ARCHITECTURAL ENGINEERING (AREN)

AREN 200: Architect Engineering Design
Credits: 4
College: School of Design & Engineering
Schedule Type: Lab

AREN 301: Structural Analysis I
Structural Analysis I provides the basis and serves as a foundation for subsequent advanced Structural Analysis courses. Assumptions, principles of equilibrium in determining structures Reactions, bending moments and shear diagrams will be discussed. Additionally, analysis of plane and space trusses. Influence lines. Computer analysis of determinate trusses. Optimization in structural systems. Approximate methods of analysis for indeterminate structures. Determination of displacements by virtual work. Castiglione's theorem and moment area theorems.
Credits: 3
College: School of Design & Engineering
Schedule Type: Lecture

AREN 303: Struct. Design Compres Element
Credits: 3
College: School of Design & Engineering
Prerequisites: AREN 301 [Min Grade: D]
Schedule Type: By Appointment - 1 student, Lecture

AREN 305: Struct Design Tensile Elements
The main objective of this course is to provide students with a rational basis of the design of tensile members, elements and structures through advanced understanding of material and structural behavior. The subject will be approached by looking into the behavior of steel, timber and fabrics at different levels; material level, element level, and structural and systems level.
Credits: 3
College: School of Design & Engineering
Prerequisites: AREN 301 [Min Grade: D]
Schedule Type: Lecture

AREN 307: Soil Mechanics
Credits: 3
College: School of Design & Engineering
Prerequisites: ENGR 301 [Min Grade: D]
Schedule Type: Lecture

AREN 400: Mech & Engr Sys for Buildings
This course will introduce basic principles, types and applications of mechanical and electrical systems for buildings. Topics include air conditioning, heating, fire protection, electrical power, and electrical lighting. Students will learn various design methods that impact building environment and indoor air quality.
Credits: 3
College: School of Design & Engineering
Prerequisites: ENGR 322 [Min Grade: D]
Schedule Type: By Appointment, Lecture