



IOWA STATE UNIVERSITY

**LIVE GREEN!**

2008-2018 CELEBRATING 10 YEARS



# 10 YEARS OF LIVING GREEN AT IOWA STATE UNIVERSITY

Discover our sustainable journey:  
[www.livegreen.iastate.edu](http://www.livegreen.iastate.edu)



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*\*This document does not begin to fully represent every achievement and each person, organization, or initiative that has brought about our Live Green! success. For a more thorough representation of our complete campus wide efforts, take a tour of our website!*



# WHAT IS THE **LIVE GREEN!** INITIATIVE?

**Live Green!** is Iowa State University's campus-wide sustainability initiative encouraging all students, faculty and staff to be fully committed to and engaged in making our campus, its operations and initiatives as green as possible.

The Live Green! Initiative began in 2008, and offered two challenges:

- To be a leader in sustainability among land grant institutions, and
- To recognize that the involvement and dedication of every member of the Iowa State University community is critical to achieving this goal.

## *How We Define Sustainability*

Sustainability presumes the planet's resources should be used conservatively, wisely and equitably. The following definition has been adopted by the Iowa Board of Regents, and therefore, all three regent institutions.

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

— [Brundtland Commission, 1987.](#)

## *The Three Facets of Sustainability*

At Iowa State University, the Live Green! Initiative seeks to educate, engage and empower students, faculty, staff or anyone visiting Iowa State's campus about the all-encompassing opportunity of living a sustainable life through the three facets of sustainability. Understanding these facets help us leave the world a more sustainable and resilient place for future generations.

## *Our Vision*

In recognition of our influence on educating and shaping life-long behaviors, decisions and actions of its future leaders and its civic responsibility at a public institution, we envision Iowa State University as a national leader in developing and embodying sustainable practices that integrate excellence in education with institutional accountability for our natural, economic and human resources.

## *ENVIRONMENTAL SUSTAINABILITY* 🌱

We are likely most familiar with this facet -- recycling is often one of the first things to come to mind. However, environmental sustainability is so much more, including all behaviors that strive to ensure the natural ebb and flow of our ecosystems. Therefore, taking care of the earth as we enjoy our many journeys and adventures by being environmentally-sustainable is an important factor in promoting a sustainable future for our planet home.

## *SOCIAL SUSTAINABILITY* 🌍

This facet involves embracing the diversity of our world (both globally and locally), connecting to our communities and giving back through volunteerism. Through social sustainability, we become socially aware and connected to ensure our growth into global citizens -- acting in kindness to and having an interest in experiencing new adventures with whom we meet and greet along the way. In sum, embracing our community by understanding the variety of rich and colorful cultures of the world, as well as discovering how we can support one another through everyday opportunities, encompasses social sustainability.

## *ECONOMIC SUSTAINABILITY* 💰

This facet is a critical component to functioning successfully in today's world, as everything around us seems to be connected to and impacted by financial well-being. Implementing equitable and financially-sound practices related to monetary decisions is critical for us as individuals, as well as for the communities in which we live. Therefore, taking steps to plan for a secure, financial future, as well as to consider how we support our local economy, ensures individual and collective economic sustainability.

## *Our Commitment*

Iowa State is committed to protecting and enhancing all aspects of our university community. Through teaching, research, outreach, service, administration and facilities planning and management operations, we will engage in short-term actions and long-term goals in planning and decision-making to sustain ecological systems, educate campus citizens, promote local action, support sustainable business practices and encourage global thinking.

# OUR AREAS OF FOCUS

## *Operations*

The university strategizes to go beyond compliance with environmental laws and regulations by integrating values of sustainability, stewardship and resource conservation into activities and services. Iowa State University develops and promotes practices that maximize beneficial effects and minimize harmful impacts of operations, research and activities on the global and nearby environment. Additionally, the university maximizes the efficiencies of its operations and services while minimizing its wastes and footprint.

## *Campus Planning*

Iowa State incorporates value assessment of the impact of its construction and development projects and the use of sustainable building, design and management methods as they affect the needs of future generations of the university community and its greater Ames setting.



## *Academics*

The university strives for excellence in sustainability education and research by integrating sustainability concepts into curricula; supporting interdisciplinary scholarship, research and faculty hires; and increasing faculty and student awareness of sustainability issues. Iowa State aims to produce scholars who are literate in sustainability, research that illuminates and advances sustainability, as well as graduates who will carry the mission of sustainability into the state, the nation and the world.

## *Research*

Iowa State endeavors to catalyze productive relationships and wide-ranging participation among students, faculty, staff and professionals to create new ideas and solutions to current and future sustainability challenges; to foster linkages among and within campus departments, both operational and academic;

to promote awareness of sustainability goals; and to foster sustainability literacy among the entire campus community. Iowa State nurtures partnerships between ISU students, faculty and staff and Iowa communities to provide research-based learning opportunities that create a sustainable quality of life in Iowa.

## *Administration*

The university identifies dynamic sustainability goals that inform administrative policies and procedures in the areas of planning, decision-making, assessment, reporting and alignment. These policies and procedures rely on scientific and technical analysis and support efforts to develop objectives and targets for operations, indicators and measures to assure accountability, as well as reports on progress, with the overall goal of integrating knowledge of sustainability with actions to promote it.



## *Students*

Iowa State supports and cultivates a proactive and engaged student body involved in opportunities and experiences in sustainable living, education and professional development and experience through events, initiatives, curriculum, research, strategic planning and decision-making. Empowerment gained through engagement in sustainability transfers to stewardship actions and goals far beyond the campus community.

## *Outreach*

The university will partner with Iowans to integrate environmental and sustainable measures into community economies and entrepreneurial endeavors. Refer to our Envisioning Excellence in Sustainability at Iowa State University document for specific information on targeted achievement areas, practices and behaviors, as well as short- and long-term goals that further define our sustainable journey.

No matter the season, Iowa State University and the City of Ames offer a number of sustainability-related events for students, faculty, staff and community members to attend. Live Green! hosts and supports on-campus events throughout the year, allowing us to celebrate sustainability while also encouraging others to become engaged in green living.

## SUMMER EVENTS



### COLLEGE CREEK CLEANUP

College Creek is the main waterway found throughout campus, often becoming ground zero for numerous pounds of trash. In an effort to keep this waterway clean, volunteers from both campus (students, faculty and staff) and the Ames community walk the creek and its surrounding banks, filling bags of trash along the way.

### RUMMAGE RAMPAGE

First initiated in 2016, this event is a community rummage sale designed to keep reusable items -- often left on the curb -- out of the landfill, taking place in late July through early August during the annual moveout season and lease changeovers.

## FALL SEMESTER EVENTS



### LOCAL FOOD FESTIVAL

First held in 2015, the Local Food Festival features local food samples, live recipe demonstrations, meal planning tips and locally-grown/produced foods for sale by vendors and student organizations. In the past, the festival has also offered free bike tune-ups and giveaways such as reusable grocery bags.

### NATIONAL CAMPUS SUSTAINABILITY DAY

National Campus Sustainability Day brings together clubs, organizations and businesses that support sustainable goals, practices and events, in turn encouraging participants to become more involved with sustainability on campus and in the Ames community.

## SPRING SEMESTER EVENTS



### SYMPOSIUM ON SUSTAINABILITY

Initiated in 2009, the Symposium on Sustainability is an annual event held each February dedicated to the celebration and showcasing of ISU student, faculty and staff sustainability commitment, initiatives and accomplishments.

### SUSTAINAPALOOZA

Sustainapalooza is a companion event to Iowa State's Symposium on Sustainability, and offers multiple interactive opportunities for students to learn and be empowered by how fun and easy sustainability can be.



### EARTH DAY

April 22, better known as Earth Day, is a time to honor Iowa State's many sustainability initiatives, organizations and accomplishments, featuring interactive displays from sustainability-focused student, campus and community organizations and businesses, as well as free bike tune-ups, refreshments and prizes.

The collective sustainability efforts and accomplishments of students, faculty, and staff at Iowa State University have been recognized and awarded through various organizations and initiatives. Taking part in a number of annual reporting requests and submissions, Iowa State has received various recognitions for our on-going commitment toward increasing and diversifying our sustainability efforts and achievements.

# AWARDS & RECOGNITION

## 2017

- Ranked #18 in [Top 100 Safest College Campuses](#) in USA
- Received [STARS Gold Certification](#), Association for the Advancement of Sustainability in Higher Education (AASHE)
- Listed in [Travel and Leisure's Most Beautiful Schools](#) in Every State
- Recognized as "[Top 50 Green Fleet Award](#)" winner

## 2016

- Listed in [Tree Campus USA](#)
- Listed in "[Top 50 Green Fleet Award](#)" winner
- Ranked #19 "[25 Most Energy Efficient Colleges](#)"
- Achieved "Bronze Recognition for Bicycle-Friendly City," [League of American Bicyclists](#)

## 2015

- "The [Greenest Universities in America](#)," Best Colleges.Com
- Listed "Green Schools," [The Princeton Review](#)
- Listed "[Coolest Schools](#)" by Sierra Club
- Ranked [#3 Most Eco-Friendly College in Midwest](#)
- Ranked "[Greenest Campus in Iowa](#)," EcoWatch
- Listed "[Top 25 Most Beautiful Campuses in the World](#)," BuzzFeed
- Listed in "[Top 50 Green Fleet Award](#)" winner

## 2011

- Received "B" on College Sustainability Report Card, sponsored by the Sustainable Endowments Institute

## 2008

Recognized by the National Wildlife Federation as:

- "An Exemplary School for [On-Campus Clean Energy Sources and Cogeneration](#)"
- "An Exemplary School for [Recycling More than 80% of Total Municipal Waste Generated](#)"
- "A School Committed to doing more with [Energy Efficiency, Conservation and Renewable Energy](#)"
- "A School Committed to do more with [Recycling, Solid Waste and Materials Flow](#)"

## Leadership in Energy & Environmental Design (LEED) Certifications at ISU:

**PLATINUM:** [College of Design King Pavilion](#) (2010), [State Gym](#) (2012)

**GOLD:** [Biorenewables Research Laboratory](#) (2011), [Hach Hall](#) (2011), [Small Animal Hospital at the Lloyd Veterinary Medicine Center](#) (2013), [Troxel Hall](#) (2014), [Hansen Agriculture Student Learning Center](#) (2015), [Curtiss Student Services Mall](#) (2015), [Curtiss Harl Commons](#) (2015), [Sukup and Elings halls](#) (2017), [Geoffroy Hall](#) (2017), [Marston Hall](#) (2017)

**SILVER:** [Morrill Hall](#) (2008), [Bergstrom Football Complex](#) (2014), [Lagomarcino School of Education](#) (2016)

## 2014

- Listed "[Green Schools](#)," The Princeton Review
- Voted "[The Greenest College Campus](#)" in Iowa by eCollegeFinder

## 2013

- Received [STARS Gold Certification](#), Association for the Advancement of Sustainability in Higher Education (AASHE)

## 2010

- Received [Iowa Governor's Environmental Excellence Award](#)
- Received "B-" on [College Sustainability Report Card](#), sponsored by the Sustainable Endowments Institute

# RESEARCH



Using language from the 1987 Brundtland Commission and the Iowa Board of Regents, Iowa State University defines sustainability research as “research that works to meet the needs of the present without compromising the ability of future generations to meet their own needs.”

This definition includes research that focuses on the environmental, social, economic and cultural aspects of

sustainability for the purposes of enhancing the quality of life for present and future generations.

In addition to incorporating sustainability-related research opportunities into curriculum, Iowa State has research units in nearly every discipline. In total, 100 research centers and institutes provide engagement opportunities for students, faculty and staff. [Ames Laboratory](#), a federal Department of Energy facility, is also housed at Iowa State.

In addition, the [Iowa State University Research Park](#) serves businesses of all sizes, including start-ups, small-staff operations, growing entrepreneurial ventures and corporations with multiple locations worldwide.

More than 50% of university faculty members are engaged in sustainability research, collectively representing 80% of Iowa State’s academic departments.

# EDUCATION

Iowa State University is committed to increasing and diversifying student education, awareness and engagement opportunities in sustainability through its curriculum.

Iowa State’s faculty provides a variety of hands-on, interdisciplinary sustainability experiences to students in the classroom, the laboratory, on field trips and through domestic and international travel. Additionally, the [Tall Grass Prairie Project](#) provides an annual training workshop that enables our faculty to infuse sustainability across disciplines and into their curriculum.

Beyond [sustainability-based degrees](#) and [courses](#), Iowa State offers students a number of ways to incorporate sustainability into their educational portfolios. More than 75 learning communities provide student-centered programs that deliver engaging experiences about a particular topic.

For example, the [Science of the Environment and](#)

[Sustainable Systems Learning Community](#) (SESS) focuses on the impact of sustainability initiatives on campus, the Ames community and the world.

In addition, check out the [University Library’s Environment and Sustainability Guide](#) to access books, DVDs, online databases and other academic resources that can help in developing papers and projects related to green topics.



PAGES 8-21 EXPLORE HOW IOWA STATE’S INDIVIDUAL COLLEGES HAVE EMBRACED SUSTAINABILITY THROUGHOUT THE LAST 10 YEARS. THESE VIGNETTES ARE JUST A SMALL SAMPLING OF EACH COLLEGE’S DEDICATION TO SUSTAINABILITY IN LOOKING TOWARD THE FUTURE!



# COLLEGE OF AGRICULTURE AND LIFE SCIENCES

It's impossible to tell the story of Iowa State University without agriculture. Since its beginnings in 1869 as the Iowa Agricultural College and Farm, Iowa State has continued to recognize and honor those strong roots with its continued commitment to agriculture within the now-named [College of Agriculture and Life Sciences](#) (CALs).

Over the past 10 years (and long beforehand), CALs has been practicing and globalizing sustainability throughout its diverse curriculum, research, and on- and off-campus outreach events and opportunities. Its record-breaking achievements and international prowess have made Iowa State University a hub for future leaders in agriculture, and therefore, the future stewards of the planet.

## *A Sustained Education*

The CALs offers more than 400 undergraduate courses that are either related to or focused on sustainability. The college also offers 28 majors that blend food, agriculture, and life sciences

with social sciences and communications within their individual curriculums.

While each of those 28 majors has sustainable components, one major in particular works to exude all three facets of sustainability: [Global Resource Systems](#) (GLOBE).

Established in 2009, the GLOBE program helps students make a difference in the world. This major emphasizes global and cross-cultural engagement while equipping students with strong technical skills in a resource of their choosing (such as global agriculture, international resources issues, international development, etc.).

Over the years, GLOBE students have been active with hands-on projects in Uganda, helping to change the lives of people who have limited access to much-needed resources. Students' ideas and actions have led to increased food and water safety, to sustainable farming practices, as well as to economic empowerment.



## A Sustained Infrastructure

The CALS has been sustainable at home over the past 10 years, too.

The college has completed four sustainable building construction and remodel projects, certified by the [U.S. Green Building Council's Leadership in Energy and Environmental Design](#) (LEED) standards. These standards include considerations such as low-flow water fixtures and environmentally-friendly lighting, cooling, and heating elements. LEED buildings can attain either a Silver, Gold or Platinum certification depending on a score of sustainable building elements. The CALS' certifications include:

- [Hansen Agriculture Student Learning Center](#) (2015, Gold)
- [Curtiss Hall Student Services Mall](#) (2015, Gold)
- [Curtiss Hall Commons](#) (2015, Gold)
- [Sukup & Elings halls](#) (2017, Gold)



The CALS has done its part in mitigating food waste, too. In 2008, as part of the planning for the [ISU Dairy Farm](#), the university constructed a facility for composting organic waste materials from several campus sources, including the CALS animal learning and research farms. The compost from the [university compost facility](#) is used for landscaping new construction projects, existing buildings and planting beds; amending soil structure in horticultural plots; and as bedding for ISU dairy cows.

## A Sustained Involvement

The College of Agriculture is also heavily involved within the ISU and Ames communities through its annual events, invited speakers, and hands-on learning opportunities for students.



Iowa State's College of Agriculture holds the nation's [largest career fair](#) during the fall semester, inviting more than 250 companies in the agriculture and life sciences industries to campus to interact with students. These students walk away with valuable interview experience and job opportunities, sustaining the College of Agriculture's 97 percent job placement rate within six months of graduation for its students.

The College of Agriculture additionally brings in world-renowned and locally-grown speakers and presenters who both educate and provide different perspectives to both students and the community.

Hands-on farming and learning opportunities offer students a well-rounded education and unique experiences, too. Students have the opportunity to work directly with livestock, such as sheep, cattle and pigs, as well as with a variety of plants and crops in the horticulture department's greenhouses. The CALS has an abundant relationship with the U.S. Department of Agriculture, which also provides numerous internship and credit-based opportunities for ISU students.

The CALS truly lends itself to sustainability throughout its course and major offerings, buildings and student engagement efforts and opportunities. The CALS prepares students to go out into the world and create a better future through food and nutrition, science and research, business and economies, service and more.



# COLLEGE OF ENGINEERING

Engineering was one of the first programs offered at Iowa State University when it was established in 1858.

Its rich history is one rooted in innovation, creativity and program excellence, leading the [College of Engineering](#) to today, where it is nationally ranked in the top 25 engineering programs in public universities.

## *A Sustained Education*

The college offers nearly 100 courses across eight departments, either focused on or related to sustainability, with multiple degree programs incorporating sustainability as one of their foundational, educational elements.

The college also has a strong commitment to beneficial, student-involved research that transforms technology and processes to make a difference in many aspects of the world.

Exploring renewable and clean energy

technologies, such as wind energy, is one such area where the College of Engineering aims to make a difference in the world.

The college's [Wind Energy Initiative](#) combines wind energy research, education and outreach activities in conjunction with industry to enable and enhance the economic viability of wind energy production, delivery and adoption.

## *A Sustained Infrastructure*

The sustainable integrity of the college's buildings and initiatives is also noteworthy.

The college has completed three sustainable building construction and remodel projects, certified by the [U.S. Green Building Council's Leadership in Energy and Environmental Design \(LEED\) standards](#). These standards include considerations such as low-flow water fixtures and environmentally-friendly lighting, cooling, and heating elements. LEED buildings can attain either a Silver, Gold or Platinum

certification depending on a score of sustainable building elements. The College of Engineering's certifications include:

- [Marston Hall](#) (2017, Gold)
- [Sukup and Elings halls](#) (2017, Gold)
- [Bioerenewables Research Laboratory](#) (2011, Gold)

The [Live Green! Revolving Loan Fund](#) granted funds to the College of Engineering so it could reduce electricity consumption in the [Black Engineering Building](#), which is home to two of the college's departments.

Additionally, the college promotes economic sustainability through the [Center for Industrial Research and Service](#) (CIRAS), which financially assists Iowa businesses as they seek to grow and flourish. CIRAS has helped thousands of Iowa businesses, generating millions of dollars for local economies and adding or retaining thousands of jobs.



### A Sustained Involvement

The college is deeply involved with its students, both in creating and nurturing an environment for success, as well as in providing opportunities for students to be empowered and invigorated by their studies and passions.

During the academic year, the College of Engineering hosts one of the [largest annual career fairs](#) in the country with nearly 450

employers and more than 7,000 students in attendance, reinforcing the college's 95% placement rate within six months of graduation.



Before graduation, though, students have numerous opportunities to unearth their interests in extracurricular involvement.

One notable student organization is [Cardinal Solar Car](#), formerly known as Team PrISUm. Students in this organization design, build and race solar-powered electric vehicles. To date, teams have created 13 different vehicles and have raced across the United States, Canada, and the Australian Outback.

The team's [2017 trip to Australia](#) showcased a vehicle envisioned more for practical use, rather than just racing. The solar-powered vehicle proved its durability and the team's vision for having the vehicle in everyone's driveway.

Additionally, many groups and resources at the college and university are geared toward inclusion – examples include the [Society of Women Engineers](#), [Society for Hispanic Professional Engineers](#), [National Society for Black Engineers](#), the [LGBTQA Alliance](#) and many more.

Cyclone engineers are at the forefront of developing innovative and creative solutions to addressing the current and upcoming challenges of the world related to sustainability. The College of Engineering's students leave Iowa State empowered to use their knowledge and expertise to protect and enhance the world for future generations.



# COLLEGE OF HUMAN SCIENCES

Since it was established in 2005, Iowa State University's [College of Human Sciences](#) (CHS) has demonstrated its commitment to sustainability through both its students and operations.

Though it's been a comparatively short history with other colleges, the CHS is has nurtured strong roots in social responsibility, inclusion, diversity and collective and individual well-being.

## *A Sustained Education*

The CHS offers more than 200 courses either focused on or related to sustainability. These classes support a wide range of majors focused on life skills that benefit individuals and communities, all the way from health and wellness to clothing design and education.

With an emphasis on social sustainability, the CHS also has students and staff contributing to research in some of the world's largest community challenges.

One such challenge is that of opioid misuse (the misuse of prescription drugs) in teenagers. The CHS' Partnerships in [Prevention Science Institute](#) researched and developed a new and effective model of substance abuse prevention to roll out to high schools.

Additionally, a team of graduate students within the college paved the way for sustainability in the fashion industry by winning at the [2014 National Sustainable Design Expo](#) with their sustainable process for developing textiles. The team presented a biodegradable, non-synthetic, leather-like vest made out of plant material.

## *A Sustained Infrastructure*

The college further instills a sustainable, forward-thinking mindset by being mindful of the environment in which students, faculty and staff are spending time.

The college has completed one sustainable

building construction and remodel project, certified by the [U.S. Green Building Council's Leadership in Energy and Environmental Design](#) (LEED) standards, since its founding. These standards include considerations such as low-flow water fixtures and environmentally-friendly lighting, cooling, and heating elements. LEED buildings can attain either a Silver, Gold or Platinum certification depending on a score of sustainable building elements. The College of Human Sciences' certification is in:

- [Lagomarcino Hall](#) (2016, Silver)



Additionally, the CHS is mindful of opportunities to increase efficiencies in conserving energy consumption. In the last five years, the CHS has been granted funding from the Live Green! Revolving Loan Fund for two unique projects.

The first project was for an [energy-saving software to be purchased](#) and installed on all staff computers in the CHS. The second was the [replacement of 30 space heaters](#) with radiant panel heaters throughout the CHS' seven buildings. Both of these projects have more than paid for themselves through the already-achieved energy cost savings.

### *A Sustained Involvement*

The CHS empowers its students to make an impact in the world with the opportunities and skillsets provided to them through its campus- and community-wide events, as well as course-inspired projects.

One of the college's most well-known and highly-



anticipated annual events is [The Fashion Show](#), one of the nation's largest student-run fashion shows that has been showcasing students' hard work and passion for more than 35 years.

In 2018, The Fashion Show invited [Patagonia](#), a sustainable outerwear clothing company, to guest judge the students' "Resilience"-themed designs. Before the main event, members of The Fashion Show educated ISU students about the importance of sustainability, including how they can incorporate it into everyday decisions about their clothing choices, through a pop-up clothing drive and speaking event.



Cyclone graduates of the College of Human Sciences leave Iowa State with the tools to make a sustained difference in their communities. The CHS helps students practice sustainability on both an individual and collective level, nurturing a sense of self responsibility that pours out into both of their personal and professional lives.



# COLLEGE OF DESIGN

Iowa State University's [College of Design](#) is on a mission to educate students as they strive toward becoming artists, designers, scholars and citizens who work to improve the quality of life, enhance human experience and advance environmental and social sustainability.

## *A Sustained Education*

The College of Design offers nearly 100 courses either focused on related to sustainability. All of these classes demonstrate the college's values of innovation, the open exchange of ideas, the appreciation of diverse perspectives, as well as creativity and curiosity.

The dynamic environment many studio classes offer not only puts students' passions and newly-attained knowledge to good work, but it also creates an opportunity for students to serve communities with their talents.

In 2014, ISU students in the [Retail Scapes](#)

[option studio class](#) developed design concepts to enhance local retail experiences in three southwestern Iowa communities. The multidisciplinary class started as an opportunity to work with individual community storefronts and streetscapes, but then evolved into a regional vision that celebrates connections and collaborations for the same goal of strengthening all three of the local economies.

## *A Sustained Infrastructure*

The college is also mindful of sustainability when considering the environment students, faculty and staff interact with each day.

The college has completed one sustainable building construction and remodel project, certified by the [U.S. Green Building Council's Leadership in Energy and Environmental Design \(LEED\)](#) standards, since its founding. These standards include considerations such as low-flow water fixtures and environmentally-friendly



lighting, cooling, and healing elements. LEED buildings can attain either a Silver, Gold or Platinum certification depending on a score of sustainable building elements. The College of Design's certification is in:

- [College of Design King Pavilion](#) (2010, Platinum)

In 2009, the College of Design received funding from the Live Green! Revolving Loan Fund for two projects that [replaced the lighting throughout the college](#) to be more mindful of energy consumption.

Additionally, the College of Design strives to incorporate its vision and mission of celebrating and protecting diversity, inclusion and social responsibility into its buildings.

In 2013, the college took steps toward meeting campus' new, modern privacy needs by renovating the ground floor men's restroom into a gender-neutral facility.

### ***A Sustained Involvement***

The College of Design truly inspires collective sustainability in its students, and that focus is displayed best through their students' work.

The work they create isn't just beautiful and aesthetically-pleasing. The college gives them a platform and opportunities to use their work to communicate about world issues and to make the world a better place.

In 2015, a graduate student shared the story of [women's issues in Iran](#) through her art exhibit featuring the mediums of digital and hand-painted illustrations, often visualizing the entrapment of women. This exhibit aimed to shed light on the social and political issues women in Iranian culture deal with every day, highlighting the freedoms the artist has in America and at Iowa State.

Another example of the college's focus on sustainability was showcased in a 2015 exhibit, called "[Structures of Species,](#)" at McFarland Park in Ames by architecture students.

The students were challenged to engage sight and nature in a meaningful way by designing spaces inspired by species that tend to have an unstable relationship with humans, such as bats and wasps. However, the students' designs created appreciation for these creatures by incorporating some of their unique characteristics that can actually benefit space design and create a better experience.

Students also have the opportunity to create works that benefit communities outside of the United States.



In 2016, College of Design students created sustainable [urban development plans for Nakuru](#), the fourth largest city in Kenya. ISU students worked with Kenyan students to plan and redesign the city's challenged transportation system. Their work creates physical connections between Nakuru and other cities, as well as encourages community engagement through redesigned public spaces.

The College of Design instills a sense of social responsibility in each of its students through the classes and opportunities it provides. Design students leave Iowa State with the right tools to leverage their creativity for community- and self-betterment.



# COLLEGE OF VETERINARY MEDICINE

Tucked away from the rest of campus is the Iowa State University [College of Veterinary Medicine](#), the nation's first public veterinary school.

The college has a rich heritage of supporting and enhancing the health and well-being of animals and human beings, as well as in shaping the future of veterinary professional practice, education, research and service.

## *A Sustained Education*

The College of Veterinary Medicine offers 125 courses either related to or focused on sustainability. All of these classes inherently teach students how to provide exceptional care for the planet's many creatures.

Students and faculty are also involved in numerous research programs and opportunities through the college. This research plays a key role in efforts to control infectious diseases, developing vaccines, developing new diagnostic tools and delivery

methods to improve food safety and security, as well as controlling and eradicating animal diseases.

In 2016, an assistant professor from the college found new discoveries in cattle foot disease, which leaves infected dairy and beef cows with painful lameness. His discoveries bring the world one step closer to learning how to better control the spread of the painful disease.

## *A Sustained Infrastructure*

The college not only values the sustainability tied to the health of animals, but also the environments in which students care for and interact with animals and people every day.

The college has completed one sustainable building construction and remodel project, certified by the [U.S. Green Building Council's Leadership in Energy and Environmental Design](#) (LEED) standards, since its founding. These standards include considerations such as low-



flow water fixtures and environmentally-friendly lighting, cooling, and heating elements. LEED buildings can attain either a Silver, Gold or Platinum certification depending on a score of sustainable building elements. The College of Veterinary Medicine's certification is in:

- [Small Animal Hospital at the Lloyd Veterinary Medicine Center](#) (2013, Gold)



The college has also completed multiple initiatives in increasing operational efficiencies and conservation efforts. Some of those sustainability-minded projects include:

- Installing new autoclaves with water conservation systems
- Installing rain gardens around the college's larger construction projects to retain run-off water
- Installing new freezers that are more efficient
- Adding UV film to windows to reduce solar heat gain and degradation of office furniture
- Adding vestibule doors in main entries to reduce the heat and cooling loss

Additionally, the new construction of the [Veterinary Diagnostic Lab](#) is Iowa's only full-service, fully-accredited veterinary laboratory, processing 85,000 cases and performing more than 1.25 million tests annually, which exceeds any other veterinary diagnostic lab in the country.

### *A Sustained Involvement*

The College of Veterinary Medicine supports its

students in engaging with the community and other veterinary medicine students.

The umbrella organization for students in the college is [Student American Veterinary Medical Association](#) (SAVMA), which provides academic opportunities and resources to veterinary medicine students. Typically, more than 80% of the college's students choose to be members each year.

SAVMA hosts speakers on a range of topics, ranging from in-the-world advice and interesting research to personal and professional self-care and wellness.

SAVMA also offers members the opportunity to apply for travel grants to help minimize the costs of professional travel for students presenting research, attending conferences or participating in internships.

SAVMA hosts various fundraisers and outreach activities to raise money for these opportunities, such as its dog wash fundraiser and Scamper Walk/Run.

Through the College of Veterinary Medicine's robust and unparalleled course offerings and experiential opportunities, Cyclone veterinarian students are equipped to advance sustainability in their own lives, as well as with the animals and people they serve.





# COLLEGE OF LIBERAL ARTS AND SCIENCES

Iowa State University's [College of Liberal Arts and Sciences](#) is the university's core college, providing the all-encompassing educational foundation for all ISU students.

The college strives to educate future leaders and citizens with a global perspective, conduct research of international significance, as well as share its knowledge to benefit Iowa, the nation and the world through its students.

## *A Sustained Education*

The nature of the College of Liberal Arts and Sciences creates countless opportunities for students to learn of diverse perspectives, wide-range issues, as well as new avenues of problem-solving. These opportunities are well-supported, as the college offers more than 650 course either related to or focused on sustainability.

Scientific, scholarly and creative endeavors also make the college a research powerhouse. Every day,

its faculty, staff and students help shape the future through innovative and interdisciplinary research.

Past research has involved a theme of sustainability with numerous projects ranging from a variety of topics, such as exploring biomass for sustainable fuel alternatives, understanding crops' responses to environmental stress, intrinsic rewards for encouraging healthy habits, tools that can be used to fight infenction, how media stereotypes can be used to fuel social and political action and more.

## *A Sustained Infrastructure*

Serving so many students presents the challenge of developing a resilient environment for students, faculty and staff to interact with each day.

The college has completed one sustainable building construction and remodel project, certified by the [U.S. Green Building Council's Leadership in Energy and Environmental Design](#)

(LEED) standards, since its founding. These standards include considerations such as low-flow water fixtures and environmentally-friendly lighting, cooling, and heating elements. LEED buildings can attain either a Silver, Gold or Platinum certification depending on a score of sustainable building elements. The College of Liberal Arts and Sciences' certification is in:

- [Hach Hall](#) (2011, Gold)

The college also received funding from the Live Green! Revolving Loan Fund in 2017 to [replace a laboratory freezer](#) with a more energy-efficient model.



Additionally, the College of Liberal Arts and Sciences is home to the LAS Center for Catalysis, a division dedicated to the development of useful, practical catalysts and sustainable green chemistry methods for agricultural, industrial and environmental science.

### A Sustained Involvement

The College of Liberal Arts and Sciences celebrates its students' passions and dreams by supporting them with numerous opportunities to learn more about the world.

The college frequently offers speaking engagements from professionals from around the world on a diverse range of topics. The college also sponsors ISU musical and theatre performances that showcase students' talents.

Additionally, the college nurtures interest in, educates and engages students, especially those who identify as women, in the political process through the Carrie Chapman Catt Center for Women and Politics. In working to educate and involve citizens, the Center:

- Offers leadership development and mentoring

opportunities to students interested in politics, public service and women's issues

- Brings prominent women leaders, national and international scholars, as well as political activists and practitioners to campus for lectures, programs and seminars
- Encourages women and men to pursue careers in politics, public administration and public service through the Ready to Run Iowa campaign training program

The college also presents the annual [Women Impacting ISU Calendar](#) to honor the current students, faculty and staff who distinguished themselves through their accomplishments at Iowa State.

This recognition is focused on the important role women play at the university, aiming to empower women both during and after their adventure at Iowa State.



The College of Liberal Arts and Sciences' faculty and students embrace the full spectrum of human creativity, innovation and empathy to address the world's challenges.

The college further empowers students to lead the nation and the world in integrating scientific, technological, cultural and historical perspectives to arrive at the most sustainable solutions that benefit the world's societies and the planet.



# IVY COLLEGE OF BUSINESS

Iowa State University's [Ivy College of Business](#) prepares students for a future of progress, giving them the skills to be empowered along their sustainability journey to go out and make a difference in the world.

Throughout their time at Iowa State, the college's students have countless opportunities to explore their passions, identify their purpose, as well as pursue meaningful careers to impact the world around them.

## *A Sustained Education*

The Ivy College of Business offers more than 50 courses either focused on or related to sustainability. Many of these classes offer a global and more collective vision for using the skills students acquire in the college.

In 2017, after anticipating future business needs throughout the world, the college launched an [undergraduate degree in entrepreneurship](#),

the first at a public university in Iowa, and a doctorate in entrepreneurship, the eighth program of its kind in the nation.

The college's executive MBA program is also the first in the Midwest to meet the needs of up-and-coming executives in the areas of food, agriculture and biosciences.

## *A Sustained Infrastructure*

The Ivy College of Business helps students flourish with state-of-the-art technology, including high-tech laboratories that allow students and faculty to replicate real-world business scenarios, such as market research and securities trading.

In 2017, the college received its largest-ever donation of [\\$50 million from Debbie and Jerry Ivy](#), an alumnus of Iowa State. This generosity is not only an investment in the sustainable integrity of the physical buildings and grounds -- it is also an investment in the all-encompassing

programs, quality educators and the future-forward vision for graduates of the college.

Business students have also played a unique role in helping with the implementation of sustainability-related resources that serve both the Iowa State and Ames communities and help create a more sustainable infrastructure.



Teams of business students were assigned one of five city EcoSmart websites; they were challenged to redesign the website to make it more meaningful, engaging and empowering for residents of all ages. Teams accomplished this by gathering feedback through surveys and focus groups to provide professional proposals to the City of Ames Public Relations department.

### *A Sustained Involvement*

The Ivy College of Business supports its students throughout their college careers, empowering them to be involved with their community and discover solutions to problems in the world.



In 2013, the college launched [CyBIZ Lab](#), which allows students to work with professional companies to solve real life situations as part of their education at Iowa State.

One of those real-life situations involved Casey's General Store, which was challenged with how to ensure a consistent customer experience. The CyBiz Lab team, comprised completely of ISU students, brought their external perspectives and insight to the actual table of Casey's headquarters to help drive a solution that helps the business, as well as its customers.

The college also brings in world-renowned experts to speak to students, demonstrating how the knowledge received at Iowa State can translate into positive, societal impact.



Additionally, the college's [Business Career Services](#) is dedicated to providing students with the information and tools necessary for successful professional development and job seeking. The program also connects students, alumni and faculty/staff with employers by providing programs and services that create opportunities to engage in mutually beneficial partnerships that meet the needs of an evolving, global workforce.

Cyclones in the Ivy College of Business are being equipped with skills and global, future-forward mindsets that will benefit them and their communities during their sustainable journey at Iowa State and beyond.

Iowa State could not function without the multitude of physical spaces provided to its students, faculty, staff and visitors. With a diverse array of settings, including classrooms, conference rooms, laboratories, offices and outdoor seating areas, it is of the utmost importance to university administration that these environments remain beautiful, functional, safe, sanitary and sustainable. This section looks at sustainability in:

- [Custodial Services](#)
- [Outdoor Spaces](#)
- [Design, Construction & Maintenance](#)

## CUSTODIAL SERVICES

- ISU Custodial Services exclusively uses green cleaning products that are free of harsh chemicals to clean all campus buildings.



- All new buildings are required to be cleaned with green chemicals to acquire a Leadership in Energy and Environmental Design (LEED) certification.
- Much of Custodial Services' cleaning equipment and supplies, such as mops, are made from recycled materials. All toilet paper and paper towels are made from 100% recycled materials, and trash bags are made from 30% recycled materials.

- Custodial Services uses technology related to best management practices, as well as efficient equipment, to use less water and chemicals throughout its operations.

- ISU Custodial Services employs more than 130 dedicated and talented individuals who work together in 12 self-directed work teams across campus buildings, focusing on providing a quick response to customer needs and emphasizing ongoing training and education of staff.

- ISU Custodial Services recognizes the link between student, faculty and staff health and success, as well as a commitment to safety for custodial teams and customers, thus driving every service that Custodial Services provides, with specific focus on the impact of cleaning products and processes on indoor air quality.

- Custodial Services is recognized as a leader in green cleaning among peers and serves as a resource to regents, peer and national universities.

- Custodial Services continually conducts audits to reorganize and monitor custodial spaces to ensure the most efficient use of space, as well as to remove unused chemicals.

- ISU Custodial Services prioritizes efficiency in both labor and materials on an ongoing basis to reduce costs.

- Instead of using paper cleaning products, cost-effective microfiber cloth is utilized on multiple surfaces for a variety of cleaning needs.

- Custodial Services saves money by using accurate chemical dilution systems to eliminate unnecessary waste by measuring out the exact amount of cleaning product needed for a given task. With this dilution system, Iowa State mixes in-house with on-site water, also reducing transportation costs of cleaning products.

- In collaboration with Custodial Services, Design and Construction Services uses high quality materials to build and maintain entryways to reduce the amount of dirt that accumulates from people using the building. This reduces costs related to labor and cleaning equipment because less dirt makes its way inside in the first place.

- Custodial Services provides input on the design of new buildings in regards to making sure custodial areas are efficiently located according to service area needs.

# DESIGN, CONSTRUCTION & MAINTENANCE

Design and Construction Services is reducing the number of oil-based products that are being used in its many construction projects and replacing them with recycled-content materials, such as steel (which is composed of at least 97% recycled content), carpeting, dry wall, ceiling tile, concrete and countertops.

Iowa State has more than 52,000 square feet of green roofs (also called "living roofs"), covered with vegetation like sedum, native prairie plants, succulents and chives, including the roofs of Troxel Hall and the Memorial Union.

The herbs and other culinary crops grown atop campus' living roofs will be used by the test kitchen in the Student Innovation Center when the building opens in 2020.

Most of Iowa State's major buildings have water bottle-filling stations, moving steadily toward the goal of all central campus buildings offering at least one filling station. Each filling station prevents tens of thousands of plastic water bottles from entering the waste stream.

Iowa State has three campus buildings that reuse rainwater to flush toilets: Biorenewables Research Laboratory, State Gym and Hach Hall. This reduces Iowa State's dependence on potable water for functions that do not require it.

Iowa State's commitment to Leadership in Energy and Environmental Design (LEED) initiated with the 2007 LEED Silver-certified Morrill Hall project.



Morrill Hall is home to many collections of artwork and was the site of the first dedicated commitment to the initiative of green cleaning, ensuring the preservation of invaluable educational collections through eliminating volatile organic compounds (VOCs) that are harmful to delicate pieces of artwork and artifacts. Additionally, it makes it safer for custodial staff by reducing exposure to chemicals.

Iowa State uses perforated window shades as a way to reduce the use of electrical lighting and utilize natural lighting, providing both cost savings and health benefits.

Iowa State partnered with the City of Ames to incorporate sustainable principles into the LEED Silver-certified Ames Intermodal Facility, serving as a central hub for multiple modes of transportation offered to the Ames community, as well as providing a sense of community connectivity for Ames residents.

Iowa State adopted the Leadership in Energy and Environmental Design (LEED) certification system, encouraging more-efficient, and therefore cost-effective, buildings that require less energy to heat, cool and illuminate.

Iowa State strives to be as energy efficient as possible. Campus has more than 12 million square feet of academic, administrative and residential facilities on campus operating each day.

To help lessen the cost of illuminating campus, all traditional lighting is being replaced with more-efficient LED lighting. In addition, all current LEED-certified campus buildings, as well as those to be built or remodeled in the future, incorporate LEDs.

# OUTDOOR SPACES

Facilities Planning and Management recycles street sweepings by separating trash from rocks and soil, which can then be reused in landscaping projects rather than being landfilled.

Campus Services uses hydroseeding to plant seed, as well as to control erosion, which utilizes a slurry of seed and paper mulch made from recycled newspaper, to stabilize soil, moisten seeds and soil, as well as help seeds germinate.

Iowa native plants are predominantly planted around campus to help native pollinators thrive. Of specific note are the pollinator plots established at Veenker Memorial Golf Course.

Landscaping Services is in the process of adding and restoring prairie landscapes to attract native pollinators. These landscapes, currently existing near the Extension 4H Building and the Applied Science buildings, require little maintenance.

Campus Services uses campus-produced mulch to help with weed control, maintain soil moisture and control temperature.

Landscaping Services uses bioswales, or rain gardens, incorporating water-loving plants to capture run-off, filter toxins and prevent flooding. Bioswales are currently found at Troxel Hall and the Applied Science buildings.

Permeable pavers, which allow pollutant-filtered water to pass through its surface to prevent run-off, are used throughout campus grounds.

TreeCYcle ensures all suitable downed campus trees are salvaged for lumber to be reused for class projects and various campus initiatives.

Students take part in an annual

project to plant trees on campus to celebrate Earth Day and Arbor Day.

ISU Campus Services continues to add colorful perennials around campus to inspire a sense of beauty in the Campus Beautification Initiative.

Campus Services and Facilities Services create educational opportunities for students with class projects, including plantings, landscape design and rebuilding outdoor areas and structures.



Campus Services prioritizes pedestrian and bicycle transportation, as well as related issues of safety, visibility, proper signage and traffic signals, to ensure sidewalks meet the needs of students.

Campus Services partnered with Student Government to place 35 tables, funded by students, and placed throughout campus in new

and expanded outdoor seating areas. Included in this initiative is the inclusion of outdoor, solar-powered charging stations.

Campus Services supports the needs of students by providing more dining options throughout campus by finding low-cost spaces to accommodate food trucks and providing amenities, such as picnic tables and power.

The installation of new LEDs on campus provide a safer outdoor environment by supplying more expansive lit areas throughout campus, compared to traditional lighting.

In support of local economies and businesses, only plants and trees from nurseries located within 250 miles of Ames are planted on campus.

The university owns a 500-gallon rainwater collector, which saves costs related to the upkeep of campus' plants.

Technology that manages water consumption is used to save money by making use of a tool utilized at Veenker Memorial Golf Course, as well as ISU athletic fields, that measures humidity and gives the best time to water plants.

Campus' solar trash and recycling compactors has saved money by reducing the number of trash pickups by a ratio of 5:1, thereby reducing labor costs by more than 90 percent, as well as fuel emissions and costs of outdoor garbage bags.

Iowa native plants, which have minimal maintenance costs, are planted throughout campus.

Plants are caged during the winter months to protect from rabbits and avoid costs of replacement through ensuring long-term health and longevity.



With a variety of locations that include eight cafés, five dining centers and five markets, [ISU Dining](#) is committed to serving its customers healthy, affordable meals that support sustainability in and out of the kitchen. ISU Dining serves as the main source of nutrition for students living on campus and also provides sustenance for staff, faculty, visitors and those living off-campus.

## ISU DINING

The majority of ISU Dining locations are “tray-less,” which reduces excessive food waste and also encourages diners to eat smaller, healthier portions.

ISU Dining’s residential dining centers compost food waste that is processed at the ISU Compost Facility. This prevents food from entering the landfill and also provides ISU’s outdoor spaces with a sustainable, low-cost alternative to fertilizer.



ISU Dining locations use a “pulping system” for dish washing that filters out food waste, preventing unwanted items from entering our water supply.

A portion of used grease is sold to the ISU BioBus, a student group

that seeks to make biodiesel from reclaimed vegetable oil and supply it to CyRide for use in one or more of the Cybrid transit vehicles that serve Iowa State and the community of Ames.

In addition to recycling traditional items such as glass and cardboard, ISU Dining recycles the plastic pallets used for food delivery. Broken kitchen equipment is also recycled into scrap metal.

Rather than send unwanted materials to the landfill, items such as outdated dishware sets are sent to ISU Surplus so that they can be sold to community members who can use them in new ways.

ISU Dining has a strong relationship with Food at First, a local non-profit organization that supplies meals and food items to Ames community members in need. Donations include perishable food items (typically during academic breaks) and items from campus events, as well as packaged retail products past their sell-by date.

Lisa Nolting, ISU Dining’s Registered Dietitian, provides educational opportunities to students and community members throughout the year. Events include Culinary Boot Camp, the Smart Eats Program and Body Image and Eating Disorder Awareness Week. Lisa also has a blog that provides insights and tips about healthy eating!

ISU Dining maintains the Special Diet Kitchen for those with unique dietary needs. The kitchen can accommodate individuals with severe allergies, as well as those who need medically-prescribed meals following surgery or illness.

The online app NetNutrition provides customers with up-to-date nutritional information on all of the products ISU Dining offers. This easy-to-use tool helps individuals track their nutritional intake in a fun and friendly way.

BYOC! Save \$0.35 per coffee drink for bringing your own cup to any ISU Dining location. Not only does this save money for customers, it also prevents nearly 35,000 disposable cups from entering the landfill each year.

ISU Dining employs nearly 1,800 students per year, creating valuable job opportunities for our campus. Once student employees graduate, their work uniforms are donated to the Goodwill Good Wipes program, which repurposes clothing items unsuitable for sale into reusable cleaning cloths.

By selling a portion of its used grease, ISU Dining earns a profit while also reducing its carbon footprint.

ISU Dining spends at least 10% of its annual budget to support the Farm to ISU Program. Founded in 2007, the Farm to ISU Program includes purchases in three different categories: Iowa-based, locally-grown and organic/sustainable products.

Iowa State, along with the state’s other two regent universities, contract together with Martin Bros., a local, family-owned food distributor. By working together, this enables the regent universities to merge their buying power to ensure best purchasing prices.

One of the main sources of energy for Iowa State's campus is the university's power plant. Iowa State explores efficiency improvements, alternative energy sources and other strategies to improve operations and minimize emissions on an ongoing basis, monitoring all emissions from the operation of the power plant, as well as operations supporting the day-to-day needs of the university.

## ENERGY & CLIMATE

To be more considerate of the environment, the ISU power plant added natural gas to its fuel portfolio, resulting in 60% gas and 40% coal feedstock.

The \$42 million conversion project, completed in 2016, resulted in the reduction of total emissions by 80% and the reduction of carbon dioxide emissions by 20%.

About 7% of total campus energy comes from electricity generated through contracted wind energy in partnership with the City of Ames.

One of the technologies incorporated at the power plant in 1891 and still in use is the process of "cogeneration," the process of using a single fuel source to simultaneously produce both thermal energy (in the form of steam and chilled water) and electricity at the same time, sometimes called Combined Heat and Power, toward increased efficiency.

Two of the power plant's boilers, called circulating fluidized bed boilers, were installed in 1988 and burn limestone with the coal. The limestone reacts with the sulfur in the coal and the boilers remove more than 90% of the sulfur. The lower combustion temperature in these boilers also minimizes the emissions of nitrogen oxides.

Iowa State University has many "demonstration projects" that are used for student research, including a wind turbine installed in 2013, and solar panels installed in 2015.

Utility Services collects data from

these demonstration projects, as well as the wind farm, to share with students and the public.

Iowa State is part of the Big 10 & Friends Utility Group. The group consists of about 25 universities, which meet each spring. These universities support each other with communication about various topics related to energy on an ongoing basis.

Utility Services provides opportunities to tour the power plant. Each year, 700-800 students tour and learn more about it.

Utility Services promotes well-being by monitoring how much light is in a room to ensure lighting levels that support maximum performance of students, faculty and staff.

The staff at the power plant partners with Live Green!, gives lectures, connects with Student Government, as well as partners with various student groups, to increase education and awareness regarding ISU's commitment to renewable energy and the campus community's opportunity to monitor ISU's real-time energy consumption.

Utility Services' Energy Dashboard monitors campus energy use on a daily and hourly basis.

The ISU power plant employs about 75 dedicated individuals. Their jobs support the power plant's ability to supply all utility demands on Iowa State's campus.

Since the 1980s, Iowa State has had an Energy Management Group that

prioritizes the energy use of heating, ventilation and air conditioning.

Temperature systems throughout campus are scheduled to turn off, as well as be put into "economic mode," which pulls in outside air instead of mechanically cooling air.

Air conditioning systems have high-efficiency air filters that last 3-4 times as long as conventional filters and can be re-used.

Iowa State adopted the Leadership in Energy and Environmental Design (LEED) certification system in all construction and major renovation projects, which encourages more-efficient, and therefore cost-effective, buildings that takes less energy to heat, cool and illuminate.



Two of Iowa State's newest campus-wide initiatives represent the university's growing commitment to well-being: ISU WellBeing, which was established in 2014 and provides resources to faculty and staff, and Student Wellness, which was established in 2017 and serves both undergraduate and graduate students. These initiatives shows Iowa State's dedication to creating a culture of well-being where all students, faculty and staff can achieve their personal and professional goals. This section looks at sustainability in:

• [Student Wellness](#) • [ISU WellBeing](#)

## STUDENT WELLNESS

By supporting wellness in connecting students with sustainability programs and resources, Student Wellness creates opportunities that protect and enhance the environment, as well as add commitment and resilience toward protecting the environment for future generations.

Of the many wellness opportunities offered, special events and volunteer opportunities allow students to cultivate an individual appreciation for and connection to their natural environment as they discover and participate in their own passions at Iowa State.

One of Student Wellness' eight dimensions is environmental wellness. This dimension revolves around



choosing a lifestyle of committed effort toward sustaining the earth's natural environment.

Student Wellness created its first major program, Peer Wellness Educators, for students to promote wellness and student success on a peer-to-peer level through presentations to and discussions with classes and groups. The program is staffed by highly-trained, paid student employees, whose focus is continually advocating for university policies and initiatives that tackle issues of social inequity (including, but not limited to focus areas of alcohol use, power-based violence and joyful eating).

The Green Dot program empowers the campus community to speak out against power-based violence by utilizing education, outreach and staff development as mechanisms toward a goal of more green dots than red dots through 40-50 campus facilitators, increasing awareness and competency around bystander intervention skills. Green dots are any choice, behavior, word or attitude that promotes safety for everyone and communicates intolerance for power-based personal violence. Red dots are instances of power-based personal violence. Proactive green dots are things people can do to prevent power-based personal violence from happening. Reactive green dots are things people can do to intervene in a red dot situation.

Student Wellness offers Cyde Kicks, a peer-to-peer health coaching program, utilizing reflective and motivational interviewing skills rather than providing prescribed instruction to empower students in the development of behavioral changes and achieving their goals.

In early 2018, Student Wellness rolled out the Collegiate Recovery Community. This initiative is a resource for all students struggling with substance use disorder issues, offering substance-free events, free and local resources, as well as community support.

Student Health and Wellness Ambassadors partner with Recreation Services, Student Wellness, Student Counseling Services and Thielen Student Health Center to help build a culture of health and well-being on campus by conducting outreach on health and wellness resources, being key communicators of health and wellness, as well as serving in an advisory capacity to the Student Health and Wellness unit.

Student Wellness collaborates with the Student Loan Education Office in supporting the financial literacy program.

Student Wellness promotes the philosophy of health as an economic resource. Within this mindset that prioritizes health and wellness, students are less likely to miss class, work and other campus activities.

# ISU WELLBEING

- ISU WellBeing aims to encourage the use of outdoor areas for both relaxation and activity.
- ISU WellBeing collaborates with Iowa State Recreation Services to promote walking and the use of bike paths.
- Working with campus departments to help support healthy movement, healthy food and regular breaks in the work environment, including encouraging departments to incorporate sit/stand desks for employees, is a main focus of ISU WellBeing.
- ISU WellBeing promotes ergonomics, the science of human performance factors that influence the workplace.
- ISU WellBeing encourages employees to engage in volunteering and outdoor interaction through community and physical well-being.
- One of the six elements of ISU WellBeing is spiritual well-being. This element focuses on discovering purpose in life and pinpointing values and goals.
- ISU WellBeing creates well-being in both the community and university by collaborating with Mary Greeley, McFarland Clinic, the City of Ames, as well as Healthiest Ames and its “Healthy Hometown” initiative.
- With the help of Environmental Health & Safety, Facilities Planning and Management, Live Green! and Student Wellness, ISU WellBeing has established a “Campus WellBeing Leadership Alliance.”
- ISU WellBeing supports other initiatives for physical well-being, including encouraging better sleep habits, offering stress tests to assist employees in pinpointing and more effectively managing their biggest stressors, as well as promoting the use of walking meetings.
- Healthy At Every Size (HAES), a nutrition program that focuses on joyful eating and body positivity and explores the variety of resources and services on campus, is a collaboration of ISU Counseling Services, ISU Dining, Live Green!, Thielen Student Health Center, the Food Sciences department and Ames Parks and Recreation, among others.
- ISU WellBeing promotes emotional well-being by offering biofeedback rooms, enclosed rooms that teach relaxation techniques, healthy coping responses, as well as concentration skills, to ISU employees.
- ISU WellBeing offers resources to support employees’ mental well-being, such as group and individual counseling and the Employee Assistance Program (EAP), which is dedicated to helping employees overcome challenges to maximize their full potential.
- ISU WellBeing is focusing on building community and facilitating interactions between colleagues and co-workers to make employees feel more connected, socially, physically and mentally. Unique approaches to this include hosting the annual Local Food Festival and connecting local foods and producers to students, faculty and staff, as well as connecting Ames and ISU walking routes to offer a community-connected walking program.
- Through data collected from a university-wide well-being needs assessment survey, ISU WellBeing created an Online WellBeing Portal for employees to find and connect to well-being resources, challenges and opportunities.
- Having identified financial well-being as one of the biggest stressors by ISU employees, ISU WellBeing has an entire initiative devoted to building financial well-being.
- The university provides classes and budgeting tools and resources for work and personal management to inspire financial resiliency.
- Iowa State’s insurance benefits package offers Blue365 discounts to help employees save money on medical-related expenses.
- Considering health and well-being as an economic resource is a focal initiative of ISU WellBeing. Better health is a form of self sustainability that can decrease healthcare costs, as well as increase life expectancy.



An important component of sustainability is the consideration of waste production and opportunities to reduce and divert materials from the landfill. Iowa State University aspires to be an international model for sustainable behavior, constantly encouraging others to use better management practices (BMPs) and to discover opportunities for managing waste. This section looks at sustainability in:

• [Composting](#)

• [Recycling](#)

• [Reducing](#)

• [Reusing](#)

## COMPOSTING AT ISU

Upon initial collection, nitrogen-rich manure and food waste are mixed with carbon-rich corn stover and yard waste to make windrow piles. This mix balances carbon and nitrogen at the correct moisture and density to promote aerobic microbial decomposition. The windrows are turned and aerated twice a week to promote composting and minimize odor. To reduce the risk of runoff and leaching, finished compost is cured and stored under the cover of large hoop barns. Using this process, campus waste usually takes four months to transform into compost.



According to the EPA, food scraps and yard waste currently make up 20-30% of what Americans throw away.

Composting keeps these materials out of landfills where they take up space and release methane, a potent greenhouse gas that contributes to climate change.

In providing an alternative to chemical fertilizers, compost enriches soil, retains moisture, suppresses plant diseases, protects against pests and encourages the production of beneficial bacteria and fungi that break down organic matter to create humus, a rich, nutrient-filled material.

Although the University Compost Facility receives the bulk of its waste from campus partners such as ISU Dining, student groups can donate biodegradable waste collected during campus and community “clean-up days” to the site. In this manner, students add beauty to our surroundings by removing unsightly trash that is also harmful to the environment.

The University Compost Facility has ongoing relationships with the many campus entities it collects waste from: ISU Dining, ISU Campus Services, Reiman Gardens, the Jeff and Deb Hansen Agriculture Student Learning Center, the Agricultural Engineering/ Agronomy Farm, the BioCentury Research Farm, the Horticulture Research Station, the USDA North Central Region Plant Introduction Station and the Animal Science Beef, Dairy, Sheep, Swine and Equine farms.

Of the eight on-site hoop barns, one is used for making compost used for organic agriculture research projects. In collaboration with the Agronomy Department, the University Compost Facility meets the USDA’s national

guidelines for organic compost to ensure researchers can use this material for their organic projects.

To share its knowledge, the University Compost Facility regularly conducts tours and on-site presentations. In the past it has hosted the Iowa Department of Natural Resources, the Ames Chamber of Commerce, visitors from other countries and school groups of all ages.





With the material provided by the University Compost Facility, this low-cost program saves money and prevents Iowa State from purchasing compost from outside sources. ISU’s compost is mostly used for landscaping projects and agricultural research.

The University Compost Facility charges a small fee for material that goes in and out of the site. This enables the facility to operate as a self-sustaining operation that can pay for its own maintenance and labor.




In addition to a full-time manager, the University Compost Facility also employs several students to work at the site.



Although recently built in 2008, the University Compost Facility continually assesses ways to improve its site to become more economically efficient. For example, the facility is currently upgrading the roofs of all its warehouses to better manage snow, which is the single biggest composting challenge at Iowa State, as it can be difficult to maintain microbes and warmth in the compost during winter.

# RECYCLING AT ISU

-  In addition to recycling traditional items such as glass and cardboard, ISU Dining recycles the plastic pallets used for food delivery. Broken kitchen equipment is also recycled into scrap metal, and non-usable work uniforms are donated to the Goodwill Good Wipes program, which repurposes clothing items unsuitable for sale into reusable cleaning cloths.
-  Through single-stream recycling, batteries, cell phones, lab equipment and more are recycled, as well as glass, metal, plastic and paper.
-  To ensure proper handling of hazardous materials and reuse of recyclable materials, Environmental Health and Safety recycles 50,000-70,000 fluorescent light bulbs each year.
-  The Department of Residence always strives to recycle or donate outdated materials. In collaboration with Live Green! and Ohio Mattress Recovery and Recycling, the DOR recycled 900 used mattresses from Frederiksen Court. By utilizing this service, the DOR saved roughly 20,000 cubic feet of



landfill space, as 94% of the materials in each mattress can be recycled. The DOR also donated cloth curtains from wardrobes located in Maple-Willow-Larch dorms to local non-profits for reuse in a diversity of projects.

-  Any and all vehicular parts are recycled if they cannot be sold. For example, the Iowa Department of Transportation converts old tires from Transportation Services into paving material for state highways.
-  Glass waste, a non-beneficial fuel source for the Ames Resource Recovery Center, is collected across campus through single-stream recycling, as well as in laboratories, and recycled for use in the manufacturing of products such as fiberglass.
-  Facilities Planning and Management and the ISU Department of Residence offer recycling outlets throughout campus to provide recycling opportunities to students, faculty, staff and campus visitors. They continually monitor and respond to increased needs related to capacity and convenience.

-  The campus-wide installation of solar recycling compactors has reduced the number of pickups by a ratio of 5:1, saving both time and money, and has also reduced fuel and emission costs.
-  In partnership with ISU Environmental Health and Safety, Transportation Services recycles engine oil.
-  ISU Dining employs nearly 1,800 students per year, offering beneficial economic sustainability opportunities.







# REDUCTION AT ISU

-  Due to increasing awareness of sustainability issues at Iowa State, Transportation Services recently switched to bulk delivery and storage of all fluids, including fuel, oil, antifreeze and washer fluid, to eliminate the unnecessary waste of plastic and metal containers, as well as to reduce the number of deliveries, fuel usage and emissions.
-  ISU Dining has a strong relationship with Food at First, a local non-profit organization that supplies meals and food items to Ames community members in need. Donations include perishable food items (typically during




academic breaks) and items from campus events, as well as packaged retail products past their sell by date.

-  Through a partnership with Goodwill Industries, the ISU Department of Residence collected reusable and recyclable housewares and clothing items during Spring 2017 move out, resulting in 11 tons of material being diverted from the waste stream to serve communities in need.
-  All of Iowa State's residential dining facilities are "tray-less," encouraging diners to take and eat portions that better match their needs and appetites.


-  ISU Surplus reduces the disposal of reusable office and operations equipment and supplies by first redistributing these items to other ISU departments and business units and then offering these items for sale to outside entities and the general public.
-  Environmental Health and Safety's Chemical Redistribution program minimizes waste by selling unused, surplus chemicals to researchers.
-  ISU diverts glass out of the waste system to assist the City of Ames in keeping non-beneficial fuel out of the Resource Recovery Center, reducing maintenance costs and equipment repair.

-  Custodial Services saves money by using accurate chemical dilution systems to eliminate unnecessary waste by measuring out the exact





-  amount of cleaning product needed for a given task. With this dilution system, Iowa State mixes in-house with on-site water, also reducing transportation costs of cleaning products.
-  Instead of using paper cleaning products, cost-effective and versatile microfiber cloth is being used by Custodial Services throughout campus for a variety of cleaning needs.
-  BYOC! Save \$0.35 per coffee drink for bringing your own cup to any ISU Dining location. Not only does this save


money for customers, it also prevents nearly 35,000 disposable cups from entering the waste stream each year.


-  Information Technology Services (ITS) uses virtual servers to reduce the space needed for physical servers. This is cost- and resource-effective, as Iowa State can house 50 virtual servers on one physical server and not need to use space, money or energy on physical hardware in multiple spaces.


## REUSE AT ISU

-  Facilities Planning and Management reuses street sweepings by separating trash from rocks and soil, which can then be reused in landscaping projects instead of being landfilled.

-  Rather than send unwanted materials to the landfill, items such as outdated dishware sets and office equipment are first sent to ISU Surplus and offered for sale to colleges, departments and community members that can use them for business and home needs.



-  Used grease from ISU Dining facilities is sold to ISU BioBus, a student organization that makes biodiesel from reclaimed vegetable oil and supplies it to CyRide for use in some of their Cybrid transit vehicles that serve Iowa State University and the community of Ames, providing a beneficial use for a waste product and reducing emissions of traditionally-fueled buses.

-  Campus Physical Services offers a “free wood” program for community use. This wood is collected from downed and damaged trees that are not used to make mulch or repurposed for TreeCYcle, and is a great way for wood to find a new home while saving people money.


-  Information Technology (IT) determines the life cycle of its


technology. Desktops and laptops have “two lives” that spans about seven years -- one life is with IT, and the other is with a new owner somewhere on campus. After both of these lives, desktops and laptops go to ISU Surplus to be sold to Ames community members and businesses.




-  Ninety-five percent of the mulch Campus Services uses is produced on-campus, allowing the university to meet almost all of its mulch needs through in-house production. To make up any difference, Iowa State also accepts donations from community members and organizations that have leftover mulch from projects.
-  TreeCYcle is a program that ensures

all suitable downed campus trees are salvaged for lumber to be reused for class projects and various campus initiatives.


-  When moving out of campus housing, students are encouraged to participate in the Move Out Donation Program. The program enables students to place unwanted items such as housewares and non-perishable foods in easy-to-find drop-off sites. The Department of Residence (DOR) then partners with community non-profits such as Goodwill, which sells, donates or recycles, all donations to ensure donations are not landfilled. This annual effort is organized with assistance from the DOR’s student sustainability team, the GreenHouse Group, Central Stores and Facilities Planning & Management.


-  BYOC! Save \$0.35 per coffee drink for bringing your own cup to any ISU Dining location. Using reusable containers saves money for customers, as well as operations, through not purchasing disposable cups, lids and sleeves.


-  ISU Surplus provides an outlet to university departments and business units, as well as individuals and communities, for purchasing used items instead of investing money and budgets on new items.


Improving efficiency in transportation systems for Iowa State and the surrounding community is critically important as we work toward a sustainable future. Optimizing transportation not only reduces costs and consumption through resource savings, it also reduces emissions and addresses concerns related to climate change.


## ISU TRANSPORTATION


 Riding a bicycle is a fun and easy way to stay active and reduce the carbon footprint associated with vehicular transportation. The ISU Online Campus Map includes safe bicycle routes on campus, while the City of Ames maintains its own map displaying the safest bicycle routes for community use. In total, there are more than 6,000 bicycle racks on campus: 3,560 in the general university area and 2,630 in Department of Residence areas.

 Of Transportation Services' 550 vehicles, 200 are low-emission or zero-emission vehicles that discharge little to no pollutants into the atmosphere, significantly decreasing Iowa State's carbon footprint.

 On average, Transportation Services conducts 30-100 car washes per day for its vehicles. To save money and reduce its water use, Transportation Services recently installed an automated car wash system with adjustable settings that better manages water efficiency.


 Transportation Services recently switched to bulk delivery and storage of all fluids, including fuel, oil, antifreeze and washer fluid, to eliminate the unnecessary waste of plastic and metal containers.


 Any and all vehicular parts are recycled if they can not be sold at auction. For example, the Iowa Department of Transportation converts old tires from Transportation Services into paving material for state highways.

 ISU Facilities Planning and Management (FP&M) routinely looks for opportunities to improve pedestrian and bicycle safety by installing new traffic signals,


rerouting traffic lanes close to campus and maintaining the "Walk Your Wheels" initiative, which prohibits bicyclists from riding on campus sidewalks.

 Iowa State is one of the few universities in the country to offer vehicles to student organizations. As Iowa State is the nation's first land-grant university and has a long history of agricultural research, Transportation Services believes it is extremely important that students have ongoing access to research plots located off-campus. Although this is costly in terms of insurance, it greatly benefits students' professional growth and increases their ability to have cross-cultural connections beyond the Ames community.


 Transportation Services offers a vanpool that provides transportation between Ames and six different communities: Ankeny, Boone, Des Moines, Roland and Story City. After paying a small monthly fee, members share driving duties and decide on a convenient pick-up and drop-off spot that best serves their needs. Vanpool members also receive 10 free parking passes a year and are provided individual vehicles in case of emergencies.

 Through the use of CyBIZ Lab and other campus programs, Transportation Services often collaborates with students for research and internships related to finance management, customer feedback and public safety. Classes also routinely participate in "sustainable ride and drives" in which students can test no-emissions vehicles. One group of students event built a covered bike rack that Transportation Services customers

can use for storing their bike while using a university vehicle.


 Transportation Services partners with the Iowa Braille School and the Iowa School for the Deaf to provide transportation to their students.




 First used in August 2010, "Cybrids" are 12 hybrid buses that account for approximately 17% of CyRide's large bus fleet. Cybrids combine a small biodiesel engine with an electric motor for efficiency and also capture braking energy during stops, releasing that energy for use during accelerations. Cybrids are estimated to save 23,000 gallons of fuel and 464,102 pounds of CO<sub>2</sub> every year! Because they are 50% quieter, Cybrids also help cut unwanted noise pollution. Read more information here about CyRide's other




sustainability initiatives, including solar-powered bus stations.


 Outdoor Recreation Services offers a plethora of free and reduced-cost services to the avid cyclist! Some of those services include giving free bike safety inspections and tune-ups, teaching responsible biking classes, offering minor bicycle repair services, answering questions and providing recommendations.


 The online Ride Share program and the car share program (Zipcar) allow students to find carpool opportunities or reduced-cost rentals that can save money related to the costs of fuel and

on-campus parking. Participating in this program also reduces fuel emissions that contribute to climate change.

 Transportation Services extensively uses E85, a bio-based fuel that contains up to 85% corn ethanol. This type of fuel is becoming increasingly popular in the Midwest, where corn remains a major agricultural crop. As a result, not only is E85 cheaper than traditional gasoline, it also provides economic support to the many local farmers and businesses who contribute to its production. With its fleet of 550 vehicles driving six million miles a year,


E85 provides substantial economic benefit to Transportation Services.


 To save money, Transportation Services buys new vehicles in bulk at a decreased price. It also partners with the Iowa Department of Transportation to sell old vehicles at auction, bringing revenue to campus while also ensuring vehicles find a new home with those who need their own form of transportation.


 In partnership with ISU Environmental Health and Safety, Transportation Services receives money in exchange for recycling engine oil.


Iowa State University Procurement Services is committed to continuous improvement in procuring environmentally-preferable products, promoting sustainable practices, and managing energy consumption, while fully supporting the university's mission to create, share and apply knowledge to make Iowa and the world a better place.

## ISU PURCHASING


 When it comes to shipping and receiving, the university uses recyclable materials and prioritizes the reduction of waste by consolidating shipping to save on packaging and reduce gas emissions, as well as using reusable packing and packaging. Additionally, recycled-content products are utilized for campus projects and needs. The university's bookstore also offers a diversity of recycled consumer products, such as binders, graduation gowns, as well as reusable water bottles and mugs.

 When it comes to purchasing equipment, Iowa State saves energy and reduces greenhouse gas emissions by choosing ENERGY STAR-rated and EPEAT-certified products.

 ISU Custodial Services exclusively uses green cleaning products that are free of harsh chemicals (both for custodial staff and building occupants) to clean all campus buildings.

 ISU Procurement Services won the 2016 National Purchasing Institute Excellence in Procurement Award, recognizing excellence in public procurement through evaluating procurement efforts on the basis of efficiency, staffing, e-commerce, among others.



 Procurement Services supports the sustainability of local businesses and producers by purchasing (when feasible and effective) locally-produced and -provided products and services.

 Iowa State specifies a particular vendor code of conduct related to procurement and sustainability, seeking to do business with suppliers who share concerns for and commitment to sustainable business practices. This code requires suppliers to meet all applicable environmental rules, regulations and laws in the countries where they do business, as well as to consistently look for new and better ways to conserve resources, reduce pollution and waste and enhance the communities in which they operate.

ISU Procurement Services considers the "total value" of goods and services before making any purchase. The life cycle cost, rather than the initial cost, is considered, which takes into account maintenance, repair and energy costs, as well as purchase price and setup costs.

Procurement Services keeps purchases local, which is good for

both Iowa and its small businesses. Local business purchases have supported local industries and producers in areas such as food, cleaning products and supplies, as well as remodeling and trade skills.

In support of local economies and businesses, only plants and trees from nurseries located within 250 miles of Ames are planted on campus.

Procurement Services uses cyBUY, which is designed to allow for the procurement of supplies and equipment from contracted vendors in a streamlined, online marketplace available through AccessPlus. Using cyBUY saves time by creating less paperwork, as well as decreases labor costs.

With one in three students choosing to live on Iowa State's campus, the Department of Residence (DOR) serves more than 12,000 individuals who live in 3.6 million square feet of housing. In terms of student enrollment, this places Iowa State as one of the 20 largest university housing programs in the country.

## DEPARTMENT OF RESIDENCE

Recycling programs have existed in campus housing units since 2009. At the Schilleter and University Village Community Center, students can also recycle items such as batteries and cell phones. Each residence hall has a recycling chair and sustainability chair that oversees the program.

The Department of Residence (DOR) always strives to recycle or donate outdated materials. In collaboration with Live Green! and Ohio Mattress Recovery and Recycling, the DOR recycled 900 used mattresses from Frederiksen Court. By utilizing this service, the DOR saved roughly 20,000 cubic feet of landfill space, as 94% of the materials in each mattress can be recycled. The DOR also donated cloth curtains from wardrobes located in Maple-Willow-Larch to local non-profits for reuse in other projects.

With the help of ISU Custodial Services, the DOR exclusively uses green products that are free of harsh chemicals to clean all residence buildings.

Six new Frederiksen Court facilities are certified Gold in the Leadership in Energy and Environmental Design (LEED) initiative, an internationally

recognized certification program that offers third-party verification of sustainably-constructed buildings.



Every residence hall has a bottle filling station, which encourages students to drink from reusable containers. This helps students rely less on bottled water, and on average, each filling station has already prevented tens of

thousands of plastic containers from entering the landfill.

There are more than 1,600 leadership positions available within campus housing. Students can be a house president, a sustainability coordinator, an apartment community council member or a recycling chair, just to name a few opportunities.

Established in 2008, the GreenHouse Group is a student organization that works on sustainability in collaboration with the Department of Residence (DOR). In 2009, the partnership resulted in a recycling program for residence halls and two campus apartment communities, with more than 1,500 pounds of recycling materials collected within the first five weeks. Since then, the GreenHouse Group has regularly contributed to on-campus sustainability events such as National Campus Sustainability Day.

The DOR offers 21 different residential learning communities (RLCs). These communities are small groups of students who live together in designated houses or floors in order to share academic interests, classes, living spaces and develop friendships as part of an

innovative program based on cooperative learning. Many RLCs focus on issues of sustainability, such as Agriculture Education Studies, Food Science and Human Nutrition and Science of the Environment and Sustainable Systems.



Additionally, the DOR offers five theme houses that bring together students with similar interests without academic requirements. For example, the Cross Culture House requires students to live with roommates from another country.



The DOR always welcomes the

opportunity to collaborate with student organizations. For example, the ISU Delta Waterfowl Chapter made duck houses using reclaimed lumber provided by the DOR as part of a fence replacement initiative at University Village.



When moving out of campus housing, students are encouraged to participate in the Move Out Donation Program. The program enables students to place unwanted items such as housewares and non-perishable foods in easy-to-find drop-off sites. The Department of Residence (DOR) then donates these



items to local charitable organizations such as the Salvation Army.

The DOR continually takes on “life cycle projects” to replace outdated materials with more economical and sustainable counterparts. The DOR is installing new energy-efficient windows, replacing all light bulbs with cost-saving LEDs and putting down carpet made from recyclable materials. As most DOR construction takes place during the summer when students are gone, life cycle projects usually take 5-10 years to complete.

As one of the nation’s leading research institutions, Iowa State has a high need for data growth, cyber security and technological capacity, which results in a vast consumption of energy and resources. To find sustainable solutions to these ongoing challenges, Information Technology Services (ITS) has partnered with Live Green! to reduce energy use and eliminate waste across campus.

## INFORMATION TECHNOLOGY



Information Technology Services (ITS) has decreased in infrastructure. Starting six years ago and nearing completion, department servers have been moved to one, campus-wide storage location. At this centralized



location, ITS also uses an “enterprise storage array” that ensures all data receive common data management, sharing, protection and more.



ITS is currently transferring all of Iowa State’s data storage to a petabyte. A petabyte is equal to 1,024 terabytes, the current storage size being used.



CyBox, a cloud-based service, reduces Iowa State’s on-campus footprint by allowing users to share a multitude of documents without needing to print paper.



ITS worked with Student Government and the ISU Vice President to standardize printing rates in August of 2016. Standardized rates encourage paper reduction.



Through supporting a robust infrastructure for telecommunicating and virtual meetings, ITS assists in the reduction of the university’s green gas emissions from transportation.



ITS determines and closely monitors the life cycle of its technology. Desktops and laptops have “two lives” that spans

about seven years -- one life is with ITS, and the other is with a new owner somewhere on campus. After both of these lives, desktops and laptops go to ISU Surplus to be sold to Ames community members and businesses.



ITS makes a point to proactively focus on educating the public about passwords, cyber security, phishing scams, etc. in response to 135,000 data threats received, on average, each day at Iowa State.



ITS is currently tracking student problems from the Solution Center to “leverage knowledge from the student body” and is using this data to track trends to predict future problems and solutions.



A “technology success community,” which will act as a forum where students, faculty and staff can post technology questions and answers, is currently in the works at Iowa State.



Information Technology Services (ITS) uses virtual servers to reduce the space needed for physical servers.

This is cost- and resource-effective, as Iowa State can house 50 virtual servers on one physical server and not need to use space, money or energy on physical hardware in multiple spaces.

- IT works with ISU Procurement to ensure the purchases of the highest

energy standard energy-efficient technology, including ENERGY STAR equipment. Most equipment purchased is also certified by the Electronic Product Environmental Assessment Tool (EPEAT), a ranking system that helps purchasers evaluate, compare and select desktop computers,

notebooks and monitors based on their environmental attributes.

- All desktops and laptops are set to “sleep” mode when not in use and utilize automatic power up/down based on the needs of users and spaces they occupy.

Being mindful and proactive with respect to the way we consume, conserve and consider our water resources is a vital component of a sustainable campus and is of primary consideration and focus at Iowa State University.

## WATER AT ISU

- Environmental Health and Safety employs the use of “compost socks”, which are used during construction projects to prevent soil from floating away during rainfall.

- Landscaping Services uses bioswales, otherwise known as rain gardens, incorporating water-loving plants to capture run-off, filter toxins and prevent flooding throughout campus.



- At the end of a project, Iowa State puts in six inches of top soil, compared to the four inches required by law, to ensure soil stabilization.

- All soil hauled out of construction sites goes to the ISU Compost Facility, is amended and then brought back to campus to help water move more slowly through soil.

- Environmental Health and Safety strictly adheres to Stormwater Pollution Prevention Plans for all sites, which outline potential sources of pollution and practices to reduce pollutants.

- Iowa State’s Stormwater Management Team won the 2016 CYtation Team Award for developing a solution to concrete cutting slurry -- the team’s solution being a super-absorbent powder that captures the concrete slurry and solidifies it for safe removal, keeping it from entering the stormwater system and campus waterways.

- ISU Dining locations use a “pulping system” for dish washing that filters out food waste, preventing unwanted items from entering the waste water stream.

- Iowa State has three campus buildings that reuse rainwater to flush toilets: Biorenewables Research Laboratory, State Gym and Hach Hall.

- Iowa State has more than 52,000 square feet of green roofs, covered with vegetation like sedum, native prairie plants, succulents and chives, to promote stormwater filtering and absorption.

- Since 2012, students have tested Iowa State’s water quality in their coursework to monitor the effectiveness of best management practices, collaborating with Environmental Health and Safety staff to test water and conduct “bio inventories.”

- Iowa State also has a learning community called Science of the Environment and Sustainable Systems about water health for undergraduates, which is taught by Environmental Health and Safety staff.

- Environmental Health and Safety trains more than 1,000 people each year on campus about stormwater management and spill prevention.

- Environmental Health and Safety walks campus waterways once a year to proactively identify and address any potential problems with pipes.

- On average, Transportation Services conducts 30-100 car washes per day for its vehicles. To save money and reduce its water use, Transportation Services installed an automated car wash system with adjustable settings that better manages water efficiency.

- The university owns a 500-gallon rainwater collector, which reduces costs related to the upkeep of campus’ landscapes.

- Technology that manages water consumption is used to save money by making use of a tool, housed at the university-owned Veenker Memorial Golf Course, which measures humidity and gives the best time (when necessary) to irrigate plants.

- Iowa State utilizes local, ecotype plants that are resilient to local weather conditions, reducing the need and cost of irrigation and pest management.

Iowa State University Extension and Outreach carries Iowa State's land-grant mission throughout the state -- everywhere for all Iowans. ISU Extension serves as a 99-county campus, connecting the needs of Iowans with ISU research and resources, and provides education and partnerships designed to solve today's problems and prepare for the future.









## ISU EXTENSION & OUTREACH







-  Iowa State University Extension and Outreach is helping farmers and livestock producers manage their manure supplies by promoting environmental stewardship and safe handling, as well as providing crops with the nutrients they need.
-  ISU Extension empowers Iowa's growers and producers through the latest information on food safety guidelines and laws, providing information on industry standards and training on good agricultural practices.
-  ISU Extension is providing tools and resources to help Iowa farmers manage weeds, insects and diseases in their fields.
-  Iowa is home to abundant natural resources. Because 97% of the land in Iowa is privately owned, ISU Extension is working with landowners to manage the natural resources on their land for sustainability, profit and for improved quality of life.
-  Funds provided by state and local organizations has helped ISU Extension give farmers science-based data to change farm practices and improve the quality of water around the state.
-  The Community and Economic Development division works with other knowledge teams to enhance community leadership structures and broaden community engagement throughout Iowa.
-  ISU Extension provides child nutrition resources, including its Buy, Eat, Live Healthy program that helps families prepare healthy foods on a budget. Education on the prevention of
  -  childhood obesity is also offered.
  -  A series of classes for Latinx families designed to reduce diabetes, heart disease and other diet-associated conditions is offered by ISU Extension.
  -  ISU Extension's Human Sciences division provides tools and resources to empower family caregivers of adults with chronic conditions or children with special health and behavioral needs to take better care of themselves.
  -  Several workshops and trainings are available for individuals and couples to learn about healthy relationships through ISU Extension.
  -  ISU Extension provides various interactive workshops for parents and their children to learn how to address stress and build on family strengths.
  -  ISU Extension has reached out to the Spanish-speaking community with programs including Juntos — Together for a Better Education, a workshop series to teach Latino parents and middle school students how to prepare for high school and higher education; Shop Healthy Iowa, a program to help local Latino-owned grocery stores increase the sale of fresh produce; and energy efficiency and maintenance consulting for Latino homeowners, contractors, and small businesses.
-  ISU Extension's Human Sciences division offers programming for family finances. Programs include finances for caregiving, budgeting, understanding health insurance options, homebuyer education and retirement planning.
-  The Community and Economic Development division strengthens communities and their local economies by teaching best practices and providing hands-on assistance. ISU Extension helps small and minority-owned businesses with financial planning, customer service, store design and layout, as well as entrepreneurship, which helps promote small-business development and expansion for retailers and entrepreneurs, with an emphasis on those in the tourism, agritourism, grocery and local-foods sectors.
-  Families can take part in free tax and budgeting resources. ISU Extension also works to address hunger and poverty in Iowa by focusing on under-served, older Iowans by providing information about nutrition, food security and health.










Iowa State's Campus Beautification Initiative has led to the expansion of Reiman Gardens, the university's local horticulture garden. The Gardens are not only a source of relaxation and recreation to both campus-goers and Ames community members, but a hub for education about the environment and horticulture, as well as for an appreciation of the natural world's beauty.

## REIMAN GARDENS

-  In 2016, Reiman Gardens redesigned and replanted its Hillside Garden to have a water-smart focus.
-  Plant-based fertilizers are used on all turf grass throughout the Gardens.
-  Rather than using harsh chemicals like bleach, Reiman Gardens uses powdered milk to wash pots.
-  Iowa State's TreeCycle program salvages suitable downed campus trees for class projects and use in campus initiatives. Reiman Gardens used the program for both the chairs and sculptural tower in its Sycamore Falls garden.
-  Reiman Gardens uses irrigation systems to be water-conscious, and has rain gardens and rail barrels to collect and reuse stormwater. Many of the Gardens' paths have been resurfaced into porous pavement to reduce surface run-off during rain. Additionally, the splash pad and spitting frogs feature in the Children's Garden reclaims the water it uses for irrigation throughout the Gardens.
-  Reiman Gardens' gift shop uses recycled plastic bags for purchases. The Gardens also use plantable seed paper and uses biodegradable signs for its annual plant labels.
-  The Education department holds a supply exchange program with other units in Ames to reuse supplies and keep usable items out of the waste stream.
-  The 2017 theme of "Water" brought the Washed Ashore exhibit to Reiman Gardens. This exhibit uses trash collected from beaches to create beautiful artwork and bring to light the problems of plastic trash in our oceans.

-  After being carved into Jack-O-Lanterns for the annual Spirits in the Gardens event, all pumpkins are donated to feed animals.
-  Reiman Gardens' staff have bicycles to get to meetings on central campus, saving fuel emissions from vehicles.
-  The Gardens organized the Butterfly Survey Network, which tags and surveys Monarchs, as well as surveys butterfly populations throughout the state of Iowa.
-  The Gardens strives to use the right plant for the right space. Additionally, many of the plants are beneficial for pollinators, such as bees.
-  Reiman Gardens empowers individual and collective well-being for its employees through its active wellness committee.
-  Extra seeds are donated to Ames' community gardens, and extra produce is donated to Plant a Row for the Hungry, a public service program that



-  Products found in the gift shop are crafted by local vendors and artists. Many of these gifts are also made from repurposed or recycled materials.
-  Each year, Reiman Gardens partners with Stash the Trash, a volunteer effort where ISU students and Ames residents come together to clean up the Ames community to help make it a better place to live and work.
-  The Gardens' annual plant sale engages the community with all the Gardens has to offer, as well as enriches the biodiversity in homes through the sale of native plants.
-  During National Pollinators Week, Reiman Gardens hosts Pollinator Fest, an annual collaboration of Central Iowa organizations to promote the importance of pollination.
-  The Gardens hosts an annual Day of Insects to celebrate how they can contribute to plant and ecosystem health, as well as present on insect research.
-  Reiman Gardens minimizes costs by reusing pots for planting and in garden displays. The cedar wood planks showcased in the Gardens' holiday railroad exhibit are also reused. Any plates, cups, silverware, bowls, etc. used for events are also made from reusable materials.
-  The Gardens minimize transportation costs by using locally-sourced compost and mulch.
-  ISU students have free admission to the Gardens throughout the year.



THANK YOU FOR BEING A PART OF  
**OUR SUSTAINABLE JOURNEY!**  
 WE LOOK FORWARD TO THE NEXT 10 YEARS!






## **Iowa State University Live Green! Initiative**


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