

# ABS - ARCHITECTURE BUILDING SCIENCE

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## **ABS 321 - Construction Technologies I** **Units: 3**

This class is an introductory overview of various materials and methods used in construction with focus on building enclosure systems and assemblies. Use of materials in design, construction techniques, and relationships to structural and non-structural (aesthetic) values. Students have the opportunity to experience material capacity and behavior as well as construction methods in demonstration lab experiments. Furthermore, material applications and detailing in structural and non-structural building components will be explored.

## **ABS 331 - Environmental Control Systems I** **Units: 3**

This class reviews and introduces the principles and design of sustainable passive energy systems, mechanical heating and cooling systems and code required fire suppression and vertical transportation systems. Two 1 1/2 hour lectures per week / lab is included in the lecture.

## **ABS 332 - Environmental Control Systems II** **Units: 3**

This class will focus upon the principles of design and integrated natural and electrical lighting systems, water use and conservation systems, storm and wastewater management and treatment, acoustic systems as well as principles for evaluation of sustainable architecture.

*Enrollment Requirements: Prerequisite: ABS 331.*

## **ABS 341 - Structures for Architects I** **Units: 3**

This class will introduce the study of materials and structural significance in the design of buildings. Introduction to structural loading conditions and code requirements. Emphasis on structural behavior, load paths, moments and forces. Analysis of materials, construction methods and geometry to support structural design. Understanding of comparative structures as related to regional structural building types and applications.

*Enrollment Requirements: Prerequisites: PHYS 100, MATH 126, or department consent.*

## **ABS 440 - Structures for Architects II** **Units: 3**

This class will further the continued exploration of the study of materials and structural significance in the design of buildings regionally that is conducive to the Great Basin / Sierra geographic location, while incorporating the fundamental and exploratory principles of architectural design. Design of better-informed structures efficiently with respect to space, material and geometry with an emphasis on material selection. Exploration of new building materials and building systems are discussed and understood.

*Enrollment Requirements: Prerequisite ABS 341.*