



2015-2016 Post-Secondary Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

College or University Certifications

The signature of college or university President (or equivalent) on the next page certifies that each of the statements below concerning the institution’s eligibility and compliance with the following requirements is true and correct to the best of their knowledge.

- 1. The college or university has been evaluated and selected from among institutions within the Nominating Authority’s jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
2. The college or university is providing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a compliance review.
3. OCR has not issued a violation letter of findings to the college or university concluding that the nominated college or university has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
4. The U.S. Department of Justice does not have a pending suit alleging that the college or university has violated one or more of the civil rights statutes or the Constitution’s equal protection clause.
5. There are no findings by Federal Student Aid of violations in respect to the administration of Title IV student aid funds.
6. The college or university is in good standing with its regional or national accreditor.
7. The college or university meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

U.S. Department of Education Green Ribbon Schools 2015-2016

Public 4-Year Public 2-Year Private Non-Profit

Name of President/Chancellor: Dr. Lyle D. Roelofs (Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official College or University Name: Berea College (As it should appear on an award)

College or University Street Mailing Address: CPO 2182, 101 Chestnut Street, Berea, KY 40404 (If address is P.O. Box, also include street address.)

County: Madison IPEDS Number*: 156295

Telephone: 859-985-3521 Fax: 859-985-3915

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*Integrated Postsecondary Education Data System

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Lyle D. Roelofs

Date:

(President’s/Chancellor’s Signature)



Nominating Authority's Certifications

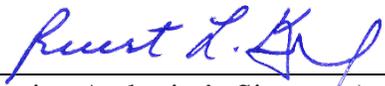
The signature by the Nominating Authority on this page certifies that each of the statements below concerning the college or university's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The college or university has been evaluated and selected from among institutions within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
2. The college or university meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: Kentucky Council on Postsecondary Education

Name of Nominating Authority: Mr. Robert L. King, President
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

 Date: February 1, 2016
(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent summary that describes how your college or university is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars and their underlying Elements. Then, include concrete examples for work in every Pillar and Element. Only institutions that document progress in every Pillar and Element can be considered for this award.

SUBMISSION

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to ed.green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: March 31, 2018

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

Berea College Green Ribbon Schools Proposal

Executive Summary

Berea College—a private college in Appalachia founded by ardent abolitionists and radical reformers in 1855—promotes sustainability as part of its mission and as one of the eight Great Commitments codified in 1969: *“to encourage in all members of the community a way of life characterized by plain living, pride in labor well done, zest for learning, high personal standards, and concern for the welfare of others.”* For us, sustainability refers to the capacity of individuals, communities, and societies to coexist in a manner that maintains *social justice, environmental integrity, and economic well-being* today and for future generations.

Berea College is a statewide leader in reducing its ecological footprint, environmental impact and costs. Berea’s campus boasts the first LEED-certified building and LEED-certified historic hotel in Kentucky, as well as the first LEED Platinum Residential Building with Living Building Petal Recognition from the Living Futures Institute. Berea’s innovative Ecovillage is an ecologically-sustainable residential and learning complex designed to provide housing for student families, childcare for campus children, and a living/labor opportunity for students interested in sustainability. Berea College is well on its way to becoming a Net Zero Waste Institution (90% diversion rate) with a 70% diversion rate for academic year 2014-2015. And, with the launch of our car and ride share programs in 2014, Berea College was named a top-ranked car share usage school in the nation.

We have invested in efforts to improve health and wellness by funding a full-time director to oversee programs and incentives to reduce obesity, smoking and stress and improve physical fitness and nutrition. Over 25% of the food served in our dining facilities comes from local and organically-sourced purveyors, much from our own 400-acre organic farm. The college’s Farm Store offers organic produce, meat, and other locally-sourced products to the community; provides discounts to students, faculty, and staff; and accepts WIC.

Berea College is one of seven Work Colleges in the United States, which means that in exchange for free tuition, students (who must be economically disadvantaged) are required to work on campus 10-15 hours per week. We have a unique opportunity to address environmental and sustainability education both through hands-on work experience and academic programs like Sustainability and Environmental Studies and Agriculture and Natural Resources. Students have the opportunity to work as waste diversion coordinators, sustainable foods coordinators, alternative transportation coordinators, and more. The Ecovillage also employs students as gardeners, community outreach coordinators, and childcare workers.

Finally, Berea College encourages students to become engaged citizens and good stewards of the land. The Center for Excellence in Learning through Service (CELTS) enables students to volunteer in local non-profit organizations and schools to solve real-world sustainability problems through actions at the household and community level. Berea College also has organized many student protests and marches to raise awareness of the dangerous effects of mountaintop removal—a radical form of strip mining that levels mountains, destroys natural habitats, and pollutes streams—as well as clear-cutting and other unsustainable practices.

Introduction

Berea College is one of seven colleges and universities in the country that provides every enrolled student with a no-tuition promise in exchange for working 10-15 hours per week on campus. Berea College serves low-income students from Appalachia, the nation, and the world. Our enrollment includes 1,587 undergraduates representing 46 states, the District of Columbia, and 56 countries other than the U.S; 71% are from the Appalachian region and Kentucky, 25% are minority students, and 96% are eligible for Pell grants. A majority of our students graduate with zero or very low debt.

Founded upon inclusive Christian principles in 1855, Berea College was the first interracial and coeducational college in the South. The College promotes understanding and kinship among all people, service to communities in Appalachia and beyond, and sustainable living practices that set an example of new ways to conserve our limited natural resources.

Berea College tops Kiplinger's list of the country's best value private colleges where students pay less than \$20,000 a year. In determining the ranking, Kiplinger cited Berea College's generous financial aid and commitment to providing an education to students with limited financial resources. We have consistently made the Princeton Review's Guide to Green Colleges list as one of the top 378 colleges in the nation, and we have been list among the Top Colleges by Forbes and Washington Monthly. Other accolades include being named the #1 liberal arts college in America by Washington Monthly, and being ranked in the top-25 most desirable small schools, most desirable rural schools, and most diverse schools, all by Newsweek.

Berea College is guided by two essential documents—the “Eight Great Commitments” and the “Being and Becoming Plan.” The Great Commitments are as follow:

- To provide an educational opportunity primarily for students from Appalachia, black and white, who have great promise and limited economic resources.
- To provide an education of high quality with a liberal arts foundation and outlook.
- To stimulate understanding of the Christian faith and its many expressions and to emphasize the Christian ethic and the motive of service to others.
- To provide for all students through the labor program experiences for learning and serving in community, and to demonstrate that labor, mental and manual, has dignity as well as utility.
- To assert the kinship of all people and to provide interracial education with a particular emphasis on understanding and equality among blacks and whites.
- To create a democratic community dedicated to education and equality for women and men.
- To maintain a residential campus and to encourage in all members of the community a way of life characterized by plain living, pride in labor well done, zest for learning, high personal standards, and concern for the welfare of others.
- To serve the Appalachian region primarily through education but also by other appropriate services.

The “Being and Becoming” plan was established in 1996 to move Berea into the 21st Century. This plan includes four pairs of learning goals that apply to Berea students, faculty, and staff members alike, and that are fostered not only in classrooms, but in all of the other places where Bereans interact, from offices to residence halls to athletic fields. These goals are to:

- develop the critical intellectual ability to address complex problems from multiple perspectives and nurture moral growth with a commitment to service;
- understand the relationship between humans and the natural world and consider both the benefits and limitations of science and technology;
- explore our individual roots and our shared American culture and know and respect cultures from around the world; and
- educate students, faculty, and staff to be creative, independent thinkers and encourage collaboration and teamwork in learning and working.

These learning goals are ideals toward which all Bereans are encouraged to strive. They are intended to guide members of the College community in preparing graduates who will serve and lead their communities and be agents of positive change.

Pillar I: Reduced Environmental Impact and Costs

Reduced Greenhouse Gas Emissions

Berea’s Central Plant, which replaced its old coal-fired heat plant in 2006, eliminated the annual use of about 4,000 pounds of coal. The Central Plant burns natural gas, with fuel oil as a back-up, and uses special insulated pipe that has helped reduce the energy loss in transfer from about 30% to less than 5%. The new system also reduced Berea’s gas use by 39% in the first year alone. In 2015, we worked with outside consultant Brendle Group to update our strategic climate action plan. We are signatories with Second Nature, and measure our GHG emissions annually. Results are published in the Berea College Fact Book each year. Berea College uses about 0.7% solar and hydro mixed and 1.3% natural gas. In terms of carbon offsets, our 8,000 acre FSC certified forest absorbs 16,355 MTCO₂e, and our composting efforts offset 51 short tons.

In 2002, we adopted a set of Ecological Renovation Standards that strive for all new and renovated buildings to reach LEED Gold criteria. In the past decade, Berea has spent over \$124 million in renovations with numerous green building and energy-efficient features, including the **LEED Platinum Deep Green Residence Hall**. This dormitory achieved both the LEED Platinum and the Living Building Petal recognitions. In 2014, the project scored 90 points out of 110, the highest number of LEED points for a building of its type in the world at the time of submission. All of the wood used to construct the dorm, as well as the furniture, was sustainably harvested from the college’s FSC certified forest. It has a state of the art geothermal heating and cooling system that not only works for this dormitory, but also the dormitory next to it, Ana Smith, a LEED Gold project. The showers are low pressure in order to conserve water. The dormitory has ceiling fans to reduce the need for air conditioning. Each room has a large window in order to let in the optimal amount of light to discourage using lights during the day. An

interesting feature is a switch that allows for the students to turn off all of the bottom outlets in a room to conserve energy when they are not in use. It also has a 114 photovoltaic (PV) array that generates enough electricity to meet over 15% of the building's energy needs at 50 kW. Deep Green was also used as a pilot for composting to see if it was feasible to collect food waste from the dorms.

Other LEED renovations to date include:

- **Knapp Hall (Gold):** Serving as the home base for education majors, Knapp hall underwent a major renovation to update its systems while maintaining most of its original 1913 architecture. Improvements include a geothermal HVAC system, energy efficient windows and LED lighting that reduce energy consumption by more than 50%. More importantly, the building meets the LEED Pilot Credit for Ergonomic Strategy, which means the classrooms and offices have been designed and furniture selected to promote health and wellness for our students and faculty.
- **Boone Tavern (Gold):** During the 2008-09 academic year, Berea College completed a full renovation of its historic Boone Tavern Hotel and Restaurant with the goal of becoming the first LEED-certified hotel in the state. As part of the renovation planning for Boone Tavern, an architectural firm convened a 2-day charrette with relevant campus representatives. The four primary guiding themes that participants explored were service, cuisine, sustainability, and crafts. Some of the green operations at Boone Tavern include energy-efficient fixtures, the use of green cleaning supplies, and incorporation of Kentucky Proud foods in the restaurant.
- **Dana Hall (Gold):** The renovated Dana Hall, a male residence hall, has embraced energy-efficient projects such as recycling and waste disposal, uniform mini refrigerators in all rooms, dual function filtered water fountains, and lights with sensors.
- **Anna Smith Hall (Gold):** This female residence hall underwent renovation similar to that of Dana Hall.
- **Lincoln Hall (Silver, first LEED Certified building in Kentucky):** Lincoln Hall underwent an 18-month, \$5.5 million "green" renovation as a result of a collapse of its central interior in May 2001 and reopened in the fall of 2003. A 35% reduction in energy costs was achieved through automatic mechanical system shutdown allowing occupants to bring "comfortable" outside temperature and humidity conditions inside by opening windows, high-efficiency fluorescent lighting fixtures and heating/cooling systems, automatic sensors that turn lights off when unoccupied, dual-flush control toilets, drought-tolerant landscaping to reduce the need for watering, and other features.
- **Draper Hall:** The building's renovation, which was one of the first major green building projects on campus, was completed in 2002. Draper is the largest academic building on campus and houses five academic departments, the Center for Learning, Teaching,

Communication and Research, and the Campus Christian Center. Draper's green building features include comprehensive recycling stations on every floor, an atrium for daylighting/ventilation, occupancy sensors for lights, ceiling fans, low-flow toilets, and rainfall collection for flushing toilets in the building.

Improved Water Quality, Efficiency, and Conservation:

In the past few years Berea College has been working toward reducing water consumption all over campus. In every building, water efficient toilets, sinks, and water fountains have been installed. In every dorm, water efficient showerheads reduce the amount of water wasted while showering.

Berea College's new construction and renovation projects are designed and built to achieve LEED standards, which focus on improved water quality, efficiency, and conservation. The following highlight Berea's LEED achievements in this area:

- **Anna Smith Hall** scored four out of four points in water efficient landscaping and two points for reducing the dormitory's water consumption by about 30%.
- **Knapp Hall** scored four out of four points in water efficient landscaping and two points for reducing the building's water consumption by about 30%.
- **Dana Hall** scored four out of four points in water efficient landscaping and four out of four points for reducing water consumption by about 40%.
- In the **Draper Hall** renovation, roof design channels were installed to collect rainwater into a 12,000-gallon underground cistern behind the building, and the rainwater is used for landscape irrigation and toilet flushing and has reduced potable water use by almost one-fourth
- The **Deep Green Residence Hall** new construction scored four out of four points in water efficient landscaping and four out of four points for reducing water consumption by about 40%.
- The **Ecovillage** currently uses solar hot water, and the SENS house located within the Ecovillage complex runs completely off of graywater and has compostable toilets.
- When **Boone Tavern** was renovated, it achieved a 40% water reduction and scored four out of five points in water efficiency.

Berea College also has a commitment to improve water quality in the region. To this end, Berea has a large event every year called the Brushy Fork Cleanup, which brings together students from all over campus to clean the nearby stream. Over the past five years, about 7,000 pounds of trash and 750 pounds of recycling have been collected during the cleanup.

Reduced Waste Production

Berea's plan to reduce waste production focuses on four major principles: 1.) to reduce consumption, 2.) to reuse what can be salvaged, 3.) to recycle as much as possible, and 4.) to rethink how much we consume and how we manage our own carbon footprint. Highlights in each area include:

- **Reduce:** Berea College operates an office supply surplus store and provides students with free recycled three-ring binders and other office supplies at the beginning of each school year. Berea College also eliminated the use of trays in the cafeteria to reduce the amount of food consumption waste on the front end of the process, and installed the Lean Path system to reduce pre-consumer waste by dining service workers during food prep.
- **Reuse:** During move out for the past two years, Berea College has partnered with Goodwill to place donation bins in the dorms, collecting hundreds of pounds of donated items.
- **Recycle:** During the 2014-2015 school year, Berea College diverted 1,888,379 pounds of construction waste from landfills. All of the food waste from our college cafeteria, café, and historic Boone Tavern (102,761 pounds) was collected by student workers and used as compost for our certified organic college gardens. From our college recycling facility, we managed to divert 98,047 pounds of cardboard, 95,856 pounds of paper, 82,691 pounds of scrap metal, 11,799 pounds of plastic bottles and aluminum cans, 8,762 pounds of glass, and 4,340 pounds of e-waste materials. This adds to a total of 301,495 pounds of waste diverted just from our recycling center alone. We also repurpose and/or recycle 22,500 pounds of scrapped wood.

Berea College is currently making an effort to make all college events net zero waste by providing options to organizations for composting & recycling bins and compostable disposables, and furnishing student volunteers as recycling/composting ambassadors to help with proper sorting. We worked with students in the computer science department to develop a real time data dashboard for public view that displays month and year to date data on all of these metrics.

Berea has also implemented a number of student competitions to encourage recycling. The Eco-Challenge was implemented during the spring semester of 2014, and is a combination of two nationally recognized competitions, RecycleMania and Campus Conservation Nationals. The competition lasts from late January to the end of March and is promoted on campus through various events. Residence halls compete against each other to have the highest amount of recycling, compared to a baseline figure, and the biggest decrease in energy and water consumption, also compared to a baseline figure. The residence hall(s) that increase their recycling and decrease their water and energy consumption the most are treated to a hall-wide celebration.

The Eco-Challenge also includes the annual Green Game, a carbon-neutral basketball game where aspects of sustainability and the Eco-Challenge are promoted. A tree planting ceremony follows the Green Game in order to offset carbon emissions from the energy used at the game and the transportation of the opposing team to Berea College's facilities.

- **Rethink:** Berea College is dedicated to educating students about either consuming less or to at least responsibly buy things with less packaging and waste. There are also many events around campus that teach students about what is or is not compostable and recyclable.

Alternative Transportation

Since Berea is a rural, residential campus with no public transportation system, and because we are serving low-income students with unreliable transportation options, alternative transportation programs are not only good for the planet, but a huge help to our students. Berea College offers sustainable transportation resources such as campus bike racks and carpool parking, a campus shuttle system to surrounding communities, and a student-led community bike program.

- **Car Share:** Berea College and Enterprise Car Rentals provide an on-campus car for student use. All students can sign up to use the car by going to the Enterprise Car Share website. Students under the age of 18 must have a parent's signature to join.
- **Ride Share:** In partnership with Zimride, Berea College offers a ride sharing and carpooling service. The service is free to use for all students.
- **BC Express:** Campus Life offers a transportation service for Berea College students called "BC Express." This 12-passenger van operates during regular hours three days a week to provide transportation for students to local towns and businesses.
- **Motor Pool Vehicles:** The campus motor pool includes three hybrid vehicles for college business and academic use. The Ecovillage offers a hybrid Toyota Prius that residents can check out for off-campus needs such as grocery shopping. There is a mileage fee if only one person uses the car, but it is free if there are two or more people riding in the car.
- **Student Car Policy:** As a residential college serving low-income students, Berea's car policy prohibits all freshmen from having cars and limits the number of approved student vehicles and campus parking spaces. College policy is to discourage unnecessary ownership and use of personal vehicles by students. It is also College policy to provide an educational and social situation in which the ownership and use of personal motor vehicles by students is not normally needed. Ecological and environmental effects, loss of open space, costs of parking, and increased traffic hazards associated with a large

number of motor vehicles are also factors influencing the College's policy of restricting student vehicles.

- Biking: Berea College collaborated with the city of Berea to recommend that the City Council apply to be a Trail Town USA site. City Council moved forward with the idea and submitted their application in 2015, which was successful. Because there are no bike repair shops located in Berea, the college funded five self-repair stations throughout campus and close to public bike trails. We provided a student bike give-away event at the end of the school year in 2015 to donate unclaimed bikes rather than having them scrapped.

Pillar II: Improved Health and Wellness

High Standards of Coordinated School Health

Central Appalachia and Kentucky are some of the nation's unhealthiest areas, with high rates of cancer, heart disease, and diabetes. Not all Berea students come to the college unhealthy, of course, but many do. Berea students report substantially higher rates of allergies, back pain, depression, and obesity compared to national college cohorts. Only 8 percent of Berea's incoming first-year students rate their overall health as excellent, compared to 40 percent of college students nationally.

Data from the American College Health Association (ACHA) survey, administered in spring 2010, indicate only 5 percent of Berea students report eating five or more fruits or vegetables per day, and 50 percent of Berea students do not meet the requirements for aerobic physical activity set forth by the American College of Sports Medicine and the American Heart Association. Comparison data between Berea students and the nation show higher percentages of overweight and obese students on campus.

As a result, Berea College has developed the FRESH Start initiative, an acronym for First-year Residential Experience Supporting Health. This initiative is a partnership between student life and the academic division that will help first-year students increase personal wellness by learning and practicing strategies supportive of wellness. The program focuses on eight dimensions of wellness: physical, emotional, spiritual, financial, intellectual, occupational, social, and sustainable.

A key component of the College's current wellness effort is "HLT 100: Introduction to Lifetime Wellness," a required general education course intended to help students improve and maintain wellness in college and after. A common syllabus has been implemented in all HLT 100 courses that covers topics ranging from fitness and nutrition basics to stress, alcohol, tobacco, and sexual health. A variety of student life and even financial aid staff have been complementing classroom learning with co-curricular learning in residence halls.

The Pinnacle Cup is a new competition designed to entice students to practice healthier behaviors and attend a variety of programming events around health and wellness. The program is loosely based on the Oxbridge “House” model. Each first-year residence hall has an “identity” expressed through a mascot, nickname, and house colors. Students earn points for themselves and their residence hall by engaging in activities and attending events identified as enhancing their overall well-being as framed by the eight dimensions of wellness.

Students can earn points for their house in a variety of ways. Berea College owns an 8,000-acre forest with maintained hiking trails that are used to help promote more physical activity. Every year there is a college festival, an official student holiday, called Mountain Day, which is a day-long celebration of music, dancing, and hiking the mountains. Students earn points by hiking to the top of the mountain to improve fitness and gain an appreciation of the area’s natural beauty. Students can also earn points by participating in the President’s Walk/Run Club, which meets every Tuesday and Thursday morning. Events sponsored by the Campus Christian Center, Carter G. Woodson Center for Interracial Education, and others also earn points.

To promote better nutrition and decrease obesity rates, Berea College owns over 400 acres of USDA-certified organic farm land where students grow the food they enjoy in the dining hall. Currently, about 25% of the food that is in the school cafeteria is provided by our farm and local purveyors. The college also raises pigs, cattle, and chickens used in the cafeteria. The College Farm is animal welfare approved. The college runs a Farm Store located on campus that supplies many healthy products, all within a 500-mile radius. It is open to the public as well as students, faculty, and staff. The farm store accepts WIC payment, and helps promote the local farmer’s market housed on the grounds during the summer months. All of the food that does not sell or are considered not acceptable for sale is composted and used on college grounds.

Health, Counseling, and Psychological Services

Wellness discounts for health insurance programs have been launched along with smoking cessation classes, free exercise and wellness coaching and classes, and annual free wellness screenings on campus. Because our students are primarily low-income, the college works with students to provide the cheapest prescriptions possible. Berea College has three on-staff and on-site counselors that can be reached 24 hours a day for students experiencing social or emotional difficulties.

Family and Community Involvement

Berea College not only is addressing the health and wellness of the campus community; it also focuses on bringing together K-12 school districts and an array of outside educational organizations to improve student lives. As part of its mission to directly serve the region, Berea College has partnered with HealthCorps, a nonprofit organization dedicated to combating the childhood obesity crisis, to help bring health and wellness education to the Appalachian region.

For over a decade, HealthCorps has worked with and in schools to implement an innovative curriculum that inspires teens to make healthier choices for themselves and their families.

Composed of three sections (Mental Resilience, Nutrition and Fitness), the HealthCorps curriculum is taught in two ways—through the Living Labs program, where HealthCorps Coordinators work in classrooms, the lunchroom and run after-school clubs; and through HealthCorps University (HCU), a train the trainer professional development program that makes the HealthCorps principles and curriculum available to virtually any school.

In 2015, HealthCorps training staff — in collaboration with Partners for Education at Berea College — presented HCU to 32 individuals from four high schools and one pre K-12 school across Jackson, Knox, Leslie, and Madison Counties. The 2-day training brought together a wide-array of educators, from science and PE teachers to support personnel and resource center coordinators, and focused on optimizing their ability to have an impact on student success, physically and academically. Utilizing the HealthCorps curriculum and infusing it with their own curriculum, trainees walked away confident, excited, and with action plans to take back to their schools.

Additionally, the Ecovillage, home to many of the non-traditional students with families, hosts regular community events. One example is the weekly potluck lunch hosted in the Ecovillage community center for residents. Speakers are invited to give free lectures on topics ranging from how to grow your gardens to childcare expertise

Integrated School Environmental Health Program

The College is required to use Green Seal Certified cleaning supplies, which help reduce exposure to harmful chemicals for our cleaning staff as well as students, faculty, and staff. In 2010, the college adopted an Indoor Air Quality Program. This program teaches students, faculty, and staff how to prevent and report air quality problems like mold and malfunctions in HVAC and temperature controlling technology.

The college also has pest traps strategically placed in each dorm to make sure that there are not outbreaks of unwanted pests. These are checked regularly. Berea College is dedicated to sustainability and agriculture and does not spray our college farm or grounds for pests or weeds. However, all of the dorms are sprayed every semester for bed bugs to ensure a healthy environment for students.

Improved Indoor Air Quality

The Berea College Environmental Health and Safety Department (EHS) investigates indoor air quality concerns of employees, students, contractors and other building occupants of leased property. The work or residential area and building will be evaluated for probable sources of contaminants, such as the presence of mold, chemical use and storage, general housekeeping, operation of the HVAC system, humidity and temperature control, recent renovations or new furnishings, and the presence of ozone producing equipment. An investigation will address health concerns, symptoms, and sensitivities related to indoor air quality. Indoor air quality investigations addressing possible flooding and mold contamination also include a representative from Facilities. The EHS department may collect temperature and humidity data and if necessary

conduct air sampling for specific contaminants. A formal report is prepared for all air quality investigations and shared with concerned occupants. A corrective action plan, if needed, is included in the report and sent to the appropriate building contact, supervisor(s) or department head for implementation.

Because new and existing building renovations strive to reach LEED Gold criteria, indoor environmental air quality is a top priority in design and construction. Indoor air tests are conducted during construction and periodically through the years to ensure that what was designed is achieved. All buildings now use no or low-VOC paints to reduce toxic chemicals in the air. LEED achievements in the area of indoor air quality include:

- **Anna Smith Hall** (LEED Gold), scored a point in each of the following fields: outdoor air delivery monitoring, increased ventilation, reducing indoor air quality problems during construction, low-emitting adhesives and sealants, low-emitting paints and coatings, low-emitting flooring systems, low-emitting composite wood and agrifiber products, indoor chemical and pollutant source control, controllability of thermal comfort, a thermal comfort design, and thermal comfort verification.
- **Deep Green Residence Hall** (LEED Platinum), scored a point in each of the following fields: outdoor air delivery monitoring, increased ventilation, reducing indoor air quality problems during construction, low-emitting adhesives and sealants, low-emitting paints and coatings, low-emitting flooring systems, low-emitting composite wood and agrifiber products, indoor chemical and pollutant source control, controllability of thermal comfort, a thermal comfort design, thermal comfort verification, daylight accessibility, and views of the outdoors. With the materials Living Building Petal Recognition received, the avoidance of harsh "red list" construction materials (including PVC), defined in the Living Building Challenge, helps ensure the health of those working and living in the building.
- **Knapp Hall** (LEED Gold), scored a point in each of the following fields: low-emitting adhesives and sealants, low-emitting paints and coatings, low-emitting flooring systems, low-emitting composite wood and agrifiber products, controllability of lighting, thermal comfort design, and thermal comfort verification.
- **Boone Tavern** (LEED Gold), scored a total of 12 out of 15 points in the improved indoor air quality section.
- **Dana Hall** (LEED Gold), scored five points in indoor air quality.

Pillar III: Effective Environmental and Sustainability Education

Interdisciplinary Learning

Established in 1999, **the Sustainability and Environmental Studies (SENS) Program** is an important part of Berea College's efforts to develop a sustainable campus. SENS is an interdisciplinary academic program offering both majors and minors that is centered on ecological design – the purposeful integration of human actions with the structures and functions of the natural world. The goal of SENS is to help its students acquire the knowledge and practical skills necessary to prosper in a world that faces unprecedented threats to environmental and economic well-being, while contributing to the development of resilient communities and a sustainable society.

SENS courses emphasize experiential learning and work in close collaboration with other hands-on programs including Agriculture and Natural Resources, Technology and Industrial Arts, Business, and Computer Science. Serving as a living laboratory for teaching and research, the SENS House Complex – 1.5 acres within the Berea College Ecovillage – includes an ecologically-designed residence (SENS House), an aquaponics facility, the Natural Building Shelter, edible landscapes, and a permaculture food forest. The nine students in the SENS labor program operate and maintain these facilities and play a key role in their use for teaching and outreach.

In fall 2009, students converted the Ecological Machine wastewater treatment facility into an aquaponics system. Nile tilapia and channel catfish are raised along with oregano and basil, which are grown in raft hydroponics systems that also serve as bio-filters. Solar panels heat fish tanks, and greenhouse gutters collect rainwater for use in the system.

Other College assets—including the College Farm and gardens and the 8,000 acres of college forest with several reservoirs, ponds, and streams—serve as ecological laboratories for SENS classes, internships and projects. The landscapes and human communities of Appalachia offer endless opportunities for student engagement in efforts to increase community resilience, and the on-going “greening” of the Berea campus provides another set of experiential learning opportunities.

Faculty from a variety of disciplines in the Humanities, Social Sciences and Sciences teach courses that allow students to pursue their particular interests within the broad field of Sustainability and Environmental Studies. On- and off-campus internships move students out of the classroom and into the real world of complex problems and solutions. Ultimately, the SENS Program attempts to convey to all members of the campus community the immediacy and magnitude of the ecological, economic, and social threats facing our society, and to engage them as active participants in the transition of our campus, community and society to sustainability.

Additional programs that provide sustainable interdisciplinary learning include:

The Technology and Applied Design major (TAD): Building on a long tradition, the Technology and Applied Design Program (TAD) at Berea College provides a dynamic and relevant curriculum that engages students in research, design, and production while emphasizing sustainable practices. Through practical, hands-on experiences in traditional and contemporary facilities, the program strives to cultivate critical and creative problem-solvers with the capabilities to identify, analyze, and implement design solutions as responsible citizens of the world. Students can select from three concentrations: Technology Management, Artisan Studies, and Engineering and Technology Education.

Agriculture and Natural Resources (ANR): Berea College is one of a small number of liberal arts colleges in the United States offering an academic program in agriculture and natural resources (ANR). The ANR Program's curriculum provides all students with a sound foundation in ANR with flexible options to pursue training in particular areas of interest. It consists of introductory courses thoroughly covering general concepts and interrelationships in ANR and more specialized electives that allow students to pursue particular areas of interest in plant and soil sciences, animal science, and natural resources management.

The ANR curriculum ensures that graduates know and understand scientific facts and principles pertaining to soils, plants, animals, economics, and ecology and have the ability to apply those facts and principles to the management of agriculture and natural resource systems; be conversant in a broad range of subject matters and locate, interpret, critically evaluate, synthesize, and present information through writing and speech; understand agriculture and natural resources within the broader societal contexts of culture, ecology, economics, politics, and history; and examine and prepare for career opportunities in agriculture and natural resources, including graduate education.

Graduates of the ANR Program enter a diverse array of career fields including livestock production, horticultural production, forestry, pest management and entomology, veterinary medicine, research and teaching, natural resources management, and cooperative extension. ANR graduates have also pursued their career goals in private business, sales, marketing, agri-tourism, and graduate school programs at universities across the country.

Sustainable education and STEM

The chemistry department is working hard to incorporate “green chemistry” into their curriculum. “Green chemistry” is finding a way to make what you need by using less solvents and materials that will be wasted. Many of the chemistry professors are even offering summer research to explore water and soil testing and how to analyze and fix problems arising from these tests. Currently, the college's botanist incorporates sustainability into many of his classes, including his ecology class. The agriculture department incorporates sustainability by offering students hands on experience on our USDA certified organic and Animal Welfare Approved farm.

All agriculture students are required to take the introductory sustainability and environmental science class. The Technology and Applied Design major has many of its students learn how to design tables and other woodworking projects with sustainably harvested wood from the college forests. Students are also offered the opportunity to take a class where they learn about and design their own solar powered device.

Berea College is a Tree Campus USA site and has an edible streets project next to the Ecovillage. Many professors believe that nature stimulates learning and will take advantage of these opportunities. The agriculture, biology, and chemistry classes will use the college farm and forests to teach practical applications of science.

Development of Civic Engagement Knowledge and Skills

Berea College's **Office of Sustainability** helps organize and implement many of the sustainability programs and projects around campus. The office has coordinated events such as the Mountaintop Removal Tour for our Student Government Association, an advocacy campaign to halt destructive coal mining practices that destroy natural habitats and pollute the air, soil and water, leaving the Appalachian region with some of the highest rates of cancer in the world. The Office of Sustainability hosts various movie screenings and panel discussions on sustainability topics, as well as tree planting events and energy conservation and recycling competitions. The office has also made composting and recycling visible at all college events with composting and recycling stations staffed by student volunteers to teach attendees the proper way to recycle and compost – one person at a time! The Office of Sustainability also collaborates with the SENS Department on educational events and efforts to incorporate sustainability throughout the curriculum, residence life, and the labor program.

The **Center for Excellence in Learning Through Service** program (CELTS) is a service-learning program for students that offers many volunteer opportunities throughout the community including working with the elderly, mentoring at-risk youth from low income families, building homes for the less fortunate, doing outreach volunteer work for the hungry, and promoting sustainability practices. The students who work here promote social, economic, and environmental justice through their many labor positions where they have to organize volunteers for various events that bring awareness to various issues.

CELTS is unique in that it not only engages students in service, but also provide opportunities for leadership and learning. Students serve as Program Managers and staff for each of the service-based programs offered. Their responsibilities include recruiting and training volunteers, planning and executing weekly program activities, facilitating team meetings and mentoring team members to develop the same skills. CELTS uses a leadership development model that emphasizes peer mentoring, students sharing knowledge with each other and student leaders facilitating service and learning experiences for those they lead. CELTS programs exemplify the success the College has in nurturing student leaders and living the practice of learning through service.

The **Loyal Jones Appalachian Center** at Berea College is a complex mixture of scholarship, academics, outreach, and action. This nationally-recognized center houses Berea's Appalachian Studies program as well as a number of outreach initiatives in the region. Those most directly related to sustainability and environmental issues are:

- **Bereans for Appalachia (BFA)**, formed in May 2007 to assist the Appalachian Coal Fields Delegation at the United Nations Commission on Sustainable Environments. BFA works toward making an impact on contemporary social and environmental issues in Appalachia by developing and sustaining an inclusive community for people interested in the Appalachia region. They host events and sponsor activities that educate people about the region. They also work to raise awareness about regional health, environmental, diversity, and economic issues. BFA regularly participates in social activism, such as the annual "I LOVE MOUNTAINS DAY," a rally in Frankfort to end mountaintop removal strip mining and support more sustainable energy solutions for the Commonwealth of Kentucky. Mountaintop removal is any method of surface coal mining that destroys a mountaintop or ridgeline, leaving an area with poor water, air, and soil quality.
- **Grow Appalachia**, which works to address food security in the region by bringing gardening back to a place and a people that have traditionally grown their own food. Grow Appalachia provides supplies and education. Participants provide the work and the land. Together they are bringing locally grown food back to rural Appalachia. Food from community gardens feeds not only those who grow it but is supplied to local food banks, is given to neighbors, and in some cases is sold at local farmers markets to provide income for participant families.
- **Brushy Fork Institute**, which extends Berea's historic and enduring commitment to serve the region by providing resources and services in support of sustainable community development. Its approach to community development is informed by the ideals embodied by the College—a vision of a world shaped by dignity and equality, concern for the welfare of others, service to communities, and developmental practices that assert the kinship of all people. The institute helps communities articulate a vision and achieve goals that are community-defined and community-driven. In this way, the Institute promotes citizen participation in decision-making processes, and shares practical methods of planning, developing, and rehabilitating communities with an eye toward increasing sustainability and lessening environmental impacts.

Conclusion

The commitment to sustainability and the environment is integrated into the mission of Berea College and stems from one of its eight “Great Commitments,” which is “to encourage in all members of the community a way of life characterized by plain living, pride in labor well done, zest for learning, high personal standards, and concern for the welfare of others.” For Berea College, sustainability refers to the capacity of individuals, communities, and societies to coexist in a manner that maintains *social justice, environmental integrity, and economic well-being* today and for future generations.

Our three-pronged motto of “Learning, Labor, and Service” is the most succinct expression of our institutional mission as well as the campus community. Sustainability is integrated throughout these three main components of Berea’s campus culture, whether in the student labor program, residential life or student-led service efforts.

The story of sustainability at Berea College is one of creativity and commitment, as well as grassroots organizing and institutional innovation. It is the story of dedicated students, faculty, staff, and administration—literally, the entire campus community—striving to embody sustainability and environmental practices in word, deed and thought.