

TEACHING: Ecosystems as a Model for the Built Environment

PENN STATE UNIVERSITY, MESSIAH COLLEGE, CECIL COLLEGE, 2008-1010



PHOTOSYNTHESIS

The process of harnessing the light of the sun to create energy for a living organism.

CASE STUDY

BedZED (Beddington Zero Energy Development), the UK's largest, mixed-use sustainable community is producing more or equal to the amount of energy it is consuming. In addition to photovoltaics, BedZED also uses biomass and wind as sources for renewable energy.



BIODIVERSITY

The variation of life forms within a given system.

CASE STUDY

Diversity of transportation options in Bogotá, Colombia.

TransMilenio: their high-capacity bus system has dedicated lanes to increase efficiency and plans to have 22 lines by 2015. **The Cycle-Paths Network:** 340 kilometers of built cycle paths, notably increasing bicycle ridership. **Alamedas:** shaded promenades built for walking, and other recreational activities, especially suited for children, the elderly and the disabled.



SYMBIOSIS

An interdependent relationship between two species.

CASE STUDY

Water and Architecture. At Kroon Hall, Yale School of Forestry and Environmental Studies, stormwater is captured from the roof and the site and channeled into the basin showed here. The basin in turn cleanses the water through the native aquatic plants it holds, and the water is able to be reused within the building as greywater.



RESILIENCE

Occurs in an ecosystem after disturbance as it moves again in the direction of equilibrium.

CASE STUDY

The High Line, built in the 1930s on the West Side of Manhattan and long considered an eye-sore, was slated for demolition. Creative minds came together and launched a project to bring it back to life in a new way, creating a vegetated park out of a former ruin. It is already lauded as one of the most beloved public spaces in New York.