



Ohio Association of Community Colleges

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OHIO ASSOCIATION OF COMMUNITY COLLEGES

SUSTAINABILITY • ENERGY
CONSERVATION • GREEN PROGRAMS

EcoSummit 2012

Columbus, Ohio

Ohio's Community Colleges

Green Facilities



Ohio's Community Colleges

Innovative Design



Ohio's Community Colleges



**ALTERNATIVE ENERGY
AND SUSTAINABLE
SYSTEMS**

Get green! Get going!
APPLY NOW!

Green Programs

Green-related education and training programs are important to consider.



NC State Electric Car

They have the potential to enhance Ohio's economy by supporting the growth of green jobs.

A large portion of the green-related programs are at Ohio's 23 community colleges

Programs by type of Institution

	Adult Career Centers	Two-Year Colleges	Four-Year Colleges	Total
Number	176	928	1346	2450
Percent	7 percent	38 percent	55 percent	100 percent

Source: IPEDS Database

Associate's Degrees are the single largest sector in green-related programs

Green-related programs by Type of Degree or Certificate

	Post Secondary	Professional Degrees	Associate's Degrees	Bachelor's Degree	Master's Degree	Ph.D	Total
Number	634	7	725	575	359	150	2450
Percent	26	0.3	30	24	15	6	100

Source: IPEDS Database

Note: Amounts don't add up to 100 percent because of rounding

BELMONT COLLEGE

- Belmont College is committed to offer programs that develop specialized skills for “green careers” in business and industry.
- Pathways to energy sustainability, management and technical careers are combined with state-of-the-art energy practices in renovations and paper recycling by the college. This creates the basis and importance for achieving high energy efficiencies.



BELMONT
COLLEGE

www.belmont.edu

CENTRAL OHIO TECHNICAL COLLEGE

- Central Ohio Technical College (COTC) offers certificates and degree programs which include courses in support of Ohio Green Pathways Project objectives.
- The Division of Engineering, Industrial and Business Technologies offers courses vital to the development of the green workforce such as OSHA training, manufacturing and machining, CNC, PLC, CAD, statistical process control, computer applications and programming, engineering sketching, plan reading and materials, applied trigonometry, construction and mechanical systems, electrical codes and theory, blueprinting and conduct construction, HVAC, test instrumentation and safety, power generation, insulation, circuits, networking, data systems and digital electronics, and applied physics.

CINCINNATI STATE TECHNICAL & COMMUNITY COLLEGE

- On April 17, 2009, Cincinnati State Technical & Community College issued a press release announcing the establishment of the Cincinnati State Energy and Environment Center (EEC). The center serves as a regional resource for the entire economy – offering educational opportunities for careers in green jobs, offering opportunities for workforce development, and serving as a technical consulting partner for industry.
- The Cincinnati State EEC works collaboratively with other educational institutions and professional and community organizations to help the region emerge as a leader in energy and environmental initiatives.



CLARK STATE COMMUNITY COLLEGE

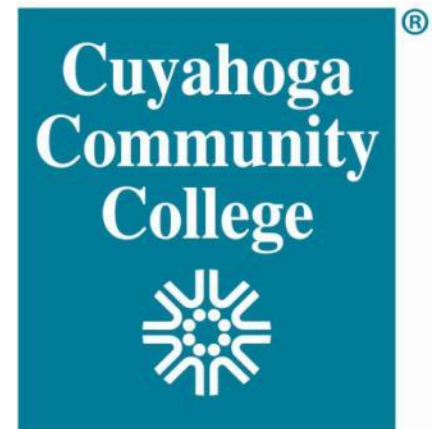
- Clark State Community College values the resources of our world and aspires to instill in students, faculty and staff a sense of stewardship of our environment. This vision includes formal instruction and ongoing operational commitment.
- Clark State Community College has determined that the strongest demand for instruction in the green arena lies in energy auditing as related to residential and commercial applications as well as the installation of energy efficient systems.

COLUMBUS STATE COMMUNITY COLLEGE

- The college has grown from an initial enrollment of 67 students in 1963 to its current thriving campus of more than 28,000 students.
- Columbus State Community College is making sustainability a prominent part of campus culture, from how the institution operates to the courses offered to students. Columbus State is dedicated to creating the workforce needed in the community to fill jobs in the emerging green economy.

CUYAHOGA COMMUNITY COLLEGE

- Cuyahoga Community College (Tri-C) aspires to instill in students, faculty and staff a sense of stewardship toward the environment by giving them the information and support to continue sustainability efforts beyond the campus environment.
- Sustainability at Tri-C means achieving the College's educational and community missions with a sense of responsibility for preserving the environment, promoting the economy and improving society as a whole.



EASTERN GATEWAY COMMUNITY COLLEGE

- Eastern Gateway Community College currently offers nine degrees and three certificates in green focus areas.
- Eastern Gateway Community College is also currently partnering to deliver degrees in alternative energy technology – wind turbine major, computer engineering technology – industrial computing applications specialist, and entrepreneurship with the inclusion of a focus on green business development.



EDISON COMMUNITY COLLEGE

- Energy has become one of the most prominent topics at the national and state level in recent years. The economic health of Ohio depends upon our ability to build and maintain a strong energy infrastructure designed for the 21st century. This ability will rely heavily on our capacity to educate and train engineers in the field of renewable energy development and innovative means to produce and maintain advanced energy systems.
- Edison Community College is committed to educate Ohio's students in science, technology, engineering and mathematics (STEM) disciplines related to advanced energy.

HOCKING COLLEGE

- Hocking College has made a commitment to a sustainable future in all aspects of advancing their mission of providing superior experiential education for workforce development.
- This commitment is manifest in the participation in the American College and University Presidents Climate Commitment, building a LEED Platinum Certified campus as a learning laboratory adjacent to an industrial park, the use of alternative energy vehicles on the campuses, building a sustainable green dimension in the curriculum across the board, and in designing degree programs and flexible learning opportunities in conjunction with alternative energy businesses and institutions.

JAMES A. RHODES STATE COLLEGE

- Rhodes State College has many current activities related to environmental occupations, training and sustainability.
- Advanced Materials Commercialization Center - Green Coating Initiative: Rhodes State College and American Trim partnered on a Third Frontier grant to form the AMCC. The Center replaces environmentally “unfriendly” aqueous chrome plating with “friendly” physical vapor deposition coating.
- West Central Ohio Manufacturing Consortium: The WCOMC is a self-supported body of manufacturers who organized under the direction of Rhodes State and other area educators and service providers. The WCOMC organized to meet the current and emerging workforce needs of the region’s manufacturers. WCOMC member Minster Machine has established a Wind Division positioned to play a vital role in the Wind Turbine manufacturing business for Ohio’s future.

LORAIN COUNTY COMMUNITY COLLEGE

- Lorain County Community College has launched numerous initiatives as part of its commitment to sustainability in educational career pathway programming and its institutional policies, procedures and programs, beginning with participation in the American Colleges and Universities Presidents Climate Commitment.
- In addition to new degree and certificate programs in wind turbine technology, the College has begun systematic efforts to infuse sustainable practices and content across the curriculum to better prepare an environmentally aware workforce with context, content and application skills that can be used in existing as well as emerging business practices.



MARION TECHNICAL COLLEGE

- Since its founding in 1971, more than 35,000 students have attended Marion Technical College (MTC) in Marion, Ohio, and today, more than 2,600 students are enrolled in nearly 40 associate degree and certificate programs at the college. The Engineering Technologies program prepares students to meet the demand for manufacturing in the area.
- To meet the potential demand for solar and wind energy technicians in the area, MTC plans to develop a new Associate of Technical Studies (ATS) degree in Alternative Electric Energy Technology.



NORTH CENTRAL STATE COLLEGE

- North Central State College has chosen to embed green lesson plans within its credit two-year programs. For example, engineering technology students have performed class projects converting a Chevy S-10 truck from gas to electric, creating solar concentration mirror to boil a pot of water for a Third-World country village, creation of a 1kW wind turbine and conducting an extensive energy audit of a large college building.
- The College annually sponsors a non-credit workshop on how to convert vehicles from internal combustion to electric for other teachers and enthusiasts.



NORTHWEST STATE COMMUNITY COLLEGE

- Northwest State Community College encourages students, faculty and staff to become lifelong learners and responsible global citizens.
- Sustainability of economic, political, social and/or ecological systems on this and future generations is incorporated in all educational programs offered. As our Earth's natural resources are depleted, there is an increased demand for alternative energy solutions. The Engineering Technology division seeks to meet this need through alternative energy programs that focus on system design and service.

OWENS COMMUNITY COLLEGE

- Owens Community College is uniquely positioned to lead the way for the State of Ohio. Situated close to the state's newest solar production facilities and glass industries, Owens Community College has the potential to provide immediate opportunities for Northwest Ohio's employers and incumbent workforce.
- By supplying the area with a population of skilled workers familiar with alternative energy processes and applications, Northwest Ohio will be in a position to gain a foothold in a new and emerging service and production industry.



UNIVERSITY OF RIO GRANDE AND RIO GRANDE COMMUNITY COLLEGE

- The University of Rio Grande and Rio Grande Community College value the natural resources of the region and the world.
- The institution wants to inspire all students, faculty and staff to become responsible citizens and to help preserve the environment.
- Rio Grande is committed to providing the necessary educational programs and job training for the workforce to sustain a green economy in Southeastern Ohio. The institution has also begun initiatives on campus to improve the efficient and green operation of its campus and facilities.



SINCLAIR COMMUNITY COLLEGE

- The Sinclair Center for Energy Education is the nucleus of campus-wide energy related activities and initiatives, including academic materials, courses and programs, student projects, cross campus faculty and staff engagement, community awareness and partnerships, campus facilities, and workforce development. The Center considers a broad spectrum of energy related topics, including renewable, alternative energy, energy efficiency and conservation, and environmental impact and recycling.
- Several academic departments offer courses on energy topics: Alternative and Renewable Energy, Introduction to Fuel Cells, Architectural Energy Analysis, and Mechanical Systems Drafting. Several architecture courses contain classroom modules in the National Home Builders green build guidelines and energy codes. Students engage in capstone learning projects related to energy audits of residential and commercial buildings.
- The Center is also involved in projects for automotive hybrid, building audits and analysis, biodiesel production, campus recycling and fuel cell testing.

SOUTHERN STATE COMMUNITY COLLEGE

- Southern State Community College has been actively involved in discussions in the region regarding expansion of occupational opportunities in the renewable energy sector.
- As new companies explore this region for potential location and training, Southern State Community College is well positioned to partner and respond to training needs.



STARK STATE COLLEGE

- Stark State College first demonstrated its commitment to the environment through its participation in Ohio Third Frontier grant programs supporting construction of a Fuel Cell Prototyping Center on its campus and the building's subsequent occupancy by Rolls-Royce Fuel Cell Systems' global headquarters.
- This project led to the development of a fuel cell option in the College's Mechanical Engineering Technology program and growth in the College's support of fuel cell research and development on campus with grant –funded projects with Lockheed Martin, Technology Management Inc., and Contained Energy LLC.



**STARK STATE
COLLEGE**

TERRA COMMUNITY COLLEGE

- Terra Community College is striving towards energy reduction, carbon reduction, and waste reduction. It is focused on shifting campus culture, understanding that everyone can make a difference regarding renewable awareness. Terra expects to expand upon the recycling program, investigate electronic solutions for paper reduction and pursue green purchasing. Terra will also extend curriculum to include a wide range of energy-related topics that will transform it into a campus that is engaged in awareness, education and participation regarding a green focus.
- To advance sustainability efforts and renewable energy technologies, Terra offers a variety of alternative energy and sustainability educational opportunities. Associate's degrees in Electrical Engineering Technology, Electricity Power and Controls and Mechanical Engineering Technology help students focus on establishing a foundation of applications and current trends in renewable energy solutions. In addition, an associate degree is available in Architecture Construction Management with LEED certified instruction.

WASHINGTON STATE COMMUNITY COLLEGE

- Washington State Community College, in Marietta, is developing several green-related programs.
- The College is developing a Photovoltaics – Solar Technology program that covers both the basics as well as certification. Also under development, is a LEED program that covers examination preparation and accreditation.
- Washington State Community College is also developing programs that cover the basics of sustainable construction, interpreting green specs and green building materials as well as programs covering energy efficiency and doing energy audits for small businesses.



Washington State
COMMUNITY COLLEGE

ZANE STATE COLLEGE

- Zane State College is located in Appalachian Ohio. The region is the heart of Ohio's traditional energy technologies including coal, petroleum and natural gas.
- However, increasing energy demands coupled with an emphasis on clean energy technology means a transitioning away from traditional methods of power generation and transmissions. In addition, it necessitates that energy conservation and usage must no longer be an afterthought, but instead a way of doing business.
- Energy stewardship is not simply limited to a select few, it must be an integral part of any industry. Zane State College is committed to regional leadership in promoting energy conservation and the “greening” of all of its educational programs.

Ohio's Community Colleges



Green Facilities



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A photograph of a worker in a white hard hat and safety glasses, wearing a blue t-shirt, installing solar panels on a roof. The worker is leaning over the panels, which are arranged in rows. The background shows a clear blue sky with some clouds. To the right of the photograph is a green rectangular box containing white text.

Green Programs



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