

BLDT-129 GREEN BUILDING CONCEPTS 3 CREDITS

SYLLABUS

CATALOG DESCRIPTION

Understand the basics of “green building” design including the many products and structure choices available. As part of the laboratory experience students will utilize some of the products and techniques within their constructed house.

Prerequisites: BLDT 120 Construction Safety

Semester Offered: Spring

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

COURSE LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to...

1. Define sustainability, green building, and high-performance building. Also, explain the whole building-design concept.

2. Analyze and interpret the building site(s) before designing a house, or a housing development, for environmental impact.
3. Apply solar design systems and technologies to the design and/or construction of a house.
4. Identify climate zones and discuss the climate-appropriate design and construction details.
5. Describe the impact of the building enclosure in green building.
6. Describe how a building works as a system.
7. Design and/or build a sustainable/green-house which incorporates the whole systems approach that utilizes techniques to minimize environmental impact and also reduces the energy consumption of the building while contributing to the health of its occupants.
8. Apply pertinent energy codes to the design and/or construction of a house.
9. Select appropriate energy efficient HVAC systems, lighting, and appliances for a green-built house.
10. Describe the fundamentals of heat, air, and moisture flow with regard to the building enclosure.
11. Incorporate water management strategies into building and site design.
12. Select materials, systems, and technologies that enhance the quality of the indoor environment with fresh air, ventilation, nontoxic materials, and filtration.
13. Select resource-efficient materials, systems, and technologies which have minimum impact on the health of our environment and people.
14. Build and/or design a low-energy, resource-efficient house that reduces utility costs, improves indoor environmental quality, and preserves the environment for future generations.

GENERAL LEARNING OBJECTIVES

1. To provide the student with knowledge and training in the design and use of “green” building concepts as it applies to the construction of residential homes.