

SST 140 Green Building and Design Concepts

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

- D. Forces affecting building and their service life.
- IV. Overview of sustainable building design
- A. LEED-based building performance evaluation.
 - B. Site orientation and selection.
 - C. Water flows.
 - D. Sun orientation.
 - E. Passive and active solar design.
 - F. Building thermal envelope concepts.
- V. Site design
- A. Soil retention and erosion control.
 - B. Impervious area calculations.
 - C. Water management.
 - D. Building and site relationship.
- VI. Site analysis
- A. Sun orientation.
 - B. topography.
 - C. Surface water runoff.
 - D. Ground cover and soil erosion.
 - E. Heat island effect.
- VII. Landscaping
- A. Trees and shading.
 - B. Plant selection guidelines.
 - C. Erosion and water retention.
 - D. Heat island effect.
- VIII. Water storage, distribution, and management
- A. Cisterns.
 - B. Rain water control and distribution.
 - C. Alternative technologies.
 - D. Bio-diversification and densification.
 - E. Rain gardens, grey water, and black water.
- IX. Energy and resource conservation
- A. Heating and cooling.
 - B. Water heating.
 - C. Natural air ventilation.
- X. Building material and construction
- A. Cradle-to-cradle concept.

- D. Construction waste management.
- E. Recycled materials acquisitions.
- F. Air quality control and mitigation.

XI. Regulatory oversight and performance analysis

- A. Code enforcement concept affecting "green build" design.
- B. Third party energy analysis.
- C. Building performance standards.
- D. Construction-related community needs.

XII. "Green build" opportunities.

- A. Green collar jobs.
- B. Federal government and non-profit programs.
- C. Local retrofitted and adapted use site that address community revitalization projects.
- D. American Institute of Architectural Students (AIAS) opportunities.

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the instructor.