

Arapahoe Community College

Background

Arapahoe Community College's (ACC) "Local Plan" for its Perkins funding concentrates on three areas of emphasis:

- Program Innovation and Improvement
- Retention
- Professional Development

ACC's recently launched Energy program was a primary beneficiary of Perkins funds allocated to the college. This program was started by ACC's Corporate Learning Division in Fall 2008. In Summer 2009, ACC collaborated with Denver-metro community colleges to ascertain how best to meet the workforce training needs of the energy sector, and they developed two certificates: *Solar Photovoltaic* and *Solar Thermal*. In 2010, a third Energy certificate program was added: *Residential Energy Analyst*. Students served by ACC's Perkins-funded programs come from a diverse array of backgrounds: employed/unemployed, male/female, business owners or to future owners, and, most are non-traditional students.

ACC was able to implement/acquire some key items benefiting its new Energy and other CTE programs using Perkins funding. For example, Energy program funds paid for a Mock roof, solar equipment, tools/safety equipment, the program coordinator's payroll, and necessary classroom renovations.

Perkins funding also enabled the college to procure OSHA training equipment and to open up a *Video Game Design* program (two years ago) through the acquisition of high tech computers and game software.

Finally, ACC's *Virtual Classroom* was established with equipment purchased through Perkins. The business program currently teaches six *Virtual Classroom* courses, but ACC's Hybrid Energy Program design may use this classroom in the future.

Key Innovation(s)

Energy Program

Practices that have been key to this program's success include:

- Aligning the program with the state and national push to expand the Science, Technology, Engineering and Math (STEM) proficient workforce.
- Convening the ACC "Energy Team" for meetings on a weekly basis. Ensuring that all instructors are professionals who work in the industry.
- Cultivating a long list of industry partnerships.
- Listening to students about when to offer classes, resulting in ACC now having hybrid courses, blending face-to-face and online instruction.
- Designing certificates to be completed in one semester so students can fast track their training and get out into industry sooner.
- Deploying a curriculum that would receive North American Board of Certified Energy Practitioners

(NABCEP) approval which is an important endorsement to the solar industries ACC serves.

- ACC’s Solar Photovoltaic and Solar Thermal certificate programs incorporate field trips and a field/lab allows students to acquire hand-on experience with the actual equipment being used by industry.
- Responding to the ever increasing prevalence of homeowner energy updates and audits by the creation of a new “Energy Analyst” certificate under development (which is expected to be hugely popular).
- Completing seven essential projects: (1) acquisition of instructional solar panels; (2) procurement of mock roof with storage; (3) securing a dedicated classroom for the program; (4) creating an Energy Tech website; (5) designing promotional/instructional collateral material; (6) securing financial aid for certificates; and (7) incorporating innovation into the curriculum.
- Hosting the *Colorado Green Career Resource Fair*. This event successfully took place through collaboration of the college and its industry partners on October 23, 2010.
- Designating an Energy program coordinator who has been a strong key to program’s success.
- To attract non-traditional students (in this case, females), ACC is participating in the state’s Workplace Balance Initiative and designing brochures which depict the field as a viable opportunity for women.
- Cultivating a pipeline of students via the Program Coordinator working with ACC’s pre-enrollment services. Further, ACC has hired a concurrent enrollment coordinator and is working on concurrent enrollment opportunities within in this program for high school students. For example, *ENY 101 Intro to Energy Tech* and *ENY 102 Energy Audit* are offered in evenings and high school students can attend.
- To help students transition to the next level, e.g., further education or employment, ACC has instituted several new changes, including: forming an Energy Technology club; produced an Energy Technology Speaker Series; won the “buy-in” of the entire college, which has expanded the personnel available to advance the program and assist in advising; hired an instructor who is NABCEP certified to teach and proctor the NABCEP installer certification exam; created a job board for students (about one-third of graduates are hired into new energy jobs and many students are currently employed); and, finally, partnered with the Colorado Renewal Energy Association to provide students networking opportunities.

Game Design Program

Practices that have been key to this program’s success include:

- Aligning the program with the state and national push to expand the Science, Technology, Engineering and Math (STEM) proficient workforce.
- Using Perkins funding to procure the latest gaming-development software.
- Developing an articulation agreement with the University of Denver.
- Developing industry partnerships with 35 companies currently in Denver.
- Creating a curriculum that gives students transferable skills to other professions such as medical, programming, etc.

Key Factors to Implementation

The support the entire college has given the Energy program has been a key factor toward its implementation. Further, in order to implement this program, special training has been necessary for its “in-the-field” faculty (ACC has had to “train the trainers” on how to deliver the curriculum.)

Also key to implementation has been a connection to business and industry and the incorporation of the local workforce center into program advisory council meetings.

The “Virtual Classroom” capability ACC has acquired via Perkins funding will be used for faculty training in the future.

In order to successfully implement the program, ACC had to retrofit a classroom to meet the program's needs, procure a mock roof, and locate and secure a location for it.

ACC's Energy program is connected to a growing labor market and has a strong ever-expanding base of business partnerships. This is aided by ACC's participation on four economic development councils and the college's linkage to the economic development council in Castle Rock where it is establishing a center.

Remarkably, the program's students, via the Energy Tech Club, currently have a proposal before the college for the institution to deploy more *Photovoltaic* technology to meet its energy needs.

ACC's Energy Program is trying to expand its non-Perkins support by applying for a National Science Foundation Grant (which could furnish student scholarships), and by scanning for additional industry partnerships and donations to support the program (e.g., partnering with existing industry training endeavors).

RESULTS

ACC's Energy program currently has grown to 170 students. Several graduates have secured employment because of their training and 67 completers so far have passed the NABCEP certification exam.

Perkins funding has strengthened this program by enabling the college to purchase essential tools and equipment and to hire a program coordinator.

Most of the effective practices ACC has executed to make the program successful are ones which could be easily replicated across Colorado.

ACC would advise any institution seeking to replicate the program to: employ an individual to recruit market and build the program; build a mock roof training facility; train industry professionals to effectively teach and train support staff to successfully assist; and finally, cultivate the entire organization (e.g., college) into a support system for the endeavor.



Arapahoe Community College students get hands-on practice with installation/maintenance of building-mounted solar panels via this “mock roof.”