# *COCONINO COMMUNITY COLLEGE*
# *COURSE OUTLINE*

Prepared by: Joe Costion Date: 04/09/2007
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
(Course Outcomes/Competencies, continued)
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