

2016 Green Ribbon Schools Iowa Honorees

Iowa – College Honoree

Hawkeye Community College, Waterloo, Ia.

Accelerating Hands-On Learning in Green Pathways

Since 2012, energy efficiency initiatives have decreased Hawkeye Community College's energy costs more than \$100,000 annually, and reduced energy usage by 2,191,536 kilowatt-hours. Energy efficiency initiatives including green construction and renovation have allowed the main campus to build an additional 59,548 square feet of space while maintaining energy usage at below pre-addition levels.



The Health and Education Services Center (HESC) and Regional Transportation Center were designed to LEED specifications and feature geothermal heating and cooling and floor-to-ceiling windows. Buildings built or renovated since 2009 are equipped with low-flow water closets, urinals, showerheads, and lavatory faucets to conserve water.

The XLERATOR waste reduction initiative was implemented in 2013 to reduce solid waste streams generated on campus. With grant assistance from the Iowa Department of Natural Resources, Xlerator hand air dryers were purchased and installed. The college has also distributed 135 recycling bins across campus. Funds received from recycling paper, cardboard, plastic, and glass bottles have been used to implement a Go Green Scholarship. Preconsumer waste is picked up for composting. The Scrap and Sell Program generates a revenue stream through the removal of scrap materials from nonreusable items such as copper, motors, ballasts, capacitors, lead acid batteries, servers, and motherboards, as well as lithium ion, nickel-metal hydride, and nickel-cadmium batteries. Recycling efforts have resulted in over 50 tons of waste being diverted each year from landfills, with an estimated annual savings of over \$31,600. Alternative transportation on campus includes using electric carts. Hawkeye provides shuttle bus transportation for accelerated commercial truck driving students.

In 2012, the college became the first educational institution in the Cedar Valley to earn the Blue Zones Worksite designation by instituting healthy choices in the cafeteria and vending machines, an ongoing focus on exercise and weight loss programs, the development of new walking paths that encourage employees to



move naturally throughout the day, and making stress reduction information and events available to students. The Health Wellness Fair hosted each fall is attended by over 300 students, and includes 50 area vendors that provide wellness services. Hawkeye has hosted multiple five-kilometer run/walks for the community, with proceeds benefiting student scholarships and the student emergency fund. In addition to making Iowa-grown fresh fruits and vegetables available in the cafeteria, horticulture students partnered with Iowa State Extension and Blue Zones to develop a community garden for the growing influx of Burmese refugees.

The HESC offers free workout space for students, faculty, and staff. Preventive dental treatments and minor restorative care are offered on campus at minimal cost for students, their families, and the community. Counselors work with students to reduce stress and increase success through assistive social services like emergency financial assistance, and high-quality, low-cost, onsite child care.

Hawkeye offers green pathways ranging from certificates to diplomas to Associate of Applied Science degrees. The two most distinctive programs are Agriculture and Natural Resources, and Sustainable Construction and Design. In 2013, Hawkeye received the National Association of Agricultural Educators Outstanding Postsecondary/Adult Agricultural Education Program Award for its quality of instruction, experiential learning, and collaboration. The college's grounds include a 400-acre working farm, pond areas, Native Demonstration Gardens, and the Cedar Valley Arboretum and Botanic Gardens, all of which provide a hands-on environment for students to put the sustainable practices they are learning into action.

Sustainable projects include the installation of solar panels on one of the farm's barns to power the electricity and lights in the facility, and the installation of a small windmill to power the farm's parking area lights. Students in the Agriculture, Landscape and Turf, Construction Equipment Operation, and Natural Resources Management programs incorporated STEM concepts into their collaborative project to remediate two ponds on campus to allow for better stormwater control, provide cleaner water into the natural waterways, and develop better habitats for aquatic, amphibious, mammalian, and avian species. Sustainable Construction and Design students have been constructing an energy efficient tiny house to gain practical and relevant skills in design, layout, and construction, as well as skill in finishing of energy efficient homes. The house will be approximately 220 square feet of living space, and will include solar panels to help offset electricity costs.

Hawkeye helps students cultivate civic skills by cooperating with city, state, and federal agencies on projects. Natural Resources students have assisted with Iowa Department of Natural Resources initiatives including trumpeter swan roundup efforts, fish sampling and seining, and timber stand improvement projects. Sustainable Construction and Design students have helped install smart thermostats in the community, and helped build a home with Habitat for Humanity. Agriculture students have assisted a university in Haiti in using drip irrigation for their crops, performing soil tests to more accurately use fertilizer sources, and identifying sources of organic fertilizer.



Iowa – School Honoree

Spalding Park Elementary School, Sioux City, Ia.

Recycling Leaders with Grand Geothermal

Spalding Park Elementary, part of the Sioux City Community School District, has 650 students in prekindergarten through fifth grades, 56 percent of whom are eligible for free or reduced priced lunch. Spalding Park is in the process of formally becoming an environmental science specialty school. The school campus sits on approximately 12 acres of land, and includes a school garden and 48 newly planted trees. The school property also abuts a five-acre wooded area owned by the city.

Spalding Park Elementary has proven itself a leader in energy conservation within the Sioux City Community School District. When Spalding Park was built, the most up-to-date technologies were used to maximize energy efficiencies. The school houses a bidirectional cascading central geothermal system. This system has saved the district \$46,583 in electrical costs as well as reduced CO₂ by 671.015 metric tons. While the district as a whole has saved 25 percent on energy costs, Spalding Park Elementary has saved 39 percent. The building uses well field irrigation in areas that are not adjacent to the building. Inside the school building, sensors are used at every handwashing station to conserve water. Forty-eight additional trees were planted in May 2015 not only to reduce water runoff, but also to provide energy efficiency to the heating and cooling of the school building. Spalding Park Elementary has avoided 6,587 kilogallons of irrigation water. The school has an ENERGY STAR rating of 100.

Reducing waste and increasing recycling have been a major goal for Spalding Park Elementary students and staff. The fifth grade student council has been at the forefront of this initiative by collecting paper and cardboard for recycling. Spalding Park has led the district's elementary schools by recycling an average of 750 pounds of paper and cardboard per month. Any hazardous materials are disposed of properly off campus with coordinated efforts by the district's operations and maintenance staff and the recycling centers of Sioux City. The school's food service staff has been invaluable in helping eliminate waste by recycling as much as possible. Spalding Park is in the process of implementing a new compost system for the school gardens.

Spalding Park Elementary was built with a Trane bidirectional cascading central geothermal system. This system controls air flow through the school's ventilation system. Outside air is brought in, filtered, and then dispersed throughout the building. The heating and cooling system works as one unit in monitoring moisture levels in the school. The Spalding Park operations and maintenance department works closely with Presto X Pest Management in providing the safest solutions in preventing pests on school grounds.



As a Blue Zone designated school, Spalding Park created a walking school bus for students. This occurs on Wednesdays during the spring and fall months. A group of volunteers walk into the community and pick up students at prearranged stops and then walk back to school. This program not only has provided additional exercise for students, but also has eliminated a large number of vehicles entering parking lots. Spalding also promotes several bike to school days for students and staff.

Students receive physical education classes twice weekly for 30 minutes each time, and 40 minutes of daily recess. As a result of a \$40,000 grant in 2012, students have access to a traverse climbing wall, a light wall (promotes hand-eye coordination and cross mid-line activities), exercise bikes, weighted bars, and a railyard system that emphasizes motor learning and motor development. Spalding Park has yoga mats and free weights for staff use. Each day classes begin with five minutes of daily mindfulness, and brain breaks are scattered throughout the day. Employee assistance and counseling provide support to staff, and counseling and mental health therapists provide assistance and guidance to students. Incentives are available for staff members who attend fitness facilities. Spalding Park is currently involved in Live Healthy Iowa, a 10-week program for schools to create teams and set goals regarding health and wellness. Spalding Park students participate in a health cart program that provides each student with a healthy snack every afternoon.

In 2015, Spalding Park received a \$5,000 grant through the Department of Natural Resources to plant trees on school property. The school planted 48 trees in one day, in the process that included all 650 students. Spalding Park has created a school garden where students participate with the help of a master gardener from the Iowa State Extension Office. They also follow a curriculum that teaches students about soil quality, proper moisture for plants, and how to prepare and fight weeds.

Spalding Park teachers provide aerospace lessons, learning the mechanics of gravity and creating their own theories. Fourth and fifth grade students have the opportunity to learn about liftoff and air dynamics. Teachers use NASA education programs to help students learn about energy and space. Spalding Park hosts local presenters to discuss wildlife habitats, recycling efforts, and conservation. Classrooms have been using water to investigate sound production and how to identify patterns. Students observe wind waves and how they are formed. They learn how to write their own hypotheses on wave formation and then create experiments. Spalding Park lies adjacent to city owned property that is approximately five acres of wooded terrain with creeks flowing through, where the school will be building outdoor classrooms. The student council helps plan incentives for the entire school, coordinates the recycling efforts, and mentors younger grades.