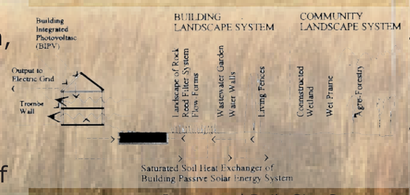
BALL STATE UNIVERSITY LANDLAB

A group of Ball State students and professors are completing phase one of LandLab—a demonstration site that shows how to live sustainably in the Midwest. This LandLab is attempting to move education from a discipline-specific way of thinking to an integrated-systems thinking, connecting the disciplines throughout the University and community in order to deepen the understanding the complex systems of our environment.

The first phase of the project utilized straw bale construction, minimizing environmental impacts in an attempt to increase the ecological balance of the site. The house will serve as an education, demonstration and research facility for Ball State students. The next phase of the LandLab will include designing integrated built-site systems, involving a variety of disciplines in the process.



Integrated Built-Site System

LANDLAB GOALS

To demonstrate a sustianable relationship of buildings, sites, people, prosperity and the planet in the Midwest.

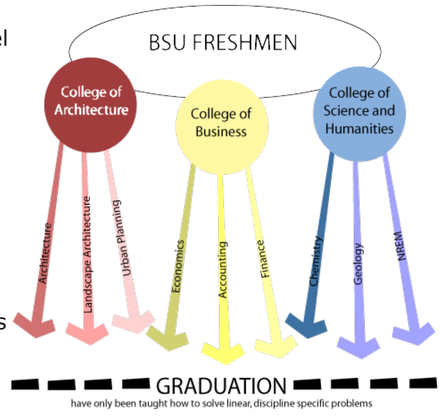
To educate people how built-sites can integrate resource flows, promote sustianability, and enhance people's quality of life, prosperity and the environment.

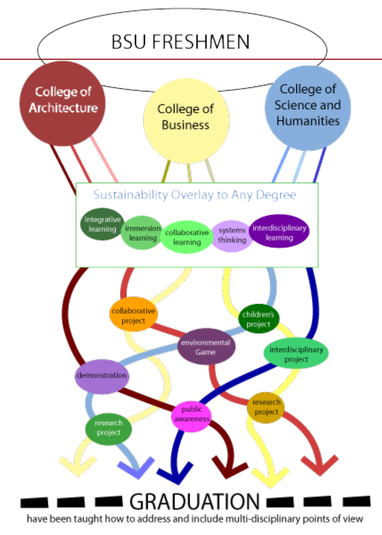
To integrate education, research, demonstration, and information dissemination on the site.

To involve elementary, high school and college students and community members in the exploration of the eco-balancing model, incorporating existing environmental education games developed by Ball Students.

A NEW MODEL OF EDUCATION

The LandLab is part of a refinement to education, moving the educational model from linear to a systematic. Presently, education departments, isolated from one another, seldom grasp the entirety of wide-ranging complexities. Adapting a model of integrative learning, the LandLab models how multiple disciplines can interact in the pursuit of knowledge and commonly held goals. Providing an enriched intellectual and physical environment, the Land Lab provides a setting for the collaboration of disciplines under the eco-balancing design model. The diagram to the right illustrates the change in the educational experience.






COLLABORATION

ECO-BALANCING DESIGN MODEL

This diagram exhibits how students can interface with the LandLab by way of understanding eco-balancing concepts (learning), monitoring eco-balance implementation (research), and experience implemented sustainable systems (demonstration).

BLUE: By analyzing life-cycle maps, students begin to understand life-cycles and how the concept informs sustainable design. This understanding forms the foundation of the Land Lab demonstration.

RED: Understanding life-cycles helps designers anticipate the productivity potential for food, energy, air, and materials for technology. This informs what type of development the site can sustain long term which helps designers discern what the site is suitable for, i.e. housing, recreation or commercial.
GREEN: Eco-Balance design is achieved when there is a balance of upstream and downstream resources on site with concurrence at regional and intermediate scales. This ensures the preservation of natural life-cycles. In order to achieve this goal, designers measure development impact against benchmarks, and suitability indicators (generated by the National, Regional Municipal Community).

YELLOW: To realize the feedback, on-site monitoring systems are developed. Sustainability indicators reveal if the implemented elements of the project are meeting the performance benchmarks as defined by the ecological baselines. In the case where monitoring concludes that the site is not achieving performance benchmarks, then the conceptual design is altered and the development augmented; if the monitoring concludes the site is achieving performance benchmarks, then the development is successfully functioning in context of the areas life-cycles, and is thus sustainable.

ORANGE: The land lab demonstrates how designs can be synchronized into life-cycles. Key learning points are life-cycles, Eco-balancing design, and managing/researching site monitoring technologies.