

**Department of Architectural Engineering and Construction Science and Management Kansas State University**

Architectural Engineering

Architectural Engineering Complimentary Electives are upper level courses selected to develop and enhance a student's knowledge of a specialty area in Architectural Engineering.

Students may take any of the courses on the following approved list to meet the complimentary elective requirements. Students are responsible for checking current semester offerings and prerequisites and meeting any such requirements prior to enrolling in any of the following courses, including those prerequisites for the ARE Capstone course that may be on the list below.

ARE	499 Honors Research (V)	CNS	610 Pre-Engineered Metal Buildings (2) (Int)
ARE	537 Acoustics (on sufficient demand)	CNS	629 Tilt-up Concrete Structures (2) (Int)
ARE	620 Problems in Architectural Engineering (V)	CNS	634 Building Systems Commissioning (2) (Int)
ARE	630 Introduction to LEED (V) (Int)	CNS	738 Mechanical and Electrical Estimating (2) (F, S)
ARE	711 Bldg Energy Codes and Standards (2) (S)	DEN	550 Engineering Law (3) (Offering Varies)
ARE	712 Energy Modeling Lab (1) (S)	ECE	525 Electronics I (3) (F, S)
ARE	715 (A) ASHRAE Competition Team (3) (S)	ECE	526 Electronics II (3) (F, S)
ARE	715 (B) AEI Competition Team (V) (F,S)	ECE	557 Electromagnetic Theory I (4) (F, S)
ARE	720 Topics in Architectural Engr. (V)	ECE	581 Energy Conversion I (3) (F, S)
ARE	723 Timber Structures (3) (Offering Varies)	ECE	681 Wind & Solar Engineering (3) (F)
ARE	724 Adv. Steel Design (3) (S, Even Years)	ECE	685 Power Systems Design (3) (F)
ARE	725 Cold-Formed Steel Design (3) (S, Odd Years)	ECE	686 Power Systems Protection (3) (S)
ARE	726 Masonry Structural Design (3) (Offering Varies)	ECE	758 Electromagnetic Theory II (3) (F)
ARE	729 Building Seismic Design (3) (Offering Varies)	IMSE	555 Industrial Facilities Layout and Design (3) (F, S)
ARE	731 Adv. Lighting Design (3) (S)	MATH	551 Applied Matrix Theory (3) (F, S)
ARE	734 Adv. Mechanical Sys. Design (3) (F, S)	ME	573 Heat Transfer (3) (F, S)
ARE	735 Electrical Systems Design (3) (F, S)	ME	622 Environmental Engineering I (3) (S)
ARE	736 Advanced Plumbing Design (3) (F)	ME	720 Intermediate Fluid Mechanics (3) (S)
ARE	741 Building Communication Sys. (3) (F)	PHYS	651 Introduction to Optics (3) (F)
BAE	640 Instrument. & Control for Biol. Sys. (3) (S)	THTRE	579 Fundamentals of Stage Lighting (3)
BAE	651 Air Pollution Engineering (3) (S)	THTRE	711 Topics in Technical Theatre (Lighting Class only) (3)
CE	212 Elem. Survey Engg (3) (F, S)		
CE	522 Soil Mechanics I (3) (F,S)		
CE	550 Water Resource Engg (3) (F)		
CE	552 Hydraulic Engineering (3) (S)		
CE	703 Responsibility in Engineering (3) (S)		
CE	732 Advanced Structural Analysis I (3) (F)		
CE	742 Advanced Steel Design (3) (S)		
CE	743 Adv. Reinforced Concrete (3) (S)		
CE	745 Structural Dynamics (3) (F)		

## ENGINEERING ELECTIVE LIST

SPRING 2017

### Department of Architectural Engineering and Construction Science and Management Kansas State University

Engineering Electives are upper level courses selected to develop and enhance a student's knowledge of a technical subject area outside of, but related to, the practice of and research into Architectural Engineering.

Students may take any of the courses on the following approved list to meet the Engineering Elective requirements. Students are responsible for checking current semester offerings and prerequisites and meeting any such requirements prior to enrolling in any of the following courses.

- ECE 519 Electric Circuits & Controls (4) (F,S)
- IMSE 530 Engineering Economic Analysis (2) (F,S)
- ME 512 Dynamics (3) (F,S)
- ME 571 Fluid Mechanics (3) (F, S)
- STAT 703 Introduction to Statistical Methods for the Sciences (3) (F,S)

## SCIENCE ELECTIVE LIST

SPRING 2017

### Department of Architectural Engineering and Construction Science and Management Kansas State University

Science Electives are courses selected to introduce a student to basic sciences concepts that may be outside of, but related to, the practice of and research into Architectural Engineering.

Students may take any of the courses on the following approved list to meet the Science Elective requirements. Students are responsible for checking current semester offerings and prerequisites and meeting any such requirements prior to enrolling in any of the following courses.

- BIOL 198 Principles of Biology (4) (F,S)
- CHEM 230 Chemistry II (4) (F,S)
- GEOG 235 Atmospheric Science (4) (F)
- GEOG 340 Geography of Natural Resources (3) (F)
- GEOG 350 Earth System Geography (4) (U - GC)
- GEOG 360 Sustainability Concepts & Issues (3) (S)
- GEOL 100 Earth in Action (3) (S)
- GEOL 125 Natural Disasters (3) (F,S)