1	ARE 310	Introduction to CAD
0	CNS 016	Construction Seminar
<hr/>		
18		

#### Hrs. Sixth semester

3	CNS 524	Steel Construction
3	CNS 540	Construction Methods and Equipment
3	CNS 535	Electrical Service and Installation
3	ENGL 417	Written Communication for the Workplace
3	MANGT 390	Business Law I***
2	CNS 650	Construction Safety
1	CNS 542	Ethics and Professional Standards
0	CNS 016	Construction Seminar
<hr/>		
18		

#### Hrs. Seventh semester

2	CNS 523	Timber Construction
3	CNS 645	Construction Scheduling and Cost Control
4	CNS 641	Construction Estimating
3	CNS 642	Const Management
3	Management elective (general)**	
2	Professional elective**	
0	CNS 016	Construction Seminar
<hr/>		
17		

#### Hrs. Eighth semester

3	CNS 528	Concrete and Masonry Construction
3	CNS 660	Construction Operations
3	CE 322	Soil and Foundation Construction
3	Management elective (labor)**	
3	Professional elective**	
3	Management elective**	
0	CNS 016	Construction Seminar
<hr/>		
18		

† Humanities and social science electives are to be selected from the approved catalog list of courses (see engineering course requirements at [www.catalog.k-state.edu](http://www.catalog.k-state.edu)).

\*\* Management electives and professional electives are to be selected from the approved departmental lists.

\*\*\* These courses in statistics, business, and management require junior standing.

## For more information about construction science and management, contact:

Department of Architectural Engineering/Construction Science  
Kansas State University  
240 Seaton Hall  
Manhattan, KS 66506-2903  
785-532-5964  
Fax: 785-532-3556  
E-mail: [arecns@k-state.edu](mailto:arecns@k-state.edu)  
[www.k-state.edu/are-cns](http://www.k-state.edu/are-cns)  
[www.engg.k-state.edu](http://www.engg.k-state.edu)

## For more information about Kansas State University, contact:

Office of Admissions  
Kansas State University  
119 Anderson Hall  
Manhattan, KS 66506-0102  
1-800-432-8270 (toll free) or  
785-532-6250  
E-mail: [k-state@k-state.edu](mailto:k-state@k-state.edu)  
[consider.k-state.edu](http://consider.k-state.edu)



#### Notice of nondiscrimination

Kansas State University is committed to nondiscrimination on the basis of race, color, ethnic or national origin, sex, sexual orientation, gender identity, religion, age, ancestry, disability, military status, veteran status, or other nonmerit reasons, in admissions, educational programs or activities, and employment, including employment of disabled veterans and veterans of the Vietnam Era, as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries concerning Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans With Disabilities Act of 1990 has been delegated to the director of Affirmative Action, Kansas State University, 214 Anderson Hall, Manhattan, KS 66506-0124, (phone) 785-532-6220; (TTY) 785-532-4807.

5513-53465-07/09