

Project Overview
Connecting Females with Science & Math through
Alternative Energy Opportunities and the Building/
Manufacturing Trades

- 1) How does this project encourage the successful recruitment and retention of males or females within a CTE Program of Study that leads to an occupation that is nontraditional by gender?

By providing a cohort of 18 female students (sophomore/juniors) with a week-long summer camp at Treasure Valley Community College and exposure to hands-on components and industries within the fields of alternative energy (solar), Computer Information Systems (CIS), heavy equipment, and viticulture, it is our goal that the cohort will return to their high schools to participate in Programs of Study in these career areas during their junior and senior years and then on to post-secondary education and/or apprenticeships. In addition, the cohort members will be better equipped to make math and science connections in their CTE course by knowing what math and science levels are required.

Cohort members, recruited from school districts which are deficient in meeting Non-Trad performance measurements, will also learn what mathematical, science, and technical skills are needed to be successful in these careers. Research shows that only 10% of all civil engineers, 8% of all electrical and electronics engineers, and 10% of all aerospace engineers are female (U.S. Department of Labor, 2009). Women account for 53% of all biological scientists, 31% of all physicians and surgeons, 33% of all chemists and material scientists, and 29% of all environmental scientists and geoscientists (U.S. Department of Labor, 2009). However, women constitute 46.5% of the workforce in the U.S., but hold just 25% of mathematical and computer science jobs and 11% of engineering jobs. Of the women in engineering professions, only 7% are Hispanic and 6% are African American (U.S. Department of Labor, 2008; National Science Foundation, 2007). In 2008, women held 57 percent of professional occupations in the U.S., but only 25 percent of professional information technology-related occupations were held by women (NCWIT, 2010).

According to the 2006 BLS Data prepared by the National Alliance for Partnerships in Equity, the following are some of the designated nontraditional occupations for females that fall within the pathways of Computer control programmers and operators, Air Traffic Controllers, Construction/Heavy Equipment, Power Structure/Technical Systems, and Manufacturing: mining machine operators; security & fire alarms systems installer; heavy vehicle & mobile equipment service technician and mechanic; heating, air conditioning, and refrigeration; electrical power line installer and repairer; signal & track switch repairer; welding, soldering, and brazing worker; stationary engineer and boiler operator; cabinetmaker and bench carpenter; model and pattern makers in metals and plastics. These are only a few of the occupations open to females.

In addition to the TVCC Summer Camp, cohort members will be provided with information and the opportunity to participate in the 2013 Women in Trades Career Fair for learning more about these and other career opportunities. In addition, cohort members will participate in a fall, 2012 Career Day in La Grande hosted by Oregon Dept. of Transportation.

The importance of connecting females with math and science will be continually reinforced throughout the cohort project.

Treasure Valley Community College will be providing the cohort with an opportunity to take the Compass test during the camp orientation. These results will be shared with the students with the hope that it will influence their course choices during their last two years of high school.