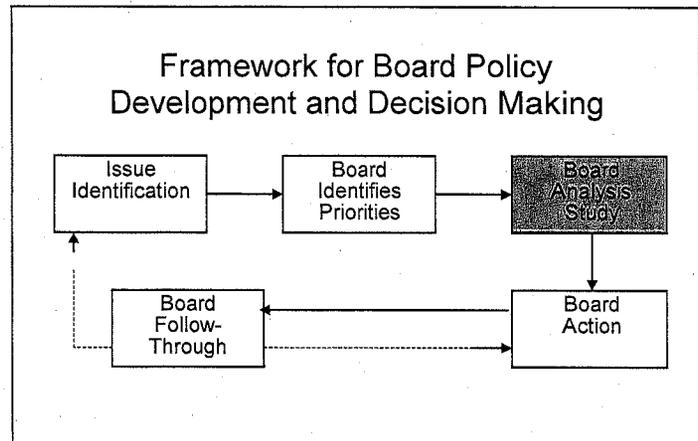


# Iowa State Board of Education

## Executive Summary

May 10, 2012



- Agenda Item:** Green Ribbon School Recognition
- Iowa Goal:** All PK-12 students will achieve at a high level.
- Equity Impact:** This award recognizes the highest performing green schools in the nation that have exemplary achievement in environmental impact, health, and education.
- Presenters:** Gary Schwartz, Consultant  
Finance, Facilities and Operation Services  
  
Julie Rosin  
Des Moines Central Campus School  
  
Other School Representatives
- Attachments:** 2
- Recommendation:** It is recommended that the State Board hear and discuss this information and offer congratulations to Des Moines Central Campus for receiving this national recognition.
- Background:** Des Moines' Central Campus High School was among 78 schools nationally to receive a Green Ribbon designation – a new honor created by the U.S. Department of Education.
- The schools selected exercise a comprehensive approach to creating “green” environments through reducing environmental impact, promoting health and providing environmental and outdoor education programs that highlight sustainability concepts.
- The Green Ribbon Schools were selected from among nearly 100 nominees submitted by 30 state education agencies, the District of Columbia and the Bureau of Indian Education. More than 350 schools completed applications to their state education agencies.
- Central Campus was the only Iowa school selected for the honor.

# GreenRibbonSchools



## **The U.S. Department of Education Green Ribbon Schools Recognition Award**

On September 29, 2011, the U.S. Secretary of Education opened the pilot year of the Green Ribbon Schools award to recognize the highest performing green schools in the nation. The recognition award recognizes exemplary achievement in environmental impact, health and education. The standards and resources that the award relates advance the complementary aims of cutting schools' costs, saving jobs; fostering health, wellness and productivity; providing a well-rounded education, increasing STEM skills, and ensuring students' college and career preparedness.

The recognition award is the first comprehensive federal policy addressing the environmental impact, health and education of our schools. It lays out a thoughtful vision for schools, sets a high bar for success, and will raise the profile of individual green schools and the states that encourage them.

Green schools are critical to schools' fiscal health and our nation's economy. Much needed improvements to school facilities save schools money. They prepare students to be good citizens and to participate in the green economy, while strengthening the nation's energy security and conserving precious natural resources.

Healthy behaviors, environmental education and green facilities are as vital to individual students as they are to the nation. High standards of nutrition, fitness and facility conditions improve student and staff health, attendance and productivity, and enhance achievement and engagement, particularly in science, technology, engineering and mathematics (STEM).

Green Ribbon has prompted unprecedented government efficiency. State education agencies are, for the first time, collaborating with health, natural resources, energy and environment agencies, as well as national and local non-governmental organizations to bring more resources to support schools in spite of tough economic times.

As with the Blue Ribbon Schools recognition award, schools do not apply to the Department of Education but to state education agencies. Schools should contact state departments of education for information on nomination selection, remembering that the award is voluntary and that not all state education agencies will nominate schools.

Winners of the Green Ribbon, like Blue Ribbon Schools, may experience national and local press coverage, re-energized staff and parents, enhanced community support, increased application rates, and new private financial assistance. Winners will be invited to participate in national and local recognition ceremonies.

Blog: <http://www.ed.gov/blog/tag/green-ribbon-schools/>

Website: <http://www2.ed.gov/programs/green-ribbon-schools>

Facebook: <http://www.facebook.com/EDGreenRibbonSchools>

“Adults often say to students, *‘What you learn in high school will impact the future.’*

But they are wrong.

What we are learning and doing at Central Campus is having an impact now.”

--David, Central Campus Senior

(Application Participant)

Central Campus is a regional K-12 school that is unique because of the variety of educational opportunities offered to students. Students from 29 school districts and 57 schools in central Iowa attend Central Campus.

Over the last three years, the Des Moines school district has completed extensive renovations that are transforming the Central Campus building from a 1918 Ford car factory into a modern educational space retrofitted with energy efficient materials. For example, the single-pane windows were replaced with double-pane glazed windows, and the renovation design takes advantage of a tremendous increase in natural light, which has reduced the use of artificial lights. Lighting voltage was increased from 120V to 277V to expand lighting circuit efficiency, the original lighting fixtures were upgraded from T12 (direct) to T8 (direct/indirect) to improve the quality and efficiency of the lighting, and occupancy sensors were installed to reduce energy consumption. In addition, high-efficient water source heat pumps were installed to reduce the use of steam heating, and energy recovery ventilation was added.

Along with the physical building renovations, Central Campus is developing a more environmentally conscious culture at the school through practices and education. For example, the cafeteria switched from disposable to reusable plates, and the school hosts an annual Energy Awareness Fair that promotes energy-saving practices and products. Multiple Central Campus programs incorporate environmental and sustainability issues into the curriculum. For example:

- Home Building students use sustainable and reclaimed products in the refurbishment of houses. For instance, students have repurposed old wooden bleachers as hardwood flooring, instead of purchasing new wood.
- The Aviation program works with the Iowa Congressional Delegation to acquire gliders, jets, and helicopters for teaching tools that would otherwise have been sent to salvage (i.e. the garbage).
- Last year, the Welding program began recycling unused scrap metals and recycled 43,480 pounds of metal. This year, the program has already recycled 3,100 pounds of metal.
- The Teacher Academy program is moving toward paperless work by using computer templates that can be accessed for assessment and put directly into electronic portfolios.
- Culinary Arts installed a grow cart to cultivate herbs and salad ingredients, and a newly installed Energy Star dishwasher uses less hot water.
- An automated system was installed in the Horticulture greenhouse that waters seedlings during off-peak hours.

- Animal Science students use recycled materials to create wildlife habitat sculptures, and students lead environmental and conservation youth groups.
- CADD students study and design houses that incorporate LEED criteria. Energy efficiency and low impact housing, sustainability, and reclamation are at the forefront of each project.
- CTAN students are involved with the benefits of cloud computing, which cuts energy costs by 38%. The CTAN/software classroom is moving to virtualized systems, which reduces the number of running servers and workstations.

One of the most unique Central Campus programs is IESA (Iowa Energy and Sustainability Academy). IESA equips students with skills needed for success in postsecondary education and in emerging renewable energy careers. The two-year course focuses on (1) Sustainability issues, (2) Energy conservation and management, (3) Green technologies, and (4) Renewable energy through a combination of rigorous academics and hands-on technical education.

IESA students complete numerous lab experiments that labs focus on natural and renewable resources (land, air, and water) and explore traditional fossil fuels and alternative energy resources and technology. The lab experiments help students think of the local and global impact and the short and long term effects of using the Earth's resources.

In addition, partnerships have been established with multiple public and private institutions. IESA students complete field experiences at partner institution facilities; the field experiences enable students to see first-hand the variety of issues that affect energy and sustainability. Students are also exposed to an array of careers available in the green collar workforce.

The IESA program has also had a tangible influence on Central Campus. For example, IESA students conducted classroom energy audits and provided teachers tips on how to reduce energy consumption through simple changes like unplugging appliance when not in use. The students also send out weekly energy tips to encourage conservation and recycling. Last year, IESA students instituted a building-wide recycling program that has had a tremendous impact:

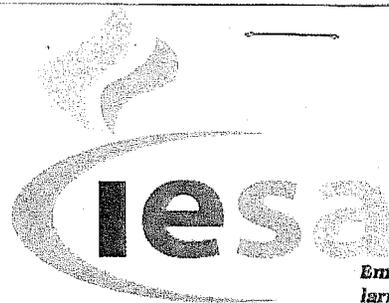
	2010-2011 school year	2011-2012 school year (through 2/24/12*)
Paper	20,186 lbs	19,125 lbs
Bottles	3,170	3,324
Cans	2,241	1,670

\*13 remaining 2011-12 collection dates

The physical changes made to the building, environmental components incorporated into existing curriculum and programs, and emphasis placed on renewable energy careers are just a few of the things Central Campus is doing to address sustainability, health, and environmental education for students in Des Moines.



Iowa Energy & Sustainability Academy  
Des Moines Public Schools



Iowa Energy & Sustainability Academy  
Des Moines Public Schools

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Iowa Energy and Sustainability Academy



**Who is this class for?** Anyone interested in energy and taking care of this great planet we call home.

**What is IESA?** It is a class where we use hands on/project based techniques to explore all types of environmental topics such as:

1. RESOURCES: LAND, AIR, WATER, BIOMES, WEATHER/CLIMATE, LIFE,.....
2. ENERGY: FOSSIL FUELS, NUCLEAR, SOLAR, WIND, GEOTHERMAL, HYDROGEN FUEL CELL,.....

**How does the program work?** The class is a 2 year program. A background in Biology, Environmental Science, or Earth Science is helpful but not required. A student may sign up for any semester of the 2 years (4 semesters) at any time.

**What else does the program offer?**

1. **DMACC credit:** When a student completes the 2 year program they will have 3 hours of Math and 5 hours of Environmental Science college credit. There is an option for up to 4 more hours with participation in the spring Catalina trip. This can be done twice with 2 hours each time. If a student takes advantage of all the options they will have 12 total hours of college credit.
2. Several field trips (experiences) to places like state parks, wind farms, Chicago, and Minneapolis.
3. Credit towards: Class A -Waste Water Treatment Operators License.



Interested? Class is at DMPS Central Campus.

See your counselor or contact Mr. Beall the Director of IESA at:

Phone: 242-8294 Cell: 289-6234 email: larry.beall@dmschools.org

Sign up now for classes next semester or next fall. Be part of something special and do something that will make a difference in your life. 😊

To all:

Below is the description and credits from the CC web site. Please note that high school credit is .5 each semester for each block. Since my classes are 2 blocks they would get 1 full credit or 2 for a year. The DMACC credit is:

1<sup>st</sup> year -1<sup>st</sup> semester- no credit

1<sup>st</sup> year – 2<sup>nd</sup> semester- ENV 116 1 hr and MAT 772 3hrs

Optional: Spring trip to Catalina Island – BIO 922 Field Biology 2 hours

2<sup>nd</sup> year- 1<sup>st</sup> semester- ENV 115 3 hrs

2<sup>nd</sup> year – 2<sup>nd</sup> semester- ENV 103 1 hr.

Optional: Spring trip to Catalina Island – BIO 922 Field Biology 2 hours

### Iowa Energy and Sustainability Academy

Larry Beall, Instructor  
Room 551  
515-242-7846

The first year of the IESA program is an introduction to basic environmental, ecology, energy, sustainability, and simple math concepts. The first year is divided into two semesters with separate topics and goals.

The first semester of the first year is designed to introduce students to the broad areas of resources. These include air, land, and water. The semester also includes a beginning of investigations into alternative energies.

No DMACC credit will be given during the first semester. The second semester of the first year continues and further explores the topics of resources and energy systems. The second semester utilizes more lab activities to study these topics as well as field experiences. In addition to the science topics, students are tested and enhanced in their basic math skills with emphasis in fundamental math operations.

The second year of the IESA program involves looking into environmental topics in a much more detailed format. The semesters have separate, stand-alone curricula. The first semester is spent looking at specific environmental issues such as land use, pesticides, fisheries, wildlife, and forestry. Many of these topics are designed to explore and enhance interest in possible careers or fields to explore in higher educational settings.

The second semester of the second year involves wrapping up topics from the two year program. The focus is on the individual and his or her personal view on various topics related to environmental themes. The main emphasis is on how each person can play a role in sustainability practices at home, at work, and in school.

Includes enrollment in the following DMACC Courses:

Year One:

ENV 116 Environmental Science Lab - 1 credit  
MAT 772 Applied Math - 3 credits

Optional – BIO 922 for 2 hours

Year Two:

ENV 115 Environmental Science - 3 credits  
ENV 103 Sustainable Living - 1 credit

Optional – BIO 922 for 2 hours

Totals for 2 year program: minimum of 8 hours with 4 more optional for a total possible of 12 hours.

High School Credit: .5 credits per block each semester – 1 full credit per semester or 2 per year. (class is 2 blocks)  
Grades: 11-12

### 2012-2013 Schedule:

A day - Block 1 and 2: 1<sup>st</sup> year

Block 3 – Pfan Block 4- Gateway Wheel

B day- Block 5 and 6: 2<sup>nd</sup> year

Block 7: accelerated 1<sup>st</sup> year Blocks 7 and 8 – 1<sup>st</sup> year