// FALL / WINTER / 2009 //

Building Futures®

THE CONSTRUCTION INDUSTRY JOURNAL FOR STUDENTS

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Summer Skills

Youth take part in hands-on camps to get a feel for construction careers

ON THE COVER

Youth take part in hands-on camps to get a feel for construction careers

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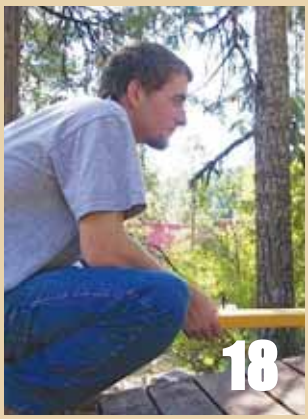
FALL /WINTER 2009 // VOL. 12 ISSUE 2

ESD 112 CONSTRUCTION ACADEMY EMPHASIZES EARTH-FRIENDLY BUILDING TECHNIQUES, TECHNOLOGIES



ROGUE RIVER VALLEY STUDENTS LEND HABITAT FOR HUMANITY A HAND, BUILD WILLOW LAKE CAMPGROUND YURTS

CLACKAMAS COUNTY ENVIRONMENTAL YOUTH CORPS OFFERS REAL-LIFE WORK EXPERIENCE

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Summer school brightens futures of Oregon, SW Washington students


Cristin O'Connor

Hello! My name is Cristin O'Connor and Katie Insalaco, OBC's deputy executive director, asked me to record on film the activities of the OBC this summer. I've come to realize that Katie is the most important person at OBC. Whenever I asked Dick O'Connor, the executive director, a question, he'd answer by saying "I dunno, go ask Katie." He also likes to delegate a lot and he thought I should write his opening piece for *Building Futures*.

The executive director is very fortunate to have two smart women working for him and running OBC projects. In addition to Katie, there is Jan Wierima, who together with the ACE Academy teachers this summer put on a fabulous workshop for rising 8th, 9th and 10th graders. Jan has an article on this program as does one of the students, Kelsey Sulier, whose all-girl team won top prize in the engineering competition. Whoa! Nellie!

It was also fun to see the student construction projects that occurred in Southwest Washington, and Clackamas, Polk and Jackson counties. It is amazing what the students can accomplish with good instruction from their crew leaders and various training centers that are OBC members. The ESD 112 students did a lot of green building practices including a deconstruction project at a local school, and the construction of a building at the Columbia Springs Fish Hatchery. Students in Jackson County built two yurts for the campground at Willow Lake, near Mt. McLoughlin, and worked on a Habitat for Humanity House in Medford. Clackamas County's Environmental Youth Corps spent the summer building a community garden for the Clackamas County Housing Authority. The new community garden includes plots for local residents to use as well as a children's garden to be used as part of the Housing Authority's free lunch program

The teachers who participated in the Math Workshop in Portland and the Green Pathway Workshop in Medford also knocked the cover off the ball (Dad is a baseball fan). Their outstanding lesson plans from the workshops are on the OBC Web site at www.obcweb.com. We encourage teachers to take a look at these as they are very well done.

The summer brought another blessed event to the OBC family as Katie and Mark Insalaco brought their second daughter into the world, Margo Clover Insalaco. Poor Dick O'Connor will have to get along without Katie for the rest of the year. Those of you who are his friends should try and be extra nice to him!


Mark and Katie Insalaco with daughter Margo.

Hope you all have a great school year!

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'ACEing the Summer'

Students experience hands-on projects at academy

By Jan Wierima

During the hottest weeks in Oregon's recent history, most people did their best to stay indoors. Not so for the 8th-12th grade students who participated in the ACE Summer Academy, a three-week program in architecture, construction and engineering that focused on challenging, hands-on learning, interesting projects, and lots of fun.

Throughout the sizzling summer days, ACE Summer Academy students, armed with hard-hats, safety gear, tools and water bottles, spent the cooler mornings working on design and construction of a close to life-size building outside of ACE's home campus at the Pacific Northwest Carpenters Institute. They designed and framed the building, learned how to do inside features including a mantle and hinged doors, wired it for lighting, and installed dry wall.

Then, in the afternoons, the ACE teams worked on projects in architecture and engineering, including sketching and design of a building and rendering it on the 3-D modeling software 'Revit'; engineering, building and testing a model car; building pressurized water rocket launchers; and participating in a team "Fischer Technik" engineering design competition.

The Summer ACE students also were joined by other groups during the three-week program for special activities. These included a geodesic dome building project with the

Hannah Steiner from Gordon Russell Middle School (left) and Kelsey Sulier, a senior at Tualatin High School, and their team members work on their project.

For several other students, who are heading to ACE Academy this fall as juniors, the summer academy was an opportunity to get an advance experience that will help them get off to a great start when school begins.

girls from the Oregon Tradeswomen Summer Construction Camp and 'Talking Safety' training with a team of students from the summer academy at Irvington Covenant Community Development Corp. in Northeast Portland. Another highlight was a lunchtime roundtable discussion with a special panel of young adults from the Portland Schools Foundation/Ninth Grade Counts Initiative about strategies for preparing and succeeding in high school.

As projects progressed during the three weeks of the program, students proved to be innovative, imaginative and up to the many challenging activities presented by ACE Summer Program staff each day, all with a strong focus on building friendships and active teamwork, with a little friendly competition thrown in just for fun. Hannah Stiner, who will be an 8th grader at Gordon Russell Middle School, and fellow team members Kelsey Sulier (a senior at Tualatin High School) and Gen Mangin (starting 9th grade at Skyview High School this fall) won the "Fischer Technik" engineering design competition with their successful design, construction and programming of an automated mechanism that was able to transport a tennis ball into a square located 3 feet from a base and propel a ping pong ball as far from the tennis ball as possible.

For several other students, who are heading to ACE Academy this fall as juniors, the summer academy was an opportunity to get an advance experience that will help them get off to a great start when school begins.

Overall, this summer's first-ever "ACE the Summer" program brought together high schoolers from home schooling and elementary/high school public schools across Portland in addition to the main ACE co-chartering districts of Parkrose, Centennial, Reynolds, Gresham-Barlow and Sandy/Oregon Trail.

Students were fortunate in working with ACE Academy teaching staff, including ACE Lead/Math instructor Doug Mella, Science/Architecture teacher Marjan Rotting, Engineering instructor Randy Scott, and Construction teacher John Martin, as well as adjunct instructors that included architect Sue Mangin and Pacific Northwest Carpenters Institute training instructor John Boling.

This year's summer academy was funded by the Oregon Building Congress and its member organizations. As awards and certificates were presented at the end of this summer's academy, the students talked about what challenged them –- learning completely new things and doing things for the very first time – like

ACE Summer Academy students spent the cooler mornings working on design and construction of a close to life-size building outside of ACE's home campus at the Pacific Northwest Carpenters Institute. They also built pressurized water rocket launchers.

sketching, calculating angles and load, measuring and cutting wood, wiring, using the computer and advanced software to design and program mechanical devices, and much, much more. They had a lot to be proud of!

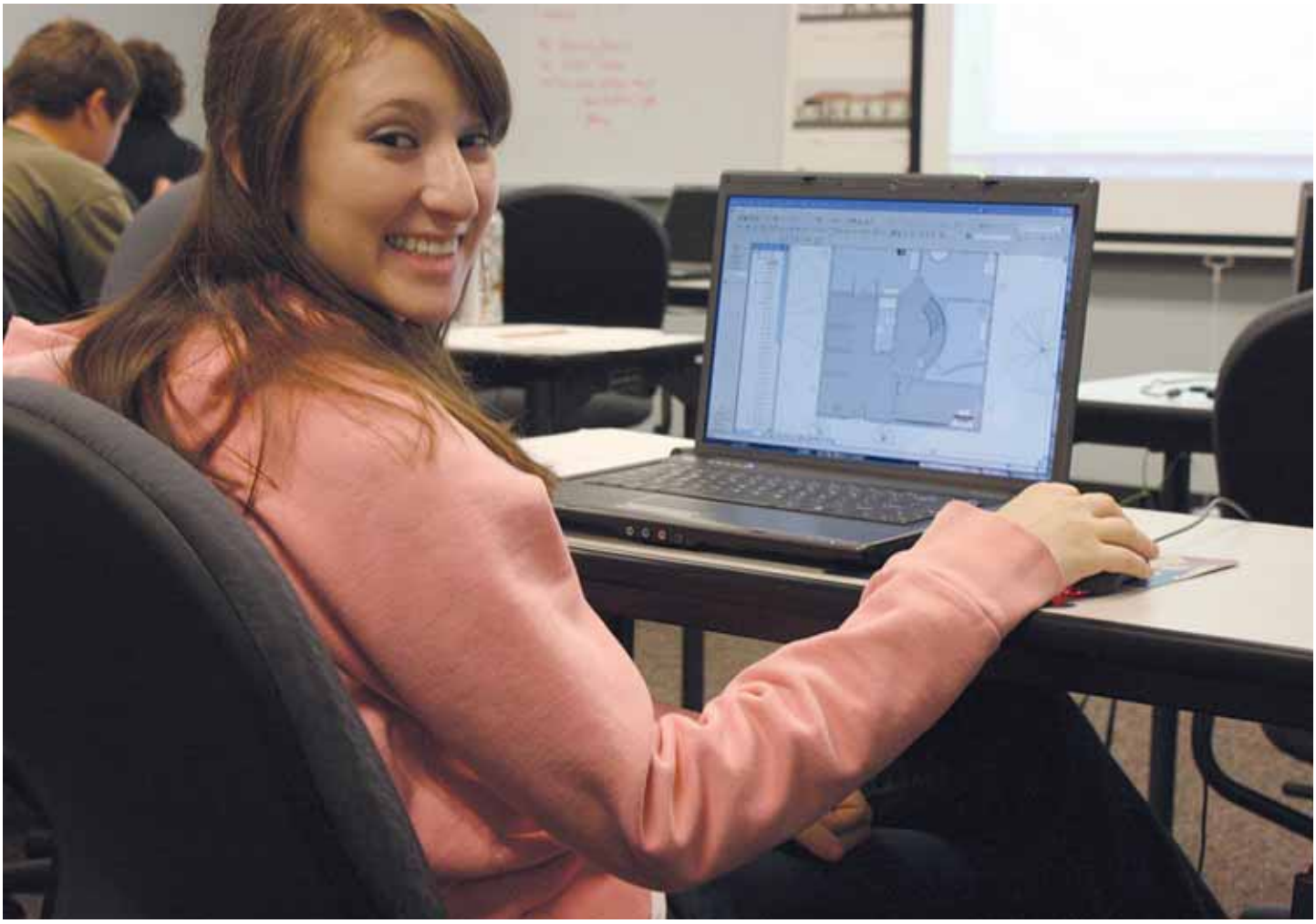
As our "ACE the Summer" teams left on the last day, they all were congratulated for their energy, positive attitudes, ingenuity, humor, friendship, brainpower, great ideas and perseverance, along with their ability to consume large quantities of pizza, hot dogs and popsicles!

ACE Academy staff already are anticipating another year of special activities for the 2009-2010 year and beyond, including a spring break Pre-ACE Academy for sophomores and a summer program focused on younger students. To find out more information about ACE Academy high school and special programs, go to www.acecharterschool.org or call Jan Wierima or Kathy Kollenburn at 503-546-9928.

Jan Wierima is program manager for the Oregon Building Congress.

At top: Hannah Steiner from Gordon Russell Middle School works on the building outside of ACE's home campus. Above: Kelsey Sulier, left, a Tualatin High School senior, Hannah Steiner (right) and classmates spend some time learning about their next project. Right: The students take a quick break and admire their work.

Summer session gives students up-close look at careers



Kelsey Sulier, a Tualatin High School senior, enjoyed her ACE Academy experience and said it gives youth a chance to explore career opportunities.

By Kelsey Sulier

Over a period of three weeks, a group of students arrived each morning at ACE Academy to pursue further their interests in architecture, construction and engineering. I myself am proud to say that I was a part of this experience. I will admit that I was hesitant at first because I had no previous background or knowledge in designing or building. I did not know anyone coming into this course, and I also happen to be one of the few girls that was there.

The first day of class focused on meeting the other students and getting a feel for what the next three weeks would bring. A few of the kids had already met before and were enrolled for the upcoming year at ACE. The rest of us seemed pretty shy and overwhelmed with what was going on, but by splitting into teams we were able to get to know each other a little more. During the next three weeks, we successfully worked together and supported one another with advice and guidance. We learned the importance of group organization and team work, and how they impacted the end result of a project.

Through my perspective, the combination of class work with applied skills always kept things interesting throughout the three-week period. By getting familiar with the computer software called 'Revit,' we were able to apply our architectural skills to design a 3-D building. The engineering projects, which consisted of creating rubber band cars, bottle rockets, etc., were most challenging for us because they opened our minds to a new level of thinking. Every project we did at ACE Academy was hands-on and also allowed us to explore different aspects of designing. Each student's face carried a puzzled look after observing the materials that were provided for a project. One of the students would say, "How can you possibly make a rubber band car out of CDs, tape, string and wood?" After many trials and

errors, we managed to finally get it right! By maintaining positive attitudes and with the help of the wonderful teachers at ACE, it made every activity enjoyable. When the three weeks sadly came to an end, I believe that we all had a great time and most of us are proud to say that we have mastered the tools, learned to measure precisely and hammer perfectly.

I think that it is truly great that ACE Academy carries a warm and friendly environment, and that they opened their school to us and allowed us to learn more about what it is like to be an architect, engineer and construction professional. I wish that my high school had more of the kinds of opportunities that ACE provides.

Ever since I was a kid I had been interested in architecture. I made floor plans on my Etcha-Sketch and looked through architectural magazines, always focusing on the floor plans. I was never given the opportunity to explore more about architecture until my experience this summer with ACE Academy. Now I'm even more interested in architecture, especially having learned how to build a structure!

Everything we did at ACE ties together — learning the math skills that are involved not only when working with an architect, but also in measuring. Rendering on the Revit software helped us visually see and prepare for what was to come during construction. Being able to plan for, measure and prepare materials, as well as framing the structure, all fit to help me understand more about this profession.

My experience this summer has truly helped me open new doors and carve a path for my future. I can heartily recommend the ACE Summer Academy to fellow girls for next year – our team (all girls) did great and we won one of the competitions during the Academy. You don't have to know what you want to be or do in the future to have fun and gain benefits from the ACE program ... ACE will help open up new opportunities for you to consider!

Kelsey Sulier is a senior at Tualatin High

I can heartily recommend the ACE Summer Academy to fellow girls for next year – our team (all girls) did great and we won one of the competitions during the Academy. You don't have to know what you want to be or do in the future to have fun and gain benefits from the ACE program ... ACE will help open up new opportunities for you to consider!

Project Lead the Way

Intel awards ACE Academy with $20,000 grant to support engineering program

By Dick O'Connor

The Intel Corp. gave a $20,000 grant to the ACE Academy to support the implementation of its engineering program, Project Lead the Way. The academy was certified by Project Lead the Way in its first year of operation and will offer all five Project Lead the Way courses in the 2009-2010 school year. These courses include Introduction to Engineering Design, Principals of Engineering, Civil Engineering/Architecture, Digital Electronics and Engineering Design and Development. The courses are taught by Randy Scott and Marjan Rotting at the ACE Academy and about 50 students are enrolled in one or more of these courses.

The possibility of the Intel grant arose late in the last school year when the Oregon Youth Council Board met at ACE Academy. As part of

The first week of school at the ACE Academy was a busy one for students and instructors. Thanks to Intel Corp., the Academy now can offer even more courses!

the Youth Council's meeting, it heard a presentation by Academy students Megan Lesowski, Matt Mumau and Brianna Huffman. In attendance at the presentation was Jill Eiland, Intel corporate affairs manager, who was so impressed by the students' presentation that she strongly encouraged ACE to submit a grant request to Intel.

On behalf of the administrators, teachers and students at ACE we give a BIG THANK YOU TO INTEL. YEA INTEL!

Dick O'Connor is executive director of the Oregon Building Congress.

Above and right: Constructing benches was just one of the projects students tackled during the first few days of school at the ACE Academy.

Architecture Construction Engineering

Are these careers in your future? The Architecture, Engineering and Construction Academy offers high school students the chance to learn about these professions in a hands-on environment! For more information, go to www.acecharterschool.org or call 503-546-9928.

Green Summer

ESD 112 Construction Academy emphasizes earth-friendly building techniques, technologies

By Ken Walker

This summer marked the ninth summer that a Construction Academy has been sponsored by Education Service District (ESD) 112 in Vancouver, Wash., and the Oregon Building Congress. This summer's activities focused heavily on sustainable construction practices with an emphasis on green building techniques and technologies. At various worksites and training facilities the crews were introduced to the emerging skill areas associated with green know-how. These skills will serve the youth well as they seek out future construction careers. Activities included:

- A demonstration of residential energy use analysis techniques given by Bob Patterson, who works with the Clark County House Preservation & Weatherization Department.
- Participation in the groundbreaking and construction of a timber-frame, green-built classroom on the campus of the Columbia Springs Environmental Education Center in Vancouver, Wash.
- An introduction to Eco Roof Systems at the Greater Portland Roofers & Waterproofers Training Facility. This system will be used for the living roof on the Environmental Education Classroom at Columbia Springs.

An important lesson for the group was that sustainable building practices can and should take place at the end of the life of a structure as well as at the beginning. Participants in this summer's Construction Academy learned this first hand when they helped prepare a decommissioned day care facility for removal from the campus of the Silver Star Elementary School in Vancouver. The goal of the crew was to recycle, reuse or repurpose as much of the building and playground as possible before it was removed by Able Contractors Inc. of Washington.

The play structure was taken apart and stored for future use at another childcare facility. (Who knew that these play structures could cost more than $10,000?) Wood chips in the play area were moved to the Image Childcare play area and the students recycled some of the lumber to repair a set of steps at the center. Windows and the chain link fence were stored for future use by ESD 112. Other building materials were donated to the Habitat for Humanity ReStore in Vancouver. The less material that goes in the landfill the better!

The decommissioned building also served as a laboratory for the students. Bob Patterson demonstrated how the Blower Door Test could be used for energy use analysis. He pressurized the building and used his equipment to quantify how much air was leaking out. The crew then looked for and sealed air leaks that would have reduced then energy costs for heating the building by at least 10 percent. Not bad for a couple of hours of work! The demonstration directly related the relevance of math and science to success in the construction field.

Training is also a key for success as a builder and before the work began at the Silver Star the students received three weeks of training in a wide range of settings. Howard Nave and Clint Mapes at the Greater Portland Roofers & Waterproofers Training Facility put the crew

through two days of hands-on safety training and each participant earned an OSHA-10 Certification. First Aid/CPR followed and each crew member learned what to do in case of an emergency as they earned their certificate. By earning these certificates the Construction Academy participants are one more step up the ladder of success, as many construction companies require this training before new employees go to work.

An old adage states: "Dress like where you are going, not where you have been." On the first day, the academy crews went to a local retail store and were outfitted with good work boots, pants, socks, shirts and a belt. Good work clothing is not only professional but it increases jobsite safety. How long will you last on a construction site if you show up in tennis shoes with pants that won't stay up? Not long!

Physical training is important for future success in the trades and the Construction Academy likes to take advantage of the opportunity to learn skills while getting some exercise by working on projects in conjunction with the Washington Department of Natural Resources (DNR). Trail improvements and maintenance in the nearby Jones Creek Off-Road Vehicle Area east of Vancouver were the foci this summer. Safety was the emphasis of these projects and the crew built several fences on the trails that will reduce accidents as well as increase the enjoyment of the users. Of course this involved quite a bit of hiking to worksites with the tools and materials necessary to do the job. A topper was that spell of 100 degree plus weather we had earlier this summer! Good time to be in the woods but hot!

The lynchpin to the success of any construction project is teamwork and problem solving. Paul Haack, instructor at the Clark County Skills Center Challenge Course, led the crew through two days of activities that emphasized listening skills as much as problem solving. Students also were encouraged to challenge themselves on the course. Many of the elements were 20 to 30 feet up in the air. You might ask yourself what the "Flying Squirrel" or the "Leap of Faith" has to do with teamwork. These high elements offered the students a challenge that could not be taken without the whole team working together.

A capstone of the first three weeks training was a visit to the Pacific Northwest Carpenters Institute, a training facility for union carpenters. One of the missions of the academy is to introduce the participants to the world of apprenticeship opportunities.

Under the able direction of Jim Murphy, an instructor at the Institute, the crew framed 2x4 stud walls and looked into the math involved in cutting rafters and stairs. Jim also emphasized the importance of ergonomics to the crew by leading the group through 10 minutes of stretching exercises before going to work. One exercise seemed to be a combination of Tibau, kickboxing and aerobics. The crew dubbed it the "Jim Murphy" and this exercise was frequently featured in the daily pre-work warm-ups.

After the first few weeks of the academy, which combined a fair amount of training activi-

Special thanks to the Summer Construction Academy training associates and instructors for planning all the activities:

Clark County House Preservation and Weatherization Department. *Bop Patterson* demonstrated use of Blower Door technology to analyze energy efficiency in a building. Students decreased air leakage 20 percent with using specialty equipment that Bob uses every day in his line of work.

Pacific Northwest Carpenters Institute. Instructor *Jim Murphy* prepared a wall framing exercise for the students who framed up the walls for a small kitchen, bathroom, living room and small bedroom. He also demonstrated math is used when cutting rafters or stairs.

HVAC & Metals Institute. Instructor *Dan Carroll* took the students to the shop where they grabbed tools and each built a metal tool tray using sheet metal fabrication tools. A big favorite was the spot welder.

Greater Portland Roofers and Waterproofers Training Facility. Instructor *Clint Mapes* introduced the students to the materials and methods used for the new Eco Roof Systems. Clint and *Howard Nave* also taught an excellent OSHA-10 class in jobsite safety.

Painters, Drywall Finishers & Allied Trades Regional Training Center. Instructor *Harry Kalin* taught the students how to mix paint as well as paint with it. The crew had a lot of fun using a computerized Virtual Spray Booth, trying their hand at spray painting without using paint. This technology keeps students from wasting paint as they improve their skills.

Oregon/Southern Idaho Laborers Corvallis Training Site hosted an Athletes Challenge Course. Instructor *Aida Ariana* lined out a course of challenges for the students. These challenges were similar to those found on construction sites every day.

Northwest College of Construction. Instructors *Scott Ryan, Montie Boyer* and *Ken Walker* had hands-on activities for the students framing a shed, finishing concrete and driving a bulldozer on the Heavy Equipment Simulator.

ties with working in the woods on DNR trail improvement projects, the business of deconstructing the Silver Star Childcare Center began. By this October the site should be covered with grass planted by the crew and one building's cycle is over. Let's hope that the next one gets used longer!

ESD workforce specialist Ryan Blodgett and Construction Academy Supervisor Ken Walker kept the crew busy at various worksites over the next few weeks. In addition to assisting with maintenance projects at a number of Southwest Washington Childcare sites the crew was invited back to the Columbia Springs Environmental Education Center by the director, Gala Miller, to participate in the construction of a low carbon footprint environmental classroom.

This octagonal structure (yes, that's eight sided) has 12-inch walls made of cordwood rounds and split cordwood mortared in place with all the cavities filled with sawdust, a by-product of milling the timbers. These timbers, used for the frame and roof, were harvested and milled by Joolz Moorecraft of Urban Timberworks, who provided logs that were Forest Stewardship Council certified.

"I have a relationship with each one of the trees that provided the timbers for the frame of this building," Joolz said.

Participants in this year's Summer Construction Academy who successfully completed the seven weeks of work and instruction all received a modest completion bonus that could be spent at a local retail store.

All the youth enjoyed working with the master craftsman as they joined him at the worksite cutting timbers, setting the beams and drilling in the hold-down bolts. By then, the students had six weeks of training and on-the-job experience that enabled the crew to ably finish the framing of the walls the next day. Columbia Springs is open to the public and the Octagon House is the kind of structure the crew can visit years later and say, "I helped build that."

The last week of the Construction Academy passed pretty quickly. The experienced crew excavated and built forms for a sidewalk and patio, two days of timber framing at Columbia, followed by a visit to the training facility at the Northwest College of Construction (NWCC) in Northeast Portland.

The visit to NWCC mirrored the week – lots of variety. After a brief math session the students worked on framing a shed in the shop, moved to another classroom to try their hand at driving a bulldozer using the state-of-the-art Heavy Equipment Simulator, then back to the shop for a lesson from Montie Boyer, NWCC instructor, who demonstrated the proper technique for finishing concrete. That afternoon the crew poured four cubic yards of concrete and finished a 200-square-foot patio and 100 square feet of concrete. The tips from Montie sure helped!

Participants in this year's Summer Construction Academy who successfully completed the seven weeks of work and instruction all received a modest completion bonus that could be spent at a local retail store in addition to hearty congratulations from all involved. ESD 112 will continue to work with this summer's participants, and Ryan and Ken are available as references for future employees as each person in the academy seeks to climb further up the ladder of success.

Ken Walker is an instructor with the Northwest College of Construction and can be reached at 503-334-5649 or kenw@teachers.nwcoc.com.

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Sharpening Their Skills

Rogue River Valley students lend Habitat for Humanity a hand, build Willow Lake campground yurts

By Dick O'Connor

Thanks to a grant written by Rogue Community College to the U.S. Department of Labor, under the guidance of Ralph Henderson, chair of the Construction Technology Department, both Rogue Community College and the Oregon Building Congress began last year planning for a 2009 Summer Construction Academy for students in Southern Oregon.

This program involved students from various high schools in the Rogue River Valley who had an interest in construction. To gain entry into the program students had to complete an application and an interview with Batzer Inc. Students had to prepare for the interview just as though they would be applying for a job after completing school. In addition to the application, they had to write a letter as to why they wanted to work construction and had to submit letters of recommendation. Twenty students applied but only six were selected.

The students selected were: Thomas Beech, David Dunham, Kelly Schultz, Justin Shirley, Tyler Trujillo and Tanner Bean.

Additional support for the program also came from the Gordon Elwood and Carpenter Foundations as well as the Oregon Community Grant Foundation. Funds from these foundations were used to pay students for the eight-

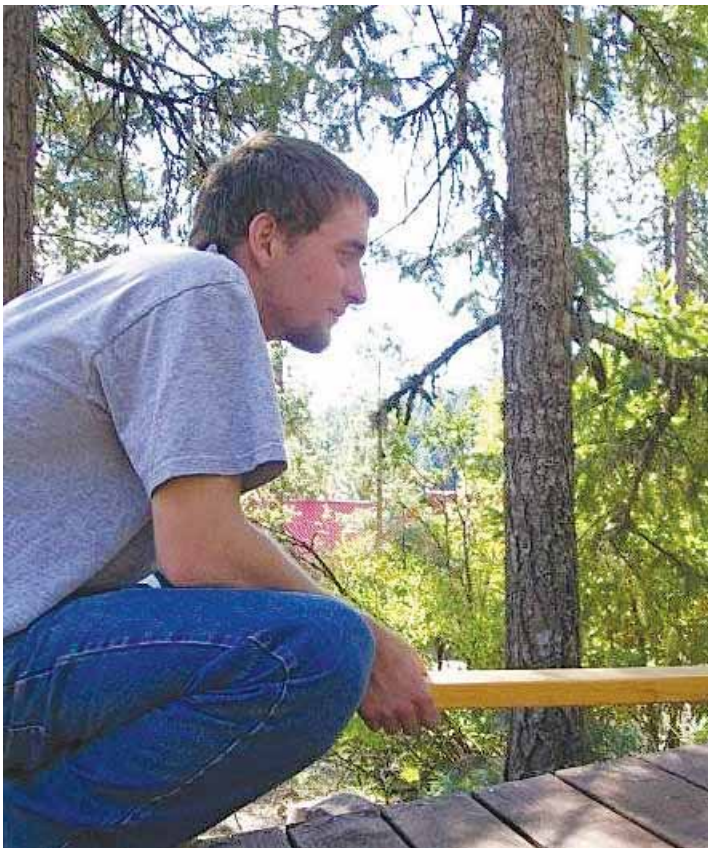
Students interested in the program had to complete an application and interview with Batzer Inc., write a letter as to why they wanted to work in construction, and submit letters of recommendation. Those selected were Thomas Beech, David Dunham, Kelly Schultz, Justin Shirley, Tyler Trujillo and Tanner Bean.

Students learned basic construction skills and about safety on a construction site. Tiff Smith, the safety consultant for the Associated General Contractors in southern Oregon, instructed the students their first day on the job.

week program as well as provide some materials for the project. Chris Mathas, a local contractor, provided important supervisory services to the project as well as assisting in the permits required by Jackson County and the purchase of the yurts from Pacific Yurts. Pacific Yurts was kind enough to provide the yurts at a discounted price.

The students worked on two major projects, one a Habitat for Humanity House and the other, the construction of two yurts at Willow Lake campgrounds, just outside Butte Falls. They worked under the guidance of an experienced construction professional, Mitch Tucker, who is a graduate of the RCC Construction Technology program and a former site superintendent for S & B James.

Students learned basic construction skills and about safety on a construction site. Tiff Smith, the safety consultant for the Associated General Contractors in southern Oregon, instructed the students their first day on the job. This is common practice for all OBC programs where safety is the first major thing



Willow Lake campground boasts two new yurts, thanks to the construction efforts of Rogue River Valley students.

emphasized. As a result, OBC programs have a great safety record.

In August, students celebrated the completion of both yurts with a picnic where the students, parents and representatives of the foundations gathered to congratulate the students for a job well done!

The grant from the Department of Labor will support a second year of the program so students in southern Oregon wanting to work in the 2010 Summer Construction Academy should check the OBC Web site, www.obcweb.com, in March for an application form and for details on next year's project.

Dick O'Connor is executive director of the Oregon Building Congress.

BY JAN WIERIMA

OBC receives funding to adapt Youth@Work: Talking Safety curriculum for middle and high schools

The Oregon Building Congress has received funding from the OR-OSHA Occupational Safety and Health Training and Education Grant Program to adapt a nationally recognized young worker safety curriculum to focus specifically on construction environments, OR-OSHA Standards, and to create versions for both high school and middle school students.

OBC is currently working with the Labor, Education, and Research Center at the University of Oregon and the Young Worker Safety Coalition to find ways to "bring safety back" into academic programs in high schools across Oregon. This work is being supported by the National Institute for Occupational Safety and Health (NIOSH) in its efforts to address the ongoing disappearance of safety programs in schools across the nation.

OBC will be getting input from high school construction teachers, students, apprenticeship training instructors, safety experts and other industry professionals during the next several months to identify top construction-related safety concerns, get real stories and create activities for the Youth@Work: Talking Safety curriculum. The curriculum aligns with Oregon OSHA standards and addresses hazard awareness, types of hazards, knowledge of how to eliminate and/or reduce those hazards, and empowering young people to act when hazards occur on the job or in any construction-related environment.

If you are interested in giving input to this project, please contact Jan Wierima, OBC program manager, at jan@obcweb.com. Your experiences and ideas can help young people across Oregon learn to be safe no matter where they are!

Jan Wierima is program manager for the Oregon Building Congress.

EDUCATION

BY DICK O'CONNOR

Oregon Building Congress holds 13th consecutive math summer workshop for teachers

Members of the Oregon Building Congress and its sponsors conducted the 13th consecutive Math Summer Workshop for teachers. John McCammish from the NECA-IBEW Training Center, Jim Murphy from the Pacific Carpenters Northwest Institute, John McLain from the Portland General Electric Training Center, Dan Carroll of the HVAC and Metals Institute and Alan Berry, Terry Finch and Jim Koehn from the Northwest College of Construction did another great job of showing teachers how math is used in the construction trades.

This year the attendees included both math and construction teachers and this has reflected the emphasis currently within the state of Oregon of increasing the rigor of career-technical education programs. Teachers who have attended programs sponsored by the Oregon Building Congress know full well that the construction industry needs trades people who can do the math and communicate well both verbally and in written form. While coming to an understanding of the needs of the industry, teachers also benefit by learning many examples of applied math they can take back to the classroom to make math more relevant to their students.

The oft asked question of "Why do I need to know this?" is easily explained after the week's attendance in the workshop. So is the question of "Why do I need to complete high school?" which is a requirement for entering many apprenticeship programs leading to family wage careers without the need to go to college.

This year's workshop also featured the work of Doug Mella, who is the math resource at the ACE Academy. After the formal presentations were made, Doug led the teachers in a round of discussions about how best to put what they learned into lesson plans that could be adopted in the classroom.

Dick O'Connor is executive director of the Oregon Building Congress.

Attendees included both math and construction teachers, reflecting the state's emphasis on increasing the rigor of career education programs.

BY TIM FOSTER

NECA/IBEW 48 Electrical Training Center starts renewable energy apprenticeship

Recently, the NECA/IBEW48 Electrical Training Center applied for and was granted approval for a Limited Renewable Energy Technician (LRT) apprenticeship program by the Oregon State Apprenticeship and Training Council. This is a two-year apprenticeship that consists of both classroom instruction and on-the-job training.

The classroom training will emphasize electrical theory and construction safety as well as units on solar power, wind energy and fuel cells. The on- the-job training will be obtained while working for a licensed union contractor under the supervision of a licensed journeyman electrician. At the end of the program the apprentice will have approximately 370 hours in the classroom and 4,000 hours of on-the-job training and will earn $20.32 per hour plus a pension and health coverage. New apprentices start at $10.16 per hour.

After completion of the program the apprentice will be qualified to take the written exam administered by the state. If passed, the apprentice will become a journeyman "Limited Renewable Energy Technician" and will receive an LRT license. "This license allows the holder to install, maintain, replace or repair electrical wiring and electrical products that convey or operate on renewable electrical energy not exceeding 25,000VA," as quoted from the Oregon Building Codes Division Web site.

Ninety-seven applications for the inaugural class were submitted in July. The number of apprentices accepted into the program will be determined by the needs of the contractors. The economy being what it is today it's expected to be a relatively small starting class, but hopefully openings will increase once the economy improves. More information can be obtained at the training center Web site – www.nietc.org.

Tim Foster is assistant business manager for IBEW Local 48.

BY JESUS VILLEGAS

Building Character by Building Community

Clackamas County Environmental Youth Corps offers real-life work experience

Being a construction crew member in the Clackamas County Environmental Youth Corps program has really impacted my life in so many incredible ways. Not only has the CCEYC program blessed me with an opportunity to train and gain experience in many different fields, but the program also has opened many, many doors for my future. CCEYC has given me a chance to experience leadership, teamwork and a variety of educational projects that taught me work skills such as how to work safely and how to work productively.

Being in the program also has impacted my state of mind about environmental issues. I feel wiser and more aware of how many things could be messed up in the world if we don't take advantage of opportunities that we have every day to make things better for ourselves and others.

Another way the CCEYC program has impacted my life is by helping me create and then focus my goals in the right direction. CCEYC has taught me how to act and dress appropriately but, most importantly, has taught me how many more doors can open for me if I know how to be a great rookie in the professional mainstream. In my eyes, the program has made such a difference to others as

Jesus Villegas, front, said the CCEYC program has been, to date, the best job experience that has ever happened to him..

Photo at left: The Clackamas County Environmental Youth Corps team.

The CCEYC Construction Crew spent the summer building a community garden for the Clackamas County Housing Authority. The new community garden includes plots for local residents to use as well as a children's garden to be used as part of the Housing Authority's free lunch program.

As part of their summer experience, crew members visited a broad range of construction-related organizations in order to understand how they could apply the building and job skills they were gaining in the real-world. In just eight short weeks, CCEYC crew members built the garden and:

- Earned OSHA-10 certification training and learned about ecoroofs at the Greater Portland Roofers and Waterproofers JATC.
- Learned basic carpentry at the Pacific Northwest Carpenters Institute.
- Explored the world of reclaimed building materials at The ReBuilding Center.
- Learned about community gardening and forestry at the Oregon Garden.
- Studied the science of sustainable site preparation with Maria Cahill of Green Girl Land Development Solutions.
- Competed as industrial athletes at the Northwest Laborers Training Center.
- Caught a glimpse of a variety of apprenticeship programs at the Northwest College of Construction.
- Hammered out some geometry and tool boxes at the HVAC & Metals Institute.
- Heard about what it takes to become an electrician at the NECA-IBEW Electrical Training Center.

The CCEYC Construction Crew spent the summer building a community garden for the Clackamas County Housing Authority. The garden includes plots for local residents to use and a children's garden to be used as part of the Housing Authority's free lunch program.

well. The CCEYC program brought us all together as a team – not only the crew members but also the crew leaders. Tom Ketelson and Solveig Lee made me look forward to work every day and we had fun while doing our jobs.

But best of all, the CCEYC program has been, to date, the best thing that has ever happened to me coming from a job experience. I would really love to give thanks to the CCEYC program for opening my eyes to a variety of career choices and plenty of doors for my future.

I also want to thank all the other crew members – Daniel Grigg, Jeremy Pershing and Trevor Roberts for being the party at work. Thanks to Jesse McIntosh, Krystopher Zinser and Stephen Hayward for being part of the team and giving a helping hand when needed. Thank you Andrew Midkiff for being one of the hardest working and most obedient crew members and also for being a character that is not seen even in movies or on TV. Thank you Nick Rangel for following up on things and helping me out with leadership. Thanks to Christian Castanada for making the moments spark when things had absolutely no humor in them.

And, of course, thanks to the crew leaders, Tom and Solveig, for blessing me with such a wonderful chance to put my leadership skills to work. And last but not least, thank you Annie Hefflinger, CCEYC coordinator, for taking a chance on me and giving me the job in the first place.

I also would like to thank Oregon Building Congress for giving me this wonderful opportunity to write this article and let others know how great things can turn out if you take chances and go with the flow toward wherever the path may lead you.

Thank you all for being a newly unforgettable chapter in my life!

Jesus Villegas was an Environmental Youth Corps crew member.

BY TONIA KOVTUNOVICH

TSO encouraged PYB to frame the roof at the 86th Avenue project using raised heel trusses – roof trusses that allow for full-depth ceiling insulation to be installed. Pictured left to right: Students Slavic Kondratyuk, Uziel Estudillo and Eugene Johnson.

Portland YouthBuilders

Program trains young adults for green construction careers

Walk through the halls of Portland YouthBuilders' main campus and you'll hear the typical chatter of young adults at school as conversations about music, dating and after school jobs fill the air. But if you listen more closely you'll also hear these young people – low-income 17-24 year olds who had previously dropped out of high school – talking about solar panels, on-demand hot water heaters and advanced framing techniques.

Portland YouthBuilders (PYB) is an accredited high school and a Bureau of Labor and Industries (BOLI) certified pre-apprenticeship program where students build three to four affordable single-family homes each year that are sold to low-income families.

Not content with just increasing the stock of affordable housing in the local community, PYB recently made a commitment to using certified green building techniques on all of its construction projects from this point forward.

According to PYB's Construction Manager, Bill Kowalczyk, "Our goal is to help students develop into well-informed builders who will become advocates for the environment while they develop job skills that will only increase in demand; and at the same time the community benefits by getting a trained workforce with an understanding of environmentally friendly building practices." Kowalczyk notes that PYB plans to develop a model curriculum that will become a permanent part of our program, impacting hundreds of low-income high school dropouts over the course of the next few years.

PYB students are currently wrapping up construction on a house they are building in the Lents neighborhood of outer Southeast Portland. The three-bedroom, two-bath home on Southeast Yukon Avenue is on-track to earn ENERGY STAR® certification through the Energy Trust of Oregon New Homes program.

On another project, also in the Lents neighborhood, PYB is working with energy-efficiency and green building experts to pursue Earth Advantage, "LEED for Homes" and "Oregon Department of Energy High Performance Home" certification on two adjoining homes currently under construction. Both homes are being built using high performance, renewable and environmentally-friendly practices and materials such as advanced framing, exterior rigid insulation, ducts in conditioned space, and water-efficient landscaping.

Through a unique partnership with Imagine Energy, a leading solar energy and energy efficiency contractor in Portland, Oregon, both homes will also feature a solar hot water system. Solar hot water systems use the sun's energy to preheat water, significantly reducing the amount of energy needed to produce hot water for everyday tasks such as washing dishes or clothes, or bathing. One of the homes will also be fully wheelchair accessible, with three-foot-wide doors and hallways, a roll-in shower, and accessible kitchen fixtures.

All three homes are being built in partnership with ROSE Community Development Corporation and Proud Ground (formerly Portland Community Land Trust) on sites donated through Multnomah County's Affordable Housing Development Program, and with generous financial support from the Portland Development Commission. The project is providing PYB students with the competitive advantage to pursue rewarding, living-wage careers in green building. After completing PYB's green construction training program, graduates are well-prepared for additional training in industry-recognized certificate programs such as residential weatherization, energy systems retrofitting, and solar installation.

PYB's green build program is receiving significant technical assistance from the Technical School Outreach (TSO) initiative, an innovative educational opportunity sponsored by the Energy Trust of Oregon. TSO is designed to integrate building science, energy efficiency and sustainable building into career technical education to prepare students for emerging careers in clean technologies.

PYB students like Eugene Johnson are using advanced framing construction practices on the 86th Avenue jobsite, such as 24" OC studs, single top-plates, insulated window headers, and more.

"Working with students to design and build energy-efficient, durable and healthy homes is providing the next generation of construction professionals with the knowledge and skills to build green," said Kim Zimmerman, TSO Project project lead. "It provides students with an opportunity to learn cutting-edge strategies and practices that reduce energy use and our impact on the environment."

Despite the deep recession, which has particularly impacted construction activity, Portland YouthBuilders continues to benefit from the support of its many friends and supporters in the industry, positioning this alternative school to help students prepare for a wide range of green jobs.

For more information about Portland YouthBuilders and its education and vocational training programs, visit www.pybpdx.org or call or e-mail Susan Whitmore, Admissions Coordinator, at 503-286-9350 ext. 254, or susan_w@pybpdx.org.

For more information about Energy Trust of Oregon's Technical School Outreach Initiative, visit www.energytrust.org/TSO or call 503.-523-4827.

Tonia Kovtunovich is senior development coordinator for Portland Youth Builders.

BY KIM ZIMMERMAN

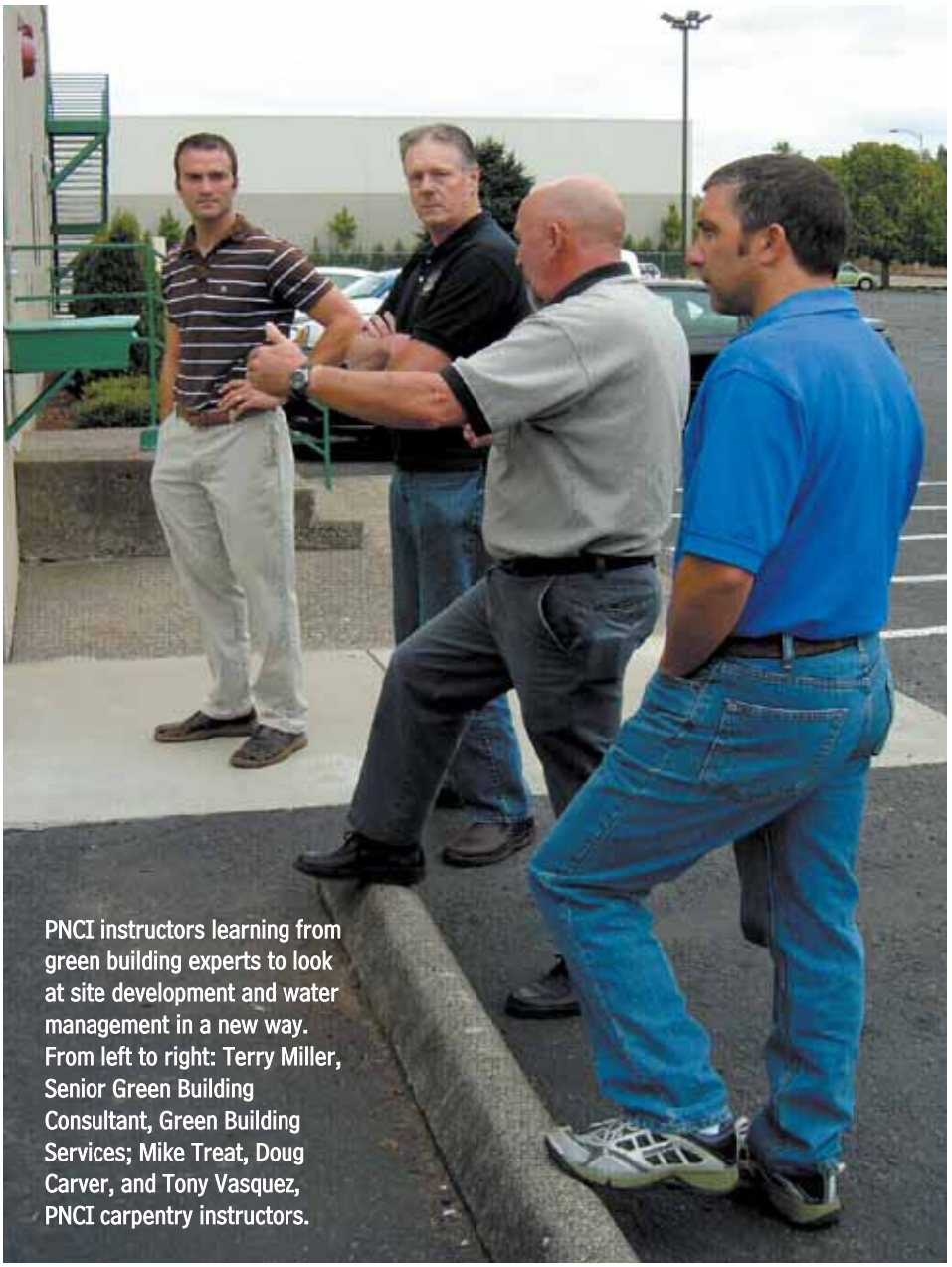
On the Cutting Edge

Carpenters Institute leads the way on sustainability

Instructors at Pacific Northwest Carpenters Institute (PNCI) were back in school this summer! Beginning in July, before most students went back to school, instructors at PNCI hit the books and the shop floor to learn about cutting-edge green building concepts, strategies and practices.

> "Offering green building training will allow our apprentices and journeymen to upgrade their skills and increase their value and demand in the marketplace."
>
> – Bob Calwhite

A hand-picked team of instructors at PNCI are sharpening their pencils and powering up their tools to learn how to integrate green building into their classrooms. With an eye on providing students with the knowledge and skills to build energy-efficient, durable and environmentally-friendly projects – from hospitals, schools and bridges to commercial, industrial, government and residential buildings – instructors are learning how to integrate green building learning into skilled carpenter training



PNCI instructors learning from green building experts to look at site development and water management in a new way. From left to right: Terry Miller, Senior Green Building Consultant, Green Building Services; Mike Treat, Doug Carver, and Tony Vasquez, PNCI carpentry instructors.

What is Green Building?

A "Green Building" is a building that is designed and operated to reduce its impact on human health and the environment. A green building is a church, school, house, library, gym, movie theater, mall, grocery store or other building that:

Use resources efficiently…

Green buildings use energy, water and materials wisely, reducing the amount of resources needed to construct, operate and maintain the building.

Are healthy and durable…

Green buildings are designed, constructed and maintained using climate-appropriate design strategies and construction practices. They rely on the use of appropriate systems and environmentally-friendly materials.

Reduce the amount of waste, pollution and other environmental impacts…

Green buildings use local, recycled, or renewable materials; minimize the amount of waste that is produced during and after construction; and consider the impacts that a building and its materials have on the environment over the buildings lifetime.

"Net-Zero" buildings use resources so efficiently that they produce as much energy as they consume.

"Living Buildings" feature native landscaping, eco-roofs, rainwater harvesting systems, and other design and construction features to provide healthy and sustainable environments for humans, plants and wildlife!

programs.

Why is PNCI investing in learning about green building? According to John Steffens, PNCI director, incorporating green building into carpenter, interior/exterior specialist, piledriver and other union trade training programs "will provide apprentices and journeymen with a competitive advantage. Our goal is to provide apprentices and journeymen with the knowledge and skills to help our contractors win bids and construct successful, cost-effective green building projects."

According to a McGraw-Hill Smart Market Trends Report, green building projects totaled more than $12 billion in 2008. By 2010, the market is projected to soar to more than $60 billion.

What does this mean for up and coming carpenters? In order to compete effectively, carpenters must possess a strong understanding of green building concepts and practices, and of their role in providing green building services in their areas of expertise.

"Knowledge and training is what gives our skilled carpenters an edge," said Bob Calwhite, assistant director and skills advancement coordinator at PNCI. "Union carpenters have built a reputation of excellence and are known for quality, reliability and professionalism. Offering green building training will allow our apprentices and journeymen to upgrade their skills and increase their value and demand in the marketplace."

Terry Miller, senior green building consultant at Green Building Services and PNCI industry project partner, agrees."It is vital that contractors develop an understanding of green building concepts and strategies, and learn about the practices that will contribute to the success and performance of a green building project. We are excited to work with SBEC and PNCI to support this innovative project."

Oregon Building Congress also is excited about working on the project and about the opportunities it will offer to the next-generation of architecture, construction and engineering professionals at the ACE Academy. Dick O'Connor, OBC executive director, ACE

If you are a student that enjoys working with tools, likes to see your work produce immediate results, and have a good work ethic, you can build a lifetime career with the United Brotherhood of Carpenters – the largest and fastest-growing trade union in the United States.

PNCI is the regional training center for the United Brotherhood of Carpenters. Based in Portland and with satellite training centers across the Northwest, PNCI offers state-of-the-art, earn-as-you-learn training to get the skills you need to move your career ahead.

Through the training programs at PNCI, you can learn how to become a carpenter, exterior interior specialist, millwright, piledriver, tradeshow specialist, or scaffold erector.

Carpenter

Carpenters are responsible for helping to create just about every building in your community. They build homes, schools, malls, skyscrapers, hospitals, office buildings, churches, hotels and prisons, and construct bridges, tunnels and highways. Skilled-carpenters measure, saw, level and nail wood and other building materials, and install tile and insulation, acoustical ceilings, cabinets, siding and much more.

Exterior Interior Specialist

Exterior Interior Specialists install drywall, acoustical ceilings, metal framing, raised floors and lathing systems. These specialized skills are brought into play as they assemble complex interior systems using manufacturer technical data and blueprints to guide their work.

Millwright

Millwrights work with machine tools and precision instruments, and have a keen eye for the perfect fit. Millwrights are an elite group of construction workers who primarily work in metal and with machinery and equipment that may require precision to a thousandth of an inch.

Piledriver

Piledrivers install wood, concrete and steel piling to hold up decks, bridges and buildings. Usually piledrivers are the first workers on the construction site. In some cases they work on offshore oil rigs and as commercial divers. Piledrivers also are required to install heavy timbers and weld or cut large metal beams.

Tradeshow Specialist

Tradeshow Specialists move and handle freight, lay carpet, rig equipment, set up pipe and drape, install and dismantle exhibits and modular systems, and handle other construction and decorating needs to make sure that each tradeshow is a huge success!

Scaffold Erector

Scaffold Erectors construct scaffolding for buildings, ships and other construction projects. They install ladders, handrails, walkways and platforms, and erect, move and dismantle frame scaffolding, mobile tower scaffolding, tube clamp scaffolding and system scaffolding.

The average pay range for union carpenters is $43 to $45 per hour, for salary and benefits! To learn more about becoming a skilled carpenter and the career opportunities available, visit www.wctcapp.com or call 877-287-9282 today!

Academy founder and PNCI education project partner, is thrilled that participating in this project will provide the ACE Academy with the opportunity to enhance its green building education programs.

"It will offer our students the opportunity to graduate from high school with green building knowledge and skills, and will provide our students with an edge, whether they choose to become a carpenter, or select another career pathway in the construction industry," O'Connor said.

PNCI is your pathway to a successful and rewarding career!

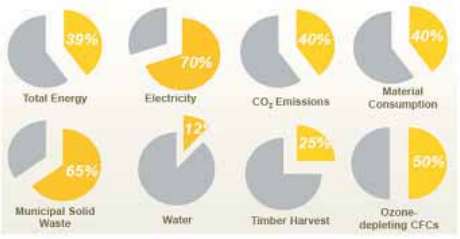
Kim Zimmerman is the principal with Sustainable Building Education Consultants.

Want to Learn More?

- To learn more about Pacific Northwest Carpenters Institute visit www.wctcapp.com or call 877-287-9282.
- To learn more about Sustainable Building Education Consultants call 503.998.0018.
- To learn more about Green Building Services visit www.greenbuildingservices.com or call 503-467-4710.
- To learn more about Oregon Building Congress visit www.obcweb.com or call 503-685-8313.
- To learn more about the ACE Academy visit www.acecharterschool.org or call 503-546-9928.

Why Green Building?

In the United States, buildings account for…



Source 1: U.S Green Building Council

According to the U.S. Green Building Council, there are many environmental, economic, health and community benefits to building green.

Environmental Benefits

- Enhances and protects the environment
- Improves air and water quality
- Reduces waste
- Conserves natural resources

Economic Benefits

- Reduces construction costs and operating costs
- Supports local businesses and the economy
- Enhances value and profits

Health and Community Benefits

- Enhances human health and comfort
- Minimizes the demand to build new infrastructure such as power plants, roads and other systems

BY KIM SMITH PH.D.

Portland Community College helps instructors go 'green'

Residential green building design, construction and maintenance are quickly emerging as priorities in the Pacific Northwest. Portland Community College (PCC) responded to this demand by creating a "train the trainer" model through a grant titled Sustainability Training for Technical Educators. With funding from the National Science Foundation, 31 high school, community college and university instructors from throughout Oregon, Washington and Idaho gathered for a week in July to take part in PCC's Summer Sustainability Institute.

This week-long professional development opportunity combined workshops, discussions and field trips to notable green projects throughout Portland and attracted instructors from various disciplines, including building construction, architecture, engineering, interior design and facilities maintenance. In addition to receiving stipends, college credits and curriculum materials, participants were introduced to topics ranging from sustainable design and construction to industry trends and best practices by some of the leading experts in residential green building and energy efficiency from the Earth Advantage Institute, Energy Trust of Oregon, local companies, state agencies and Portland Community College.

Whether the participants were learning about the newest technologies in solar design or the significance of low impact development on storm water systems, they all had an opportunity to expand their knowledge base and integrate new ideas into their curriculum. For example, after a session on the "Principles of Green Building," an attendee shared, "I feel like I have a better feel for the scope of sustainability as it relates to buildings."

Others recognized that the concepts, theories and techniques of green design and instruction are not simply "add-ons" to the curriculum nor optional supplements, but are rather core foundations within their changing industries and thus it is the economic, environ-

Instructors from various disciplines, including building construction, architecture, engineering, interior design and facilities maintenance, took part in the professional development program, which included workshops, discussions and field trips to notable green projects throughout Portland.

mental and social responsibility of instructors to revise their courses in order to prepare their students for new green jobs.

Such changes became abundantly clear from field trips offered throughout Portland. Participants had the opportunity to explore some of the leading green buildings in the region. One afternoon was spent touring green residences, such as the Leap Frog House in Southwest Portland, while another focused on commercial buildings in the Pearl District. With tours led by proud homeowners and representatives from the Portland Youth Builders, GBD Architects, Our United Villages, Ecohaus and PCC, instructors learned about various alternative building techniques with a range of costs, plus increasing options in sustainable resources.

Participants were able to compare green products at Ecohaus as well as explore the huge warehouse of reclaimed building supplies at the Rebuilding Center. A highlight included a tour of the highly respected Brewery Blocks and the Gerding Theater in the former Armory, now home to the Portland Center Stage. David Posada and Bruce Brown, with GBD Architects, and Creon Thorne, of the Gerding Theater, shared their expertise in how to preserve the integrity of historical buildings while integrating cutting edge technologies that achieve LEED certification. Instructors were impressed and honored to have the opportunity to receive such high quality tours.

"There is no substitute for experiencing concepts in the real world," said one attendee.

The Summer Sustainability Institute participants received volumes of information, leaving attendees better informed, prepared and inspired to integrate sustainable design and building into their curriculum. They are now expected to revise their courses and create new teaching modules on topics ranging from solar electric and hot water systems to indoor air quality and alternative framing and insulation techniques. With the support of presenters, an on-line Web page (www.pcc.edu/stte) and a follow-up summit in September, instructors will have the opportunity to share their new learning objectives and innovative assessment techniques with each other.

If one participant's testimonial that "this is and has been one of the most productive classes I've taken" is any indication of the success of the Summer Sustainability Institute, then the NSF-sponsored "train the trainer" model has achieved its mission.

Another Summer Sustainability Institute will be offered next summer, so the coordinators encourage high school, community college and university instructors to consider attending and updating their curriculum to better reflect the changing needs in our economy and environment. We hope that instructors will continue to create new tools to better prepare students for these exciting and essential high-demand green careers for their own sake as well as for the sake of the future.

For more information, go to www.pcc.edu/stte.

Kim Smith, Ph.D., is a sociology instructor at Portland Community College.

BY JACK HAM

Earning Their 'HALOs'

Crews lend a hand on variety of projects

This summer, the Polk H.A.L.O. (Helping Achieve Lifelong Objectives) Summer Work Program placed six work crews of the Oregon Building Congress all over Polk County.

The Polk Summer Work Program's OBC crews were made up of two concrete/sidewalk crews and four building crews. The concrete/sidewalk crews' work was repairing and rebuilding 100-year-old sidewalks throughout the cities of Independence and Monmouth. The crews' major project this summer was the reconstruction of sidewalk on D Street in Independence, originally laid in 1913. By having two concrete crews, work progressed quickly; one crew broke up the old sidewalk while the other laid down the new. Every so often, the two crews switched roles in order to gain knowledge in demolition, pouring and finishing.

"We get a fair share of each job," said concrete/sidewalk crew member Chris Lorenz.

During the first two weeks, the crew members occupied their time calculating sidewalk measurements and concrete quantities. However, things changed when George Skarda was placed in charge of the crew as the subject matter expert.

"George started to line up jobs fast," said Lorenz of the plethora of tasks ahead for the summer. In early August, Rich Jones also was added as a subject matter expert for the concrete/sidewalk crew.

In Grande Ronde, building crews completed several projects, including raised planters, a wooden bridge, a traditional plank house, and a backstop and dugout for a new baseball field. Duke Kimsey, Grand Ronde Tribal member, was the subject matter expert.

In Grand Ronde, two OBC crews worked on the completion of multiple projects around the Confederated Tribes of Grand Ronde's business and Powwow grounds. These various projects included the building of raised planters at the Grand Ronde Elder Activity Center, the construction of a wooden bridge on a historic trail across the Tribal Reservation lands, assisting in the construction of a traditional plank house, and constructing a backstop and dugouts for a new baseball field. Grand Ronde Tribal member Duke Kimsey worked as the subject matter expert.

Top row: The concrete crews repaired and rebuilt 100-year-old sidewalks throughout the cities of Independence and Monmouth.

Far left: The Grande Ronde crew looks over the worksite. Left: The Oregon Building Congress crew after a long day's work. The Polk Summer Work Program's OBC crews consisted of two sidewalk/concrete teams and four building teams.

"They're a pretty good asset to the Tribe," said Kimsey of how much the crew has helped his Tribe.

Working together are two OBC crews who built picnic structures at Mountain Fir Park, Pfaff Park and Henry Hill Park in Independence. This crew was being supervised by subject matter expert Dale Miller. In the process of construction, the members learned a wide variety of basic skills and trades including working with building plans, concrete, trusses and roofing materials. The crew visited the ReBuilding Center in Portland to purchase as many materials as possible to "repurpose." Some of these crew members also assisted in using green building construction techniques on an environmentally friendly restroom at the Falls City High School football field.

The OBC crews received in OSHA-10 (Occupational Safety and Health Administration) industrial safety training and earned their OHSA certification through the Northwest Laborers. The crews took part in career exposure trips every Friday in order to enhance their education and become more aware of future career opportunities. These excursions included traveling to the Pacific Northwest Carpenters Institute, HVAC and Metals Institute, ODOT Materials Testing Laboratory, Northwest College of Construction, NECA-IBEW Electrical Training Center and OMSI.

"It's mostly on-the-job training," said Polk Summer Work Program's Director of Academies, Elaine Crawley, about their gaining new skills. While on the job, the OBC crews in the Polk Summer Work Program reviewed and assessed their safety awareness and tool knowledge on a weekly basis.

The Polk H.A.L.O. Program first learned of the Oregon Building Congress crew concept while Crawley and Katherine Bartlett, executive director of the Polk H.A.L.O program, were working together on the Workforce Investment Act youth programs in the early 2000s. During this time, Crawley was visiting a park in Clackamas. At this park she saw members of the Clackamas County Environmental Youth Corps working on a green restroom facility.

"I wanted to see that kind of work in Yamhill, Marion and Polk counties," said Crawley of her hopes to work with the OBC. When planning their Summer 2009 American Recovery and Reinvestment Act (ARRA) work, Crawley and Bartlett sought out the OBC to work with their programs.

"Over the past decades, young adults weren't being trained in construction skills, especially green construction skills," said Crawley of OBC's proactive work to address the needs for young adults to have construction education. "Kids weren't prepared. So OBC said 'Let's prepare them,'" added Crawley on how much the OBC has helped young adults get better preparation for careers in construction.

When asked how she feels about the work that the OBC crews have done all summer with the Polk Summer Work Program, Crawley had several things to say:

"Construction work is so satisfying, because it makes such a difference in the world."

"They may never be able to get the direct thanks from the residents, but the thanks are definitely there."

"I don't know that the youth understood that they're a part of history," she said, "but they will be able to show their kids and grandkids the work, and say 'I built that.'"

Jack Ham was a member of the H.A.L.O. liberal arts crew.

BY DICK O'CONNOR

Career Pathway

Jackson County teachers, administrators get lesson in sustainable building practices

The week of July 6, teachers and administrators from four school districts in Jackson County, Ore., met to learn about sustainable building practices. The workshop was made possible by a grant from the Oregon Office of Community Colleges and Workforce Development, and sponsorships by the Southern Oregon Educational District, Rogue Community College and the Oregon Building Congress.

The pathway participants were engaged in the first major step of creating a sustainable building pathway from high school years through an Associate's Degree in Rogue Community College's Construction Technology program. Participants included math and science teachers, career technical educators and school administrators.

At the beginning of the workshop most said they knew a small amount about sustainability. However, by the end of of the week they were decidedly more knowledgeable and left the workshop with a two-inch binder full of lesson plans and resources, plus the book *"Your Role in the Green Environment,"* published by the National Center for Construction Education and Research (nccer.org).

The educators heard presentations on Site Development, the House as a System, the Leadership in Energy and Environmental Design (LEED) rating system, Water Supply and Treatment, Energy Generation, Transmission, and Conservation, Alternative Energy and Solar Power. They also toured an Earth Advantage Home in the process of being built, the Medford Water Treatment Facility, the Higher Education Center, which has applied for a LEED rating and was built by Adroit Construction, and a Solar Array at the Jackson County Exposition Center, constructed by the S and B James Construction Co.

Educators will meet several times to work on a curriculum pathway in green construction, giving Rogue Community College graduates a competitive advantage when seeking careers.

This fall the educators will meet several times to work on a curriculum pathway in green construction, which will give Rogue Community College graduates a competitive advantage in seeking careers in the rapidly emerging arena of sustainable building.

This workshop is also a wonderful example how educators and industry can work together to respond to new economic opportunities. Lesson plans from the workshop are available on the OBC Web site, www.obcweb.com.

Dick O'Connor is executive director of the Oregon Building Congress.

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