

# Architectural Engineering

**Degrees Offered:** BS

**Average Starting Salary with BS:** \$54,308

**Areas of Emphasis:** Construction Engineering, Construction Materials, Environmental Systems, Project Management, Structural Engineering

## What Architectural Engineers Do

As an architectural engineer you will plan, design and supervise construction of essential facilities and structures for residential, commercial, industrial and institutional buildings.

Architectural engineers are problem solvers; they apply the latest in high-tech equipment and sophisticated procedures to address challenges concerning our environment and infrastructure. The diversity of architectural engineering complements the use of multiple systems to the intent and purpose of a project's design.

Architectural engineering is a broad field, so coursework is required in a range of areas including:

- Structural, electrical, mechanical, acoustical and lighting design are directed toward providing reliable and economical structures such as stadiums, retail complexes, port facilities, office buildings and airports.
- Construction engineering includes studies in construction techniques, cost estimating, quality control/quality assurance and contract administration.
- History, architectural design and humanities courses provide the necessary tools to coexist in the fabric of society.

## Student Organizations

Architectural engineering students can be involved in a number of activities, including the Concrete Canoe, Solar House, and Steel Bridge Design Teams. Various regional and national engineering organizations and firms sponsor these activities enabling students to meet and interact with potential future employers. There is an active student chapter of the Architectural Engineering Institute (AEI).

## Departmental Scholarship Information (scholarships.mst.edu)

Freshman scholarships are awarded based on high school transcripts and ACT/SAT scores. Numerous named and departmental scholarships ranging from \$200 to \$1,500 are available to all levels of students and are awarded based on academic merit and extracurricular activities as well as financial need.

## Departmental Contact Information:

211 Butler-Carlton Hall  
Rolla, MO 65409  
573-341-4461  
care.mst.edu  
civil@mst.edu

## Bachelor of Science

Architectural Engineering .....128 credit hours

Entering freshmen desiring to study architectural engineering are admitted to the Freshman Engineering Program. They may, however, state an Architectural Engineering preference which will be used as consideration for available freshman departmental scholarships. The focus of the Freshmen Engineering program is on enhanced advising and career counseling, with the goal of providing to the student the information necessary to make an informed decision.

### FIRST YEAR

### Credit

Chemistry 1310, 1319, 1100-Gen Chemistry w/ Lab.....	6
English 1120-Exposition.....	3
FE 1110-Careers in Engineering.....	1
MechE 1720-Engineering Design.....	3
Math 1214-Calculus for Engineers I.....	4
Math 1215-Calculus for Engineers II.....	4
Physics 1135-Engineering Physics I.....	4
Elective/General Education.....	3
Elective/General Education.....	3
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### SECOND YEAR

Art 3203-Architectural Design I.....	3
ArchE 2003-Engineering Communication.....	2
ArchE 2103-Materials & Methods of Construction.....	3
CivilE 2401-Fund of Surveying.....	3
CivilE 2200-Engineering Mechanics-Statics.....	3
CivilE 2210- Mechanics of Materials.....	3
CivilE 2211-Mechanics of Materials Lab.....	1
MechE 2350-Engr Mechanics-Dynamics.....	2
Math 2222-Calc w/ Analytic Geometry II.....	4
Math 3304-Differential Equations.....	3
Physics 2135-Engineering Physics II.....	4
Stat 3113-Probability & Statistics.....	3
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### THIRD YEAR

ArchE 3804-Architectural Design II.....	3
ArchE 3805-Bldg Elec & Lighting Systems.....	3
ArchE 3201-Structural Analysis.....	3
ArchE 3220-Reinforced Concrete Design.....	3
CivilE 3715-Elementary Soil Mechanics.....	3
CivilE 3116-Construction Materials.....	3
CivilE 3330-Elementary Fluid Mechanics.....	3
ElEng 2800-Electrical Circuits.....	3
MechE 2527-Thermal Analysis.....	3
MechE 5571-Environmental Controls.....	3
History 2510-History of Technology.....	3
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### FOURTH YEAR

ArchE 4010-Senior Seminar.....	1
ArchE 3221-Struct Design Metals.....	3
ArchE 4448-Contracts & Construction Engineering.....	3
ArchE 4097-Senior Design.....	3
CivilE 4729-Foundation/Pavement Engineering.....	3
EMgt 1210-Economics of Engineering Design.....	2
History 3550-Recent American Art and Tech.....	3
Elective/ArchE Technical.....	3
Elective/ArchE Technical.....	3
Elective/General Education.....	3
Elective/Free.....	3
	<u>30</u>

All architectural engineering students must take the Fundamentals of Engineering Examination prior to graduation. A passing grade is not required; however, this is the first step to becoming a registered professional engineer.