



2009 Excellence in Green Building Education Recognition Awards and Incentive Grants

Recipients of USGBC's 2009 Recognition Awards

Pre-K to 12 Category

4 Habitat: Building a Better Future

University of Missouri, Columbia, MO

4 Habitat: Building a Better Future is a University of Missouri (MU) Extension program developed by the University of Missouri Architectural Studies department and the University of Missouri 4-H Center for Youth Development. Partnering with Habitat for Humanity homeowners, 4-H youth volunteers, grades K to 12, create and implement the interior design and landscaping of a Habitat home.

Guided by MU Extension and 4-H staff, youth are trained on: passive solar design, energy efficiency, interior design, 3-D architectural software, interacting with clients, and cultural sensitivity. Youth work closely with the family throughout the design process from programming through installation. Habitat families learn about sustainable strategies and design practices as they work alongside 4 Habitat volunteers. Youth share their knowledge and skills at the local level with their communities and 4-H clubs. Homeowners share their knowledge and skills with other families, friends, and neighbors and learn about educational offerings available through MU Extension.

Awareness Appreciation and Advocacy

Learning Gate Community School, Lutz, FL

Learning Gate Community School is an environmental charter school in Lutz, FL, serving 525 students from kindergarten through the eighth grade. Nestled in among trees, wetlands, and ponds, the school uses its campus and environment as a teaching tool. In May 2008, Learning Gate opened the nation's first modular green classroom buildings to be registered for Platinum certification by USGBC's LEED for Schools program and has integrated sustainable features of the green classroom into its curriculum. Through lessons based on the Awareness, Appreciation and Advocacy for Sustainable Communities, the project-based learning curriculum provides students with hands on activities that demonstrate the sustainable features of green building, energy efficiency, water conservation, zero waste, organic agriculture, ecology restoration, and renewable energy.

Green Dream House Design Contest

Castro Valley High School, San Leandro, CA

Environmental Science is an introductory freshman science course that covers topics in earth science, biology, and environmental awareness. The goal of the course is to promote awareness and to provide students with an understanding of current environmental issues and concerns. The Green Dream House Design Contest is a year-end project in which students design, build, and write about their ultimate green dream houses, incorporating information learned throughout the year.

With help from a local LEED AP and architect, a list of housing options based on LEED credits was compiled and presented to the students. The students used the list to design their ideal living space, while incorporating sustainable and energy efficient options. Each building option was assigned a number of green points based on its environmental impact and its potential cost. Student houses had to meet a minimum "LEED LEVEL" of 50 green points and had to stay within a certain price range. A contest was held in which students voted on winning designs.

[Next.CC](#)

University of Wisconsin/Milwaukee, Milwaukee, WI, and The Art Institute of Chicago, Chicago, IL

NEXT.cc equips teachers untrained in design and environmental education with curriculum and support materials about how the design world works, provides direct experience with materials, teaches how to analyze products and environments, and outlines potential design solutions. The eco web of www.NEXT.cc explores what design is and what it does by using nine connected scales of activities — nano, pattern, object, space, architecture, neighborhood, urban, regional, and world. Connecting new ways of knowing with new ways of working, Next.cc's three-part design journeys, linked globally with museums, institutions and contemporary practices, showcase tools and experiments used by artists, architects, scientists, and designers.

NEXT.cc introduces vocabulary, activities, and assessment tools, motivating participants to move from the computer into the room, onto the street, and into the neighborhood, to observe, explore, evaluate, and connect with the built and natural environments. K-12 students, teachers, and families develop environmental advocacy writing, speaking, drawing, and modeling across the nine scales. Participants learn design vocabulary and develop an understanding of design issues.

["We Share the World" Preschool-Kindergarten Environmental Curriculum](#)

Londonderry School, Harrisburg, PA

"We Share the World" is an environmental education curriculum that uses the LEED certified school building and the campus's surrounding environment. Designed for preschool and kindergarten students, concepts are taught using the local habitat as a tangible, applicable knowledge foundation for a "sense of place" and empathy toward our shared habitat. The materials are designed to engage students of all abilities, including those with special needs, and include adaptations for other settings.

The "We Share the World" curriculum incorporates the Pennsylvania standards for environmental education and related science, math, and literacy standards and aligns with high-quality early education criteria developed by the National Association for the Education of Young Children. With lessons planned to be integrated into everyday experiences, the curriculum inspires teachers and students to become more conscious of their impact on the environment and help them teach families and others in their communities about the concepts they have learned.

Honorable Mention:

[Green Schools! Initiative](#)

Project Learning Tree, Washington, DC

[Ground Up Design Education Program](#)

Hester Street Collaborative, New York, NY

[The National Energy Education Development \(NEED\) Project](#)

Covington, KY

Community and Technical Colleges Category

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[The Building Energy Technologies Occupational Certificate Program](#)

Wilbur Wright College, Chicago, IL

In the spring of 2005, Wilbur Wright Community College (WWC), on the northwest side of Chicago, began developing the six-course Building Energy Technologies (BET) curriculum to help students develop skills and knowledge on how to incorporate energy efficiency and renewable energy practices within the building construction and operation marketplace. The Illinois Department of Commerce and Economic Opportunity sponsored the development of this college credit curriculum to boost employment in those sectors, and as an incentive for utilizing new energy technologies in construction projects throughout the state. The program was accredited by the Illinois Community College Board in 2006, and classes were offered later that year.

Numerous partners, including architecture and construction firms, elected representatives, government agencies, energy consultants, organized labor, and educators, provided input to develop the curriculum. The program's goal is to provide a classroom and experiential education in the basic concepts and practical applications of energy efficiency and alternative energy methods in building construction. The courses have been structured to address concepts, such as system design, implementation and operations, building commissioning, and renewable energy integration and to provide students with the background needed to make valuable contributions on the jobsite.

[Energy Efficient Residential Construction Education](#)

Cleveland State Community College, Cleveland, TN

A Community-Based Job Training Grant (CBJTG) received in 2005 was used to expand the capacity of an existing construction technology program to include a focus on alternative and renewable energy sources as well as the techniques and technologies for energy efficient construction. The project focused on four areas: revising the curriculum to include courses on alternative energy, renewable energy, and methods and techniques for energy-efficient residential construction; creating a connection or pipeline from the high school to the college to train students in this area of technology; installing and operating many of the technologies that demonstrate practical applications; and to conduct presentations, workshops, and seminars to inform and educate the general public. The program goal is to promote conservation, energy-efficient construction, properly sized and installed HVAC systems, energy audits for verification, and how to use renewable energy technology to offset energy needs.

Through research and consultations with industry experts, information was gathered on best practices and the appropriate materials and technologies identified in order to build and operate a home with net zero energy consumption.

[Sustainable Design Initiatives \(Arch 2840\)](#)

College of DuPage, Glen Ellyn, IL

The objective of the Sustainable Design Initiatives course is for students to explore residential sustainable design and implementation strategies through a partnership with the local Habitat for Humanity. Teams of both architecture and construction management students identified sustainable strategies to be incorporated into a community of 11 homes. Each team was responsible for evaluating a portion of the project specifications to identify sustainable opportunities based on LEED core concepts and EPA's Energy Star standards.

The students met with representatives from ComEd (the local electrical utility), members of the Habitat advisory board, and professional architects several times throughout the semester. The meetings served to discuss the appropriate scope of research and analysis needed to identify potential savings created by the options proposed. Students documented their research and presented recommendations to the DuPage Habitat for Humanity, which has begun using the students' research as a framework for specifications.

Colleges and Universities Category

[The Bridge Studio](#)

Iowa State University, Ames, IA

The Bridge Studio is an upper-level architecture studio designed to bridge the gaps between education and practice, architecture and community, and sustainability and affordability. Students work in collaborative teams with interns from local firms, practitioners, and building industry professionals to develop real projects for organizations and communities not normally served by the design professions. Integrating environmentally and socially sustainable design within economic realities is the primary mechanism through which the work occurs, bringing sustainable design practices into the affordable housing industry and local Iowa communities.

Through semester-long prototype housing projects, students are exposed to aspects of traditional practice, not typically encountered in design studios, developing design ideas through the practical lenses of constructability, sustainability, affordability, and livability. Local architecture firms conduct workshops that guide students through particular project phases. Recent graduates, now working as interns, develop leadership and management skills by acting as student team mentors. Students and interns also learn to identify potential client-partners and assess their needs, evaluate alternative design-delivery approaches, and develop a pro-active approach to design practice as an instrumental force for community improvement.

[The Center for Architecture Science and Ecology's \(CASE\) Build Ecologies \(BE\) Program](#)

Rensselaer Polytechnic Institute, Troy, NY

A new academic-industrial alliance is required to accelerate more aggressively the experimental processes that lead to the development of new systems to produce a paradigm shift in the way our future built environments use energy, water and resources. In response to this need, Rensselaer Polytechnic Institute (RPI) developed the Built Ecologies (BE) program for the advanced study and research between architecture and apposite areas of science and engineering in a multidisciplinary effort.

The BE program offers two advanced degrees: a Master of Science and a Doctor of Philosophy in Architectural Sciences. The educational program is embedded within the Center for Architecture Science and Ecology (CASE), a unique educational and research collaboration between RPI and the architecture firm Skidmore, Owings and Merrill (SOM), which addresses the global need for innovation and implementation of radically improved, energy-efficient, sustainable built environments.

Co-located at RPI and SOM's New York City offices, CASE unites advanced architectural practice with building science research through a unique collaboration between institutions based in upstate and downstate New York. Bringing together ambitious building design professionals with research faculty and advanced students dedicated to the exploration of emerging building technologies, the research center pushes the boundaries of environmental performance in building systems on a global scale.

[Community Design Center: Building Recombinant Ecologies](#)

University of Arkansas, Fayetteville, AR

The mission of the University of Arkansas's Community Design Center (UACDC) is to advance creative development in Arkansas through education, research, and design solutions that enhance the physical environment. As the outreach center for the School of Architecture, UACDC is creating a repertoire of place-building models applicable to community infrastructure development concerns in Arkansas, with potential impacts at the national level. Emphasizing the city as ecology, the eight place-building models develop sustainable patterns in 1) watershed urbanism 2) context-sensitive highway design 3) green and shared streets 4) transit-oriented development 5) big-box urbanism 6) urban forestry 7) low-impact residential development and 8) smart growth town planning.

UACDC's planning initiatives are prefaced by student fieldwork and analyses of current infrastructure developments and watershed conservation practices to be compared with best development practices. Through UACDC's course on "Mapping the Arkansas Landscape", which parallels community planning efforts, student research explored the environmental, political, and cultural processes shaping Arkansas' built environment.

[The Duke Smart Home Program](#)

Duke University, Durham, NC

The Duke Smart Home Program encourages students from different academic disciplines to form teams and explore ways to use smart technology and promote a sustainable lifestyle. The centerpiece of the program is the Home Depot Smart Home, which is a 10-person student residence hall for green living and learning. Completed in December 2007, the Smart Home achieved USGBC's LEED Platinum certification.

The Duke Smart Home Program promotes teamwork, innovation, diversity, and education in order to establish a more sustainable lifestyle that reduces energy and/or harmful effects on the environment. The Home Depot Smart Home is the world's first LEED Platinum live-in laboratory. Students can participate in the program in a variety of ways: independent study for credit, house courses focused on sustainability topics, as senior capstone design projects, and as members of the Smart Home student club. Students are encouraged to explore and prototype their ideas, and teams compete annual in various green contests each year.

[Master of Science in Sustainable Design Program](#)

Philadelphia University, Philadelphia, PA

The Master of Science in Sustainable Design Program (MSSD) at Philadelphia University is a post professional program serving disciplines such as architecture, design, construction, and engineering. The program has six core tenants: trans-disciplinary learning; integrated design education, which uses an "open source" sustainable design charrette process; design/quantify/build methodology that recognizes the need for a balance between aesthetics and performance; activism and leadership to prepare graduates to be leaders; enterprise and entrepreneurship; and equity and diversity. The program includes a 12-credit thesis in sustainable design. Thesis students are encouraged to use their projects to investigate a subject within their discipline as guided by faculty and local professionals or to explore new career directions or launch their own sustainable businesses. Begun in 2007, the program offers part-time and full-time options, with the first class graduating in August 2009.

Honorable Mentions:

[Equidistant Projection Exercise Sequence](#)

School of Constructed Environments (SCE), Parsons the New School for Design, New York, NY

[Landscape Architecture Students Help the Post-Disaster Community of Greensburg, KS](#)

Kansas State University, Manhattan, KS

[Sci-Tech: A Technology Sequence for Generation Green](#)

Iowa State University, Ames, IA

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Pre-K to 12 Category

Teaching Tools for Our Future: Green Building Design/Environmental Innovation at the Ford Rouge!

Ford Rouge Factory Tour, Detroit, MI

The Ford Rouge Factory Tour is a LEED Gold Certified visitor center located on the site and serves a model for educating the students and public about green building design. Designed by William McDonough, an architect and pioneer in the field of green building design, the center currently hosts 25,000 K-to-12 students a year through a robust field trip program. The USGBC Incentive grant will be used to develop new curriculum products for teachers, students, and scouts, including on-site visit experiences and enhancements, web-based resources, and professional development for teachers. Each program will align with national and state curriculum standards.

Community and Technical Colleges Category

Sustainable Design and Construction Certificate

Cincinnati State Technical and Community College, Cincinnati, OH

The Sustainable Design and Construction Certificate is designed to be a third-year certificate built upon an Associate's Degree in Civil Engineering Technology or the equivalent academic degree. The certificate will prepare students for careers in the sustainable building industry and will be designed after input from and consultation with industry leaders, including from the local USGBC chapter to ensure the needs of the green building industry, especially construction methods, are met.

The certificate is intended to not only teach the higher level design and construction processes, but to thoroughly integrate sustainability through all aspects of the building process from conception and planning to design, site selection, and construction. Sustainable factors will not be added as an afterthought in the program, but rather, interwoven into all aspects of every course. Appropriate site tours will be included. Upon final approval of the administration, the certificate program will be integrated into a four-year degree at Northern Kentucky University.

Colleges and Universities Category

HighPerPod: Zero Energy Classroom

University of Washington, Seattle, WA

HighPerPod is a design-build-test program with the aim of creating a high-performance, net-zero energy modular classroom suited to the particulars of the place and people of the Puget Sound region. The goals of this academic and professional partnership are to equip architecture students with the knowledge and tools necessary for delivering beautiful, high-performance, low-energy buildings and to demonstrate the economic and environmental potential of new methods, systems, and materials for creating the next generation of carbon-neutral, high-quality learning environments.

The program is a one-year repeatable cycle of courses that will culminate with the construction of a modular classroom prototype, which will then serve as the living laboratory for the second-course cycle. The classroom will be monitored and evaluated by students, using it as their design studio space while developing the next round of designs proposals. At the center of the five-course series is an Integrated Project Delivery Studio where teams of undergraduate students from architecture, construction

management, engineering, and other disciplines develop designs, construction logistics, scheduling plans, cost analysis, and computational energy analysis.