COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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Status: Permanent

A. Identification:
1. Subject Area: Construction Technology Management
2. Course Number: CTM 260
3. Course Title: Green Building I
4. Credit Hrs: 3
5. Catalog Description: Principles of Sustainable Construction introduces the student to the principles and techniques of designing, building and maintaining more comfortable, energy-and-resource-efficient buildings from a Sustainable / Green Building categorical approach. Prerequisites: CTM 235 and CTM 250. Three lecture. May be taken for S/U credit. Fall

B. Course Goals:
Green Building I -- Principles of Sustainable Construction will educate students about the design, construction and maintenance of more comfortable, energy-and-resource-efficient buildings.

C. Course Outcomes:
Students will:
1. Demonstrate principles of Green Building of the "Whole Building" design process within the general context of sustainable community planning.
2. List and explain how a construction company's policies and procedures affect reduced site disturbance, construction waste management and recycling.
3. Relate the potential for passive solar design, solar hot water and photovoltaic systems to the integration of a building's energy use profile.
4. Describe how the highest rated energy-efficient equipment including water heaters, appliances and lighting, as well as heating/ventilating/air-conditioning systems, are integrated into the building's energy use profile.
5. Analyze a building's interior strategies for efficient water use; low-flow toilets, faucets and showerheads and relate these to the concept of Green Building.
6. Analyze a building's exterior strategies for efficient water use; xeriscaping, rain catchments, greywater and irrigation technology and relate these to the concept of Green Building.
7. Design a home for natural airflow, moisture control, air infiltration control, and energy-efficient exhaust systems within the Green Building concept.
8. Apply general rules for material selection in foundations, framing, siding/exterior surfaces, roofing, insulation, windows and finishes.
9. Apply sound Green principles of operation and maintenance and create an Operations & Maintenance Manual for the students’ home.

D. Course Content:
Will include:
1. Site and Community Planning
2. Energy, Mass, Solar, and Related Equipment
3. Efficient Water Use
4. Indoor Environmental Quality
5. Materials
6. Operation and Maintenance