2011 Clean Energy Workforce Education Conference

Green Welding: The Future is Now.

Samuel Colton Sr.

Mr. Samuel Colton is the professor of welding at Arizona Western College in Yuma Arizona is an internationally recognized welding educator. Founder of the international program “Welders Without Borders”, a program that promotes extraordinary programs to promote careers in welding through partnership with government, industry and education.

Innovative
Arizona Western College
Member of The American Welding Society
Partnerships
Clean Energy Education Partnerships In Welding Technology.
• Clean Energy Workforce Education Conference
  • Green Welding: The Future is Now
  • S. Colton Arizona Western College Yuma, Arizona

• Participants will learn about achieving program success through innovative partnerships to promote science, technology, engineering and math as integral components to any “green” centered CTE program.

• Arizona Western College in partnership with Professor Colton’s “Welders Without Borders” program presented the Welders Without Borders 10th anniversary extraordinary workshop titled “Green Welding: The Future is Now” to over 100 high school, college welding students, faculty and interested members of the public attending from Arizona, California, Colorado and Mexico. The program partners included members of the American Welding Society, AWC Tech Prep, AWC Career Development, and AWC AWS/SkillsUSA Student Chapter with material and technical support from major U.S. welding corporations willing to mobilize hundreds of thousands of dollars in equipment resources and personnel on behalf of education. The program presented advanced welding processes that are core to the advancement of the national “green” renewable energy industry movement.

• Advanced technologies are key to the “green” movement and all begin with metals manufacturing supported by; robotic welding, computer simulated welding, robotic orbital GTAW welding, synergic pipe welding, plasma cutting and metallurgy. The workshop sessions informed participants with technical presentations provided by experts in each area after which they were given ample opportunity for hands on demonstrations allowing each to experience the technology and gain valuable insight into the computer programs, science and roll in the “green” economy these processes play.

• The primary goal was to demonstrate to the students that all segments of the “green” economy are dependent on metals joining technology. That wind and solar energy industries cannot have the infrastructure to build and operate manufacturing plants without their active participation, dedication by students to study applications for welding technology. The future of the renewable energy industry is co-dependent on the success of welding educators and their partners to achieve sufficient numbers of students willing to pursue STEM related careers in this critical area for the success of all others.

• The participating company’s team members provided exemplary role models to the students at the program of the type of careers to be found through participation in high school, college and university CTE (Career Technical Programs). The success of this program and ones similar in past years has been the unique combination of partnerships that recognize the value of working together in a collaborative and supportive environment on behalf of American youth.
If it’s Not Welded, How Did You Get It?
Green Welding: The Future is Now

Students, Industry, Government Shaping Tomorrow Today!
Green Welding is Clean Energy

National Skilled Welder Shortage
No Welders, No Green, No Clean,
No Renewable Energy!
Need for Skilled Welders High For:
Wind Tower Production
All Phases of Manufacturing
National Infrastructure
Strategic Materials Harvesting/
Extraction

This All Adds Up to Green Welding:
The
Future of Renewable Energy
Clean, Green and Value Driven

- The Future of This National Movement is Students!
- Values Drive Relationships and Partnerships
- Developing a value system that is centered on shared goals of what the future can be brings like minded individuals, institutions and corporations together to form innovative partnerships for collective strength and synergy
WELDERS WITHOUT BORDERS

- "Welders Without Borders" Founded in 2000 and dedicated to the advancement of welding knowledge with no borders on earth or in space. Welding professionals from around the world willing to share their knowledge and experience with students of welding to advance the future of our industry. Building understanding between people through the advancement of metals technology. Welding serves all mankind. A knowledge that improves lives, builds nations and gives hope to millions.”

- Samuel Colton Sr. Founder of Welders Without Borders
Phoenix Western College

Institutional Values

Partnerships
Environmental Stewardship
Commitment to Renewable Energy (5 Mega Watt Solar PV System to Power Main Campus)
Faculty Driven Innovation and Academic Freedom To Dream Big

Welding Program “Green” Values Lead To Partnerships:
1. Commitment to upgrade technology and provide instruction on new energy efficient inverter technology.
2. Commitment to develop courses with emphasis on “Green” construction and the roll welding plays in the renewable energy industry.
3. Commitment to purchase additional technology to promote careers in welding that supports the development and support of the clean energy industry i.e. wind, solar and the three “R’s” reduce, reuse and recycle.
WWB Values Partnered With Institutional Values Create Opportunity for Students and Industry to Partner

- Service Centered
- Students of Welding the Focus
- Value Centered on Building Youth, Industry and Nation
- Mentoring, Educating, Supporting Institutions
- Good for Education, Good Corporate Citizenry, Good for the Bottom Line, Good for the Country
- It’s About Our Future! The Future is Now!
- We Get It?
Education and Industry Partnerships

Three day hands on work shop. $500,000 in equipment and manpower, over 125 students, 20 Instructors from two states and 8 instructors from Mexico to learn about advanced welding processes that are green and support the “green” energy and other renewable industries supported by over 20 industry leaders from seven world leaders in welding.

Leaders in Welding Industry:
ESAB Corporation – Gas Tungsten Arc Welding
Lincoln Electric Corporation – Robotics and Weld Simulation
MK Products Corporation – Robotic Orbital Gas Tungsten Arc Welding
Miller Electric Corporation – Semi Automated Pulsed Pipe Welding
Stoody Products Corporation – Advanced Alloy Surfacing of Materials
Thermadyne Corporation – Plasma Arc Cutting
Victor Corporation – Thermal Cutting

Shared Values / Shared Vision
Partnering Leads To Partnering

- Values driven partnerships that are centered on innovation, leadership and educational relevance to the community and the nation attract like minded individuals and companies.
Leaders in Industry / Partners in Education
Green Welding:
The Future is Now!
Our Partners Get It! We Get It!
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Thank you to all the Arizona Western College Support Staff, Administration, Faculty and Industry Supporters for making this partnership work on behalf of our students. Our future!