Architectural Engineering

128 credit hours total

YEAR 1

FALL

***MATH 220 (4)**
Analytic Geometry and Calculus I
KSC-3

DEN 160 (1)
College of Engineering Orientation

***ENGL 100 (3)**
Expository Writing I
KSC-1

***COMM 106 (3)**
Public Speaking
KSC-2

***Elective (3)**
Arts and Humanities
KSC-6

ARE 010 (0)
New Student First-Year Workshop 1
PR/CO: DEN 160

(14 credit hours)

SPRING

MATH 221 (4)
Analytic Geometry and Calculus II
PR: MATH 220 ≥C

***PHYS 213 (5)**
Engineering Physics I
KSC-4
PR/CO: MATH 220

***ENGL 200 (3)**
Expository Writing II
or ENGL 210 | Honors English
KSC-1
PR: ENGL 100 ≥C

CNS 210 (1)
Graphic Communication I
PR/CO: DEN 160, CNS 220

CNS 220 (2)
Construction Materials
PR/CO: DEN 160

ARE 012 (0)
New Student First-Year Workshop 2
PR/CO: DEN 160

(15 credit hours)

YEAR 2

FALL

MATH 222 (4)
Analytic Geometry and Calculus III
PR: MATH 221 ≥C

PHYS 214 (5)
Engineering Physics II
PR: MATH 221 ≥C, PHYS 213 ≥C

CE 333 (3)
Statics
PR: MATH 221 ≥C, PHYS 213 ≥C

ARE 295 (3)
Introduction to Building Systems
Sophomore standing

(15 credit hours)

SPRING

MATH 340 (4)
Elementary Differential Equations
PR: MATH 221 ≥C

ME 513 (3)
Thermodynamics I
PR: MATH 222 ≥C, PHYS 213 ≥C

CE 533 (3)
Mechanics of Materials
PR/CO: MATH 221≥C, PR: CE 333 ≥C - OR - CE 530 ≥C

CE 534 (1)
Mechanics of Materials Laboratory
PR/CO: CE 533

CNS 321 (3)
Graphic Communications II
PR: CNS 210, 220 both ≥C, PR/CO: ARE 010, 012 or CNS 010, 012

***Elective (3)**
Social and Behavioral Sciences
KSC-5

(17 credit hours)

YEAR 3

FALL

CE 537 (3)
Introduction to Structural Analysis
PR: CE533 ≥C

CHM 210 (4)
Chemistry I

ARE 551 (3)
Electrical Systems I
PR: ARE 295 ≥C, PHYS 214 ≥C

ARE 552 (3)
Mechanical Systems I
PR: ARE 295 ≥C
PR/CO: ME 513 ≥C

ARE 553 (3)
Structural Systems I
PR: ARE 295 ≥C, CE 533 ≥C

(16 credit hours)

SPRING

ARE 421 (3)
Plan Reading and Systems Communications
PR: ARE 295 ≥C, CNS 321 ≥C

ME 512 (3)
Dynamics
PR: CE 333 ≥C, PR/CO: MATH 340

ARE 561 (3)
Electrical Systems II
PR: ARE 551 ≥C

ARE 562 (3)
Mechanical Systems II
PR: ARE 552 ≥C

ARE 563 (3)
Structural Systems II
PR: ARE 553 ≥C, CE 537 ≥C, CHM 210 ≥C

ARE 521 (2)
Computer Aided Architectural Engineering
PR: ARE 551 ≥C, ARE 552 ≥C, or ARE 553 ≥C

(17 credit hours)

YEAR 4

FALL

ARE 571 (3)
Systems Integration and Design
PR: ARE 421, 521, 561, 562, 563 (all ≥C)

▲Elective (3)
Design

▲Elective (3)
Design

▲Elective (3)
Engineering

***Elective (3)**
Social and Behavioral Sciences
KSC-5

***Elective (3)**
Institutionally Designated
KSC-7

(18 credit hours)

SPRING

ARE 671 (4)
ARE Capstone
PR: ARE 571 ≥C

▲Elective (3)
Design

▲Elective (3)
Design/Engineering/ Complementary Elective

***Elective (3)**
Arts and Humanities
KSC-6

***Elective (3)**
Institutionally Designated
KSC-7

(16 credit hours)

KANSAS STATE UNIVERSITY | Carl R. Ice College of Engineering

KEY

- = Prerequisite for another course
- PR = Prerequisite requirement
- PR/CO = Prerequisite or concurrent requirement
- * = K-State Core (KSC) course
- ▲ = See department approved electives
- ● = Only offered in the semester shown

Degree map is for advising purposes only. Students are responsible for complying with University Catalog requirements.

Architectural Engineering Curriculum Notes

A letter grade of C or better is required for all prerequisite courses prior to taking subsequent departmental and non-departmental prefix courses. A letter grade of C or better is required for all graded departmental prefix courses applied to the degree.

Technical Electives

- Design electives are to be selected from the current approved department list. Minimum 9 hours, maximum 12 hours required.
- Engineering electives are to be selected from the current approved department list. Minimum 3 hours, maximum 6 hours required.
- Complementary electives are to be selected from the approved department list. Minimum 0 hours, maximum 3 hours required.
- Design, Engineering and Complementary elective information can be found at **are-cns.k-state.edu/undergrad/are** .
- A degree requirement for the Bachelor of Science in architectural engineering includes taking the NCEES FE Exam and reporting individual passing or non-passing results. This action is required as a course completion requirement for ARE 671 – ARE Capstone. Failure to provide the required information will result in a failing grade for ARE 671 and non-completion of the degree.

K-State Core

The K-State Core (KSC) is the university's version of the systemwide general education framework established by the Kansas Board of Regents.

KSC requirement 1 – English (6 hours)
KSC requirement 2 – Communications (3 hours)
KSC requirement 3 – Math and Statistics (3 hours)
KSC requirement 4 – Natural and Physical Sciences (4-5 hours)
KSC requirement 5* – Social and Behavioral Sciences (6 hours)
KSC requirement 6* – Arts and Humanities (6 hours)
KSC requirement 7 – Institutional Electives (6 hours)

To view course lists for each requirement, visit **k-state.edu/general-education** .

**Requires two courses from two different subject areas.*