



**Construction Center of Excellence**

**Annual Report 2010-2011**

Shana Peschek, Interim Director



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# About the Construction Center of Excellence

The Construction Center of Excellence (CCE) was established in 2004 when the Washington State Board for Community and Technical Colleges designated Renton Technical College (RTC) as a statewide leader in construction workforce education and training. RTC has a strong background in construction education, and offers classes and programs in all building phases, including pre-construction, construction, and post-construction/maintenance, as well as classes and programs to train individuals at all stages of their careers.

**The primary charge of the CCE is to help the state's economic vitality grow by:**

- Serving as a point-of-contact and resource hub for industry trends, best practices, innovative curriculum, and professional development opportunities
- Maximizing resources by bringing together workforce education and industry partners in order to develop highly-skilled employees

## **Center Personnel:**

Shana Peschek served as the Center's director for the 2010-2011 year. In January 2011, the Center was successful in establishing a job description for a Construction Center of Excellence Project Coordinator, received an exemption from the OFM hiring freeze, and filled the position at half-time status with Vicki Plemmons.

## **Executive Summary**

The Construction Center of Excellence continually strives to fulfill its role to create educational efficiencies; build a diverse, competitive workforce for the construction industry; maintain an institutional reputation for innovation and responsiveness; develop innovative curriculum and means of delivering education and training; provide information and resources related to community and technical college education and training for the construction industry; and serve as a partner with workforce development councils, economic development councils, and other workforce and economic development organizations.

**There are a number of innovative ways the CCE achieves this:**

- Showcase innovative education offerings at RTC and other colleges
- Promotion of career pathways within construction, particularly for young people and individuals from under-represented groups
- Advocacy of construction education and career guidance initiatives and policy development
- Development of products, services and courses specific to construction education
- Host of annual conferences for industry, labor and education, as well as events for students

## Strategies

The Center developed and implemented the following annual and new events, resources, research, and services in 2010-2011:

### Events

- Professional Development Technology Transfer Workshop Series
- Veterans Pathways to Apprenticeship
- 6<sup>th</sup> Annual Best Practices in Energy and Construction Summit
- I-Best Practices Workshop
- Green Collar Workforce Train the Trainer Summer Institute
- STEM Conference

### Resources

- Sustainable Math Supplement to Construction Math Toolbox (ongoing)
- Construction Resource Handbook and Brochure
- Construction Center of Excellence Website Expansion
- I-Best and Soft Skills Curriculum

# COE Educational Outcomes Report

## 2010-2011 CCE Events and Conferences that support education and training in the Construction Industry:



### 2011 STEM Conference

Nearly 90 faculty members from the four industry sectors of aerospace, allied health, construction, and information and computing technology attended the first annual two-day STEM Summit hosted at Bellevue College on March 10 & 11, 2011. The event was sponsored by the Centers of Excellence in aerospace, allied health, construction, and information and computing technology. This free event involved a keynote presentation from Dr. Arthur Benjamin, internationally renowned mathematician from Harvey Mudd College. In addition, educators and industry professionals, through a series of presentations and panel discussions, shared their strategies for incorporating STEM in the classroom and highlighted emerging technology and workforce trends. Round table sessions were held to develop curriculum modules centered on incorporating STEM in the classroom.

Supported Statewide education by introducing K-20 best practices in education focusing on innovative teaching and learning in STEM. Opportunity for curriculum development for incorporation of best practices in STEM teaching and learning. Ongoing website hosting a wealth of materials, video and conference products that can be downloaded, creating an ongoing, sustainable resource.

**Stakeholders that collaborated on the event:** Centers of Excellence for Information and Computing Technology, Construction, Aerospace, and Allied Health, Industry and Educational subject matter experts in each of the four sectors.



### Veterans Pathways to Apprenticeship

This event took place on February 23, 2011 at the UA Local 26 in Burlington. Over 40 Work Source staff that specialize in transitioning veterans from throughout the State of Washington attended. Nine apprenticeship and training programs exhibited. A tour of the facility was given and 12 VIP welders volunteered their time to do welding demonstrations and talk to attendees. Presentations were given from industry professionals on such topics as “Apprenticeship 101: The Foundation for Success,” “Federal Program Overview,” “What Employers Want,” “Young Apprentices,” and “Guiding Females and Diverse Students toward Apprenticeship”. Participants were also taken on a tour of the facility.

Supports Statewide needs by providing educators with a wealth of information on apprenticeship as a career pathway so they can better advise veterans who are transitioning to the workforce. Discs with Apprenticeship information documents, L&I Apprenticeship Program Catalog, Teaching and Guidance tools, and various reports provided to attendees as a sustainable resource.

**Stakeholders that collaborated on the event:** Construction Center of Excellence, Center of Excellence for Marine Manufacturing and Technology, ANEW, Labor and Industries, Helmets to Hardhats, UA Local 26, Employment Security, Workforce Development Council Snohomish County, NWLETT, and AMJTC.



## 2011 6<sup>th</sup> Annual Energy and Construction Best Practices Summit

This event was held on June 23-24, 2010 in Elma, WA at the Satsop Development Park.

Keynote speaker Roger Woodworth, Vice President and Chief Strategy Officer, Avista Utilities presented “A New Era for Energy, are you Ready?” followed by a dynamic mix of Energy and Construction Subject Matter Experts presenting on the Pacific Northwest Smart Grid

Demonstration Project, Energy Efficiency in the Built Environment, Micro grid Innovations and Building a Smarter Grid, the Intersection of Policy, Technology and Economics. Day two included presentations on national Lessons Learned from Energy Economy Initiatives and Creating a National Competency based Qualifications Network, The Next Generation Workforce, Growing your Own and Faculty Institute and Roundtable Discussion. The 2011 theme for the summit was “Smarter Grid Innovations” and according to the attendees, the event was a great success. Registration met our goal with 168 registered attendees, representing education, government, industry and labor/apprenticeship. Contributing to the success of the event were generous sponsorships totaling \$8750. The 2011 summit raised \$4890 in scholarship monies to be awarded to energy and construction students.

This event showcased how Pacific Northwest Industry Leaders, Workforce Development, Labor and Education Leaders are creating innovative solutions to the future workforce needs and sustainable solutions to the fast growing energy and construction sector as they relate to the Smart Grid. Meets operational goal of collaborating with other centers to deliver conferences and training opportunities to industry and economic development partners.

**Stakeholders that collaborated on the event:** Construction Center of Excellence, Center of Excellence for General Physics, Incremental Systems, IBEW Local 46, Overton Safety Training, Inc., Lab Volt, Pan Global, IBEW Local 77, Klein, NW Washington Joint Apprenticeship Training Committee, PSE Joint Apprenticeship Training Committee, Global Green, Lab Corp, Seattle Area Pipe Trades, Seattle Building Trades, Veterans Conservation Corps, Washington State Building and Construction Trades.



## Technology

### Technology Transfer Professional Development Workshop Series

**Workshop One:** Collaborated with the Center of Excellence for Marine Manufacturing and Technology to provide the first Technology Transfer workshop held January 31, 2011 on Renton Technical College campus. Registration met our goal with 86 attendees. The professional development workshop theme was sustainability. Yancy Wright, Sellen Sustainability spoke as Keynote, NewWood and Airtech Advanced Materials Inc presented on composites, King County Waste Management and City of Seattle presented on Waste Management, and MacDonald Miller presented on HVAC. A lunchtime presentation was shown on E-Learning Best practices. Results of evaluative data rated the workshop at 82% effective in accomplishing the theme.

**Workshop Two:** Collaborated with the Center of Excellence for International Trade Transportation and Logistics and Marine Manufacturing and Technology to provide the second workshop held May 20, 2011 at the Marine Technology Campus of Skagit Valley College. 42 attended representing education, industry and government. Event

opened with speech from Congressman Rick Larsen followed by Keynote from Shell Oil. Breakout sessions included hands-on demonstration in composites wet lab, presentation on “Cloud” computing and session on Logistics. Evaluative data showed favorable response with a rating of 4.25 out of 5; 4 was effective, 5 was exceptional. In addition to offering hands-on industry training and best practices unexpected opportunities presented themselves including connecting contractors to Shell Oil, negotiating externship for instructor with Shell Oil and Snohomish County WDC.

Meets operational goal of delivering industry innovations, technologies and best practices to education system. Encouraging collaboration, networking and sharing of best practices and resources within the Community and Technical College System. Supports Statewide educational needs in respect to current industry topics and best practices. Videos of workshop one and power point presentations available online as an ongoing, sustainable resource.

**Stakeholders that collaborated on the event:** Centers of Excellence for Construction, Marine Manufacturing and Technology and International Trade, Transportation and Logistics.

## **Biannual Contractor Training Day**

CCE hosted this free one-day contractor training conference at Renton Technical College (facilitated by Washington State Labor and Industries) in December 2010 and again on May 20, 2011 with over 200 contractors attending workshops covering numerous industry-related topics. L&I will continue to partner with CCE on upcoming Contractor Training Days, the next scheduled for December 2011.

Meets goal to strengthen the CCE role as a resource for the construction industry for current information/data regarding industry standards, emerging technologies and trends and best practices. Provide venue and ongoing support of this event biannually. Supports ongoing educational needs of construction industry on wide variety of topics.

**Stakeholders that collaborated on the event:** Washington State Department of Labor and Industries, Renton Technical College



## **Green Collar Workforce:**

### **Train the Trainer Summer Institute**

Collaborated with Sellen Sustainability to provide in-depth, 16 hour course in 2 x 8hr modules, plus an evening of related events (including overnight accommodations) to 25 professional/technical and state approved apprenticeship instructors. Course taught by Yancy Wright, Sellen Sustainability at Islandwood, Bainbridge Island. The course delivered industry-based, relevant, builder specific content to instructors so it can be integrated into their teaching; delivery of core concepts, related to the value of change, that reduce environmental impacts; explain adjustment in skills and synergies between trades required to successfully install new green building systems; inspire and pragmatically equip instructors to prepare students for new project delivery methods associated with the green building industry; offer meaningful information applicable to different skill levels and sectors; leverage the “Green for All” philosophy.

The training serves the state by offering the class: Green Collar Workforce: Train the Trainer. Train 25 community and technical college and state approved apprenticeship instructors on in-depth industry sustainability topics. Provide hands-on learning environment to immerse attendees in sustainability concepts. Training attendees in Train the Trainer model to enhance delivery of curriculum to students.



**Stakeholders that**  
Construction Center of  
Technical College  
Apprenticeship System,



**collaborated on the event:**  
Excellence, Community and  
System, State Approved  
Sellen Sustainability.



**I-Best Practices Workshop** Collaborated with Centers of Excellence for Education and International Trade Transportation and Logistics to present “I-BEST Practices Workshop” Directors from the Centers of Allied Health, Marine Manufacturing and

Technology, Agriculture and SBCTC also participated as speakers. 75 I-BEST instructors, coordinators and directors from 17 colleges around the state attended. The workshop opened with a presentation on I-BEST Today and Looking Toward Tomorrow, followed by breakout sessions on: The Reality of Team Teaching in I-BEST; Working from the Inside/Out; Jumpstart; TRRC - Transition Referral and Resource Center; Accelerated Learning; Centers of Excellence as an I-BEST resource; Building a new I-BEST from the ground up. Evaluative data shows positive outcome of 4.576 out of 5. Outcomes attendees identified as further needs from the COE’s included: strategy bank for content, videos of co-teaching occurring, list of I-BEST classes at all of the colleges, program requirements, contact person, completion data, employment data, job videos, industry contacts, program costs, job placement, explanation of different models, I-DEV; I-Academic.

Meets operational goal to provide technical assistance in the integration of basic skills and professional and technical education to support ABE and ESL student skill development. Supports educational needs with respect to I-BEST training and best practices as well as identifying further needs of education system and ways COE’s can be a continued resource.

**Stakeholders that collaborated on the event:** Center of Excellence for Education, Construction, International Trade Transportation and Logistics, Marine and Manufacturing, Allied Health, and Agriculture, SBCTC

## 2010-2011 CCE Resources that support education and training in the Construction Industry:

### Green Construction Curriculum

Collaborate with Peninsula College to develop “green” curriculum for second-year construction



program. Share the result system-wide as a template for other schools who might want to do something similar with their construction programs. Peninsula College successfully expanded Green curriculum in their construction program to add a second year to their green construction program. Green Curriculum Template will be made available open source to community and technical college system on line via the Construction Center of Excellence website curriculum library and can be delivered electronically to any who request.

Meets operational goal to coordinate, mentor, and assist other colleges in establishing quality programs that support the driver industry throughout the state.

**Stakeholders that collaborated on the event:** Construction Center of Excellence, Peninsula College, Washington State Community and Technical College System

### Construction Center of Excellence Resource Handbook and Brochure



Updated, redesigned and printed the Construction Center of Excellence Resource Handbook. Data includes current information on construction programs, including “green construction” in the Washington State Community and Technical College system as well as four-year Universities. It provides a wealth of information on apprenticeship, Washington’s Construction Workforce network, skill panels, Industry and Trade Associations, salary information, construction I-Best and additional resources. Created



companion CCE Brochure that gives brief outline of CCE products and services and how to access them as lower cost marketing alternative to have available to give away at conferences and career days.

Meets operational goal to strengthen CCE role as repository of expertise and current information/data regarding industry standards, emerging technology, training and trends, and best practices. Handbook is a viable resource guide to industry, educators and students. Online version available on CCE website ensuring it is an ongoing, sustainable resource.

**Stakeholders that collaborated:** CCE, Renton Technical College, CCE Advisory Board, contributors from around the state



### Construction Center of Excellence Website Expansion

Ongoing update of CCE website to include current industry relevant resources and information. Created Construction Center of Excellence Facebook page and linked to CCE website to increase outreach to additional demographics. Added curriculum, videos and educational links, including soft skills curriculum titled “Communication for the Stationary Engineer” that is open source. Created Sustainability Focus on the website to include sustainability resources, curriculum, educational pathways and more. This information is also referenced in the Construction Center of Excellence Resource Handbook and Brochure.

CCE continues to work with RTC’s IT department to add content to improve Center’s website to be more interactive and user friendly in order to strengthen our position as a repository of industry information, best practices, innovations, and current trends in the construction industry.

Meets operational goal to develop and maintain a comprehensive, current website containing resources for students, workforce and economic development professionals, educators, industry and government. Provides a sustainable ongoing resource to the construction industry stakeholders with information that is constantly being updated to provide the best, most current and comprehensive industry topic coverage and website content.

**Stakeholders that collaborated:** CCE, Renton Technical College, CCE Advisory Board, contributors from around the state.

### Construction Connections Newsletter

Use Constant Contact to create electronic newsletter, response from partners and CCE Advisory Board overwhelmingly positive. Success rate in avoiding crashing email system of RTC as pdf newsletter did=100%. Showcased post secondary programs from schools and colleges statewide, economic outlooks, construction training resources and opportunities, and industry data to a distribution list of over 2500. This newsletter is distributed in to a statewide distribution list in order to provide up-to-date information on industry events, trends and other developments pertinent to the construction industry.



Meets goal to highlight Center activities, industry specific economic development initiatives and best practices.

**Stakeholders that collaborated on the event:** CCE, Advisory Board, contributors from around the state.



## 2010-2011 COE Consultation and Outreach that supports education and training in the Construction Industry:

| Organization or institution receiving consultation or outreach services                      | Description of outreach or consultation services                              | Outcome of outreach or consultation  | Systemic value of the outreach or consultation  |
|--|---|--|---|
| K12 educators (generally, math and CTE); Associated General Contractors Education Foundation | Laying the Foundation: Construction Math Toolbox<br><br>CTE Intern Conference | Introduces construction-based contextual math examples compiled from 13 college and apprenticeship partners.<br><br>Provide information about what the Centers are and how we can be a resource to CTE system. | The Construction Math Toolbox provides educators with a tool to provide applied math as an add-on or supplement to their current curriculum; the product is used in both CTE-based (applied math) classes and academic math classes.<br><br>Develop partnerships with CTE instructors to offer resources/training/curriculum to their system.                 |
| Seattle Central Community College  | Technical Advisory Committee (TAC) Member                                     | Guide and define education and workforce initiatives for the board   | In the 2010-2011 year, the TAC has been working to integrate green building concepts into the current curriculum and to strengthen the community college-based construction programs by partnering with industry to create internships.   |
| Washington Business Week   | Construction Week   | Since 1976 the teen summer camp <i>Business Week</i> has been  | Construction Week teen summer camp puts students in the action seat. In a small group of 10-12 other teens, a   |
| WASHTI   | Board member  | Guide and define education and workforce initiatives for the board.  | Define safety measures and training opportunities to benefit the industry.  |
| Pierce County Construction Partnership   | Pierce County Construction Career Day (10/14/10)                              | Over 1000 high school students talked to trades educators, participated in hands-on activities, and learned about training programs and careers in construction.   | Created a one-stop opportunity for Washington state high schools to provide their students with information about training/career options in the construction industry. Apprenticeship programs and industry supporters were able to combine efforts and resources for this day-long event to provide students with a comprehensive overview of the industry. |

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|                                       |   | <p>offered on college campuses across Washington. Students stay on campus, live in the dorms and experience the college environment. and the career world at the very same time.</p>                                  | <p>volunteer mentor from the construction sector works directly with them as their guide. As a team, students learn about construction as a career focus area, have a blast, and compete in a simulated challenge for major bragging rights. All of the programs are designed to engage teens in hands-on, experiential learning. This is a great chance for students to get direct exposure to the construction community.</p>   |
| <p>Associated General Contractors</p> | <p>King County Construction Career Day (10/6-10/7/2010)</p> | <p>Over 300 high school students talked to trades educators, participated in hands-on activities(including operating rigs, tools and equipment), and learned about training programs and careers in construction.</p> | <p>Created an opportunity for Washington state high schools to provide their students with information about training/career options in the construction industry. This event addresses the need to educate young people about the tremendous opportunities available in the construction industry. Apprenticeship programs and industry supporters were able to combine efforts and resources for this two day event to provide students with a comprehensive overview of the industry</p> |
| <p>Emerald Cities</p>                 | <p>Workforce Development Committee Member</p>               | <p>Guide and define resources and workforce development initiatives for the committee</p>   | <p>Identify strategic goal for committee, meet bi-monthly to continue initiative.</p>   |
| <p>Sound Transit</p>                  | <p>JAC Member</p>   | <p>Guide and define resources to JAC.</p>   | <p>Provide resources as identified by JAC members and collaborate to ensure success of Sound Transit construction projects.</p>   |

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| Spokane Workforce Development Council Construction Skills Panel                   | Panel Member   | Skills Panel reconvened for first time June 30, 2011. Identify current needs of industry.  | Assist in offering resources, training needs, products identified as needs by skills panel.   |
| Quarterly WEC, WWATC, WSATC, Evergreen Jobs Leadership, Build it Smart<br>Various | CCE receives numerous information requests on topics including education/training opportunities; and industry trends especially green building | CCE plays a part in educating the public, industry, educators, labor, and government about various aspects of the construction industry. | These consultations provide evidence that Washington's Center of Excellence initiative is fulfilling its primary mission of being a statewide point-of-contact and resource hub for its targeted industries.                |
| Magic Camp, Ready Set Build, Try-A-Trade, Construction Challenge.                 | Support Construction related programs for K-12 system  | Provide support to various camps, hands-on construction programs and construction challenges throughout 2010-011.                        | Created an opportunity for students in Washington state to gain hands on training in the construction industry and gain information about training/career options in the construction industry.                             |
| Legislative Mixer   | March 24, 2011   | Collaborated with Centers to market Center initiative and network with legislature.  | Create opportunity for legislative leaders to meet with centers and their respective industry leaders, government and education supporters to learn the success of the Center model and continue to support the initiative. |