

Building Futures®

// SPRING / SUMMER / 2014 //

THE CONSTRUCTION INDUSTRY JOURNAL FOR STUDENTS

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AGC construction careers website p. 5 • OTI's Career Fair p. 6 •
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INDEX TO ADVERTISERS

AGC	17
City of Portland	2
Masonry & Ceramic Tile	4
NW College of Construction	18
Oregon Tradeswomen Inc.	8
P&C Construction	2
Pacific NW Carpenters Institute	9

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SPRING/SUMMER 2014 // Vol. 17 Issue 1



AGC LAUNCHES CONSTRUCTION CAREERS WEBSITE **5**



NW YOUTH CAREERS EXPO SHOWCASES OPPORTUNITIES **10**



CLARK COUNTY SKILLS CENTER PREPARES YOUTH FOR FUTURE **12**



ACE ACADEMY: A DIFFERENT LEARNING ENVIRONMENT **14**



6
Explore your options at
Oregon Tradeswomen Inc.'s
22nd Annual Career Fair

BUILDING FUTURES MAGAZINE ONLINE!

More photos and information can be found at djcoregon.com/building-futures/

Are you interested in joining the effort to educate young people about the construction industry? Contact Tom Goodhue, Oregon Building Congress executive director, tgoodhue@obcweb.com, to learn more about how you can become involved and to submit articles for Building Futures magazine.

THINK GREEN AND STAY ON TOP OF THE NEWS!

You can receive your copy of Building Futures electronically. To join the e-list, send your email address to Tom Goodhue, OBC executive director, at tgoodhue@obcweb.com.

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SW Washington



WELCOME

FROM EXECUTIVE DIRECTOR, TOM GOODHUE

Career opportunities abound in construction industry

This issue of
Building Futures, like
previous issues, high-
lights articles show-
casing programs at
area high schools and
outreach opportunities
for students to learn



Tom Goodhue

and experience potential jobs in the construction industry. The state has invested millions in revitalization grant dollars to encourage schools to provide career training experiences and yet the biggest obstacle to growing a skilled workforce remains the target audience, namely the student. The construction industry has been fighting an uphill battle when it comes to attracting job applicants and it is time to pull the veil away and share some facts that everyone needs to know.

**More than 6 million
people work in the
construction industry. It's the
second-largest
employer in the U.S. next only
to all government employees.**

- More than 6 million people work in the construction industry.
- The construction industry is the second-largest employer in the U.S. next only to all government employees including the armed forces.
- 80 percent of construction firms have fewer than 10 employees, only 1 percent employ 100 or more and .1 percent of construction firms employ over 500 individuals.
- The Construction Users Council predicts the industry will experience a shortage of 2 million construction workers by 2017.
- Jobs for industry professionals such as architects, construction managers,

**The industry is expected to
experience a shortage of
2 million workers by 2017.
Construction job earnings
average 21 percent higher
than the average for all
private industry
non-supervisory workers.**

engineers and construction trades people are expected to show double digit increases between now and 2020, with some segments of the industry expected to increase by as much as 24 percent.

- Construction job earnings average 21 percent higher than the average for all private industry non-supervisory workers.

There are even more statistics to share but you have to ask, if it is that compelling, then why the workforce shortage? The answer: lack of knowledge and exposure in schools and a society that tends to categorize the industry as uneducated, non-technical and unappealing. Nothing of course could be further from the truth.

Construction projects are complex and require the ability to visualize, plan, coordinate, calculate, budget, and deliver. Occupations in construction are not for those who do not have good math skills, cannot work in teams, are unable to visualize the finished product, and are not schedule driven. As you can see, the construction industry is looking for high-level applicants, and it is willing to pay handsomely for it.

If you are someone that enjoys a challenge and has the ability to perform at high levels, then the construction industry may be a place for you. Read through this issue of Building Futures and see if an occupation in the construction industry is something you want to explore. It can be a very rewarding future for you.

AGC launches website targeting construction careers

A new website, www.Build-Oregon.com, was recently launched in March by the Associated General Contractors Oregon-Columbia chapter. Build-Oregon.com is designed to provide information to young people interested in careers in the construction industry. Anyone interested in construction, including students, educators, parents, and individuals interested in a career change, can find out about opportunities both out in the field and in the office environment.

Information such as job descriptions, Oregon salary information, statewide educational opportunities, training programs, and upcoming career events are now in one easy to find location. Visit the Education section and you will find there are multiple pathways to successful construction careers. (See graphic below.)

And be sure to check out the Videos section on the website, which contains numerous YouTube videos that provide lots of great information about careers, programs of study, and even some interesting time lapse videos of some pretty cool construction projects. These videos will give you a glimpse into the broad spectrum of what a career in construction is all about.

Are you construction material? Check us out. You might be pleasantly surprised at the breadth, depth and opportunities for careers in construction. As the economy improves, the construction industry in Oregon and Southwest Washington is beginning to feel the effects of a decreased pool of available workers. With the number of projects steadily increasing, companies are beginning to rebuild their workforce, and qualified workers are getting more difficult to find. The average age of construction workers is increasing, and the number of workers that will be needed in the next decade far outpaces the number of workers currently making their way through apprentice and trades programs. The construction industry is working to rebuild their capable and competent workforce. This is a great time to explore a career in construction.

Colette Evers is safety and education director with the Associated General Contractors Oregon-Columbia Chapter.



Scan this code to take you to the website!



What Are Your Plans After Graduation?

Explore your options at Oregon Tradeswomen's career fair

The end of the school year is in sight, and it is a time when students are thinking about what they are going to do after they graduate high school. Many students are thinking about going to college, taking community college courses, pursuing technical training, or applying for an apprenticeship – an opportunity to earn an hourly wage while learning a skilled trade.

Oregon Tradeswomen Inc. (OTI) started the Women in Trades Career Fair 22 years ago with the goal of creating an exciting, experiential event just for girls and women to discover the many career options in the building, construction, utility, mechanical, and highway trades in a fun, safe, and positive setting.

"Each year at our Women in Trades Career Fair, I see how important it is for girls to have the chance to try different activities and to talk with tradeswomen role models who are successfully working in a variety of different careers," said Connie Ashbrook, OTI's executive director and one of the four original tradeswomen who founded the non-profit organization. "This event presents young women with



Middle school students have fun learning to wire a light and switch in a workshop with NECA-IBEW Electrical Training Center.

many career options they may never have considered, it introduces them to apprenticeship, and it shows them that these rewarding, living-wage careers are really an option for them, too."

Over the past 22 years, the Fair has expanded from a one-day event into three full days of unique experiences designed to introduce young women to career possibilities and to connect aspiring

22nd Annual Women in Trades Career Fair

Middle School Girls' Day Thursday, May 8, 2014

(For registered schools only)

High School Girls' Day Friday, May 9, 2014

(For registered schools only)

Careers For Women Day Saturday, May 10, 2014

(Free and open to everyone. No registration required)

[Visit OTI's website](http://www.tradeswomen.net/fair)

www.tradeswomen.net/fair

[Contact Oregon Tradeswomen Inc.](mailto:info@tradeswomen.net)

503.335.8200 ext. 21

info@tradeswomen.net

www.tradeswomen.net/fair

[Find OTI on Facebook](https://www.facebook.com/OregonTradeswomenInc)

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High school students learn to make concrete stepping stones in a workshop with Howard S. Wright.



A high school student explores the exhibit area, stopping at Hoffman Structures Inc.'s table.



High school students learn to weld in a workshop with Clackamas Community College.

tradeswomen with opportunities for additional training, apprenticeship, entry level employment, and careers. Each year, schools from all over Oregon and Southwest Washington bring groups of students to experience this incredible event – some schools travel for hours and bring young women to the event every year!

HANDS-ON WORKSHOPS

“The Fair is a labor of love for the apprenticeship training programs and employers who present the workshops, as they connect with the women and girls who attend,” Ashbrook added.



A high school student has fun building a birdhouse in a workshop with Skanska USA Building.

Indeed, it is the interactive, hands-on workshops that make the fair such a fun, unique, and educational event for all who attend.

At the 2014 Women in Trades Career Fair, there will be nearly 40 different workshop offerings, including running a jackhammer, operating heavy equipment, welding, soldering copper, climbing a utility pole, wiring a light and switch, riding up in a bucket truck, climbing a 110-foot fire ladder, building projects to take home such as bird feeders, step stools, picture frames, chalk boards, tool boxes, and concrete stepping stones, plus opportunities to learn about environmentally friendly eco-roofs,

solar power, wind power, automobile mechanics, and so much more!

EXHIBIT BOOTHS

As a strong complement to the variety of workshop offerings at the Fair, there are the dozens of companies, community colleges, government agencies, apprenticeship training centers, and other organizations who exhibit at the Fair on Friday and Saturday to reach out and connect with high school students as well as adult women career seekers interested in learning more about the skilled trades.

In fact, there are more than 70 exhibitors at the Fair each year, offering an extraordinary opportunity for high school seniors to learn about a variety of career options after they graduate. The representatives at the exhibit tables are excited to talk about their industry and provide information about how to get started in a career. They offer a wealth of helpful information at their booths and provide materials for people to take home with them. One job seeker at last year's Women in



Tradeswomen Work Wear Fashion Show models pose for a group photo.

Trades Career Fair told us, "Thank you for an awesome day! I liked that you showed me I can have a new career without having to go to college!"

WORK-WEAR FASHION SHOW

One of the most popular activities at the Fair is the work-wear fashion show – a tradeswomen fashion show! One by one, tradeswomen come out on the runway wearing their tool belts, the clothes they typically wear on the job, and carrying tools specific to their trade. The tradeswomen – whether they are line workers, plumbers, carpenters or sheet metal workers – talk about the tools and gear they use in their trade and what a typical day on the job is like for them. There are a lot of surprised faces in the audience after the tradeswomen explain their apprenticeship experience and talk about how much money they made when they first started out as an apprentice – and how much they expect to earn when they turn out as a journey level worker. Most of the young women are excited and very interested to learn that trades careers start at \$12-\$15 per hour and with wage increases, these jobs can earn up to \$20-\$35 per hour – or even more, PLUS benefits!

CAREERS FOR WOMEN DAY

While the first two days of the Women in Trades Career Fair are specifically for middle and high school girls who come with their school, the third day of the Fair is open to everyone, and free! There are dozens of workshops on Saturday – some are drop in and others are offered at specific times throughout the day. Exhibit booths are open all day Saturday, too, making Careers for Women Day a valuable resource for high school graduates and seniors looking at options for their futures as well as for women exploring a new career.

OTI makes it as easy as possible to attend the Fair on Saturday, too. There is free transportation on EcoShuttle starting from the Gateway Transit Center to the fair and back beginning at 8:45 a.m. on Saturday, May 10, and returning to Gateway every hour. (Please visit www.tradeswomen.net/fair for the full schedule). Attendance and parking are free, and there is even free, onsite child-care. Everyone is welcome!

PHOTO BOOTH

Portland Youth Build Media created this photo booth opportunity for the first time in 2012 and it was wildly successful, with

**2014 Building Girls
Summer Construction Camps**
A Fun Day Camp for Girls in Portland, Oregon



**Oregon Tradeswomen, Inc. is now
accepting applications for our
2014 Building Girls Summer Camps!**

During camp, you will learn how to build, safely
use power tools, weld, go on field trips, and
learn a lot about the world of construction!

High School Girls Camp
Monday, June 23 - Friday, June 27

Middle School Girls Camp:
Monday, June 30 - Thursday, July 3

Breakfast and lunch provided at both camps

Register online or contact Ashley Bos for info:
503.335.8200 x 27 or ashley@tradeswomen.net

www.tradeswomen.net

hundreds of people donning construction work wear, holding tools, having photos of themselves taken, and then “superimposed” onto a photo of a construction worksite! OTI will offer the photo booth at the Fair again this year and will post all the images to our Facebook page: www.facebook.com/OregonTradeswomenInc.

STATE CERTIFIED TRAINING PROGRAM

One of the most active exhibit booths at the Fair is OTI's table where participants can get information about our state-certified Trades and Apprenticeship Career Class (TACC) – a pre-apprenticeship program just for women to help them explore, prepare for, and find successful and rewarding careers in the construction, mechanical, highway, and utility trades. OTI's seven-week class includes classroom learning, hands-on experience, trades math and measurement, visits to apprenticeship training centers, and even strength training with a fitness trainer. Upon completion of the program, OTI's



Students fix a simulated water main break in a workshop with the Portland Water Bureau.

career counselors help graduates enter into a formal apprenticeship program or find entry-level work. The TAC Class is offered at no charge to participants thanks to the generous support of our funders.

BUILDING GIRLS SUMMER CAMPS

In addition to TACC, OTI also offers a summer camp for young women to gain more building experience. During week-long day camps, young women learn to

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A high school student practices using a drill.



A middle school student shows what she created in the Wind Power workshop with the Women Electricians of IBEW Local 48.

weld, tile, frame, use hand and power tools, and much more, all while having fun with friends!

High School Camp: Monday, June 23–Friday, June 27, 9:30 a.m.–4 p.m.

Middle School Camp: Monday, June 30–Thursday, July 3, 8:30 a.m.–3 p.m.

Location: University of Portland Campus, 5000 N. Willamette Blvd., Portland, OR 97203

Breakfast and lunch provided at both 2014 Building Girls Summer Camps.

OTHER OUTLETS FOR PREPARATION

For those interested in exploring options further, the opportunities are vast! There are high school Career and Technical Education (CTE) classes such as Construction or Manufacturing at Benson High School, Automotive Technology at David Douglas High School, or



An adult career seeker (right) learns to climb a utility pole from Jenna Smith, training coordinator at NW Line Construction JATC (left).

Manufacturing Technology at Pine Eagle, and others!

There are a variety of options at community colleges such as Building and Construction Technology at Portland Community College, Diesel Service Technology at Clark Community College,

the Apprenticeship Preparation Program at Portland Community College, the Utility Trades Preparation Program at Clackamas Community College, and others.

There are also other exciting educational and training programs such as at Job Corps, Portland YouthBuilders, ITT Tech, and Constructing Hope's Pre-Apprenticeship program.

For more information about any of OTI's programs, or exploring trades career options, please come to the Women in Trades Career Fair on Saturday, May 10, 2014. The fair is hosted by NECA-IBEW Electrical Training Center, 16021 N.E. Airport Way, Portland, OR 97230. For a full list of activities on Saturday, go to OTI's website: www.tradeswomen.net/fair.

Mary Ann Naylor is public relations specialist with the Oregon Tradeswomen Inc.



A participant on Careers for Women Day learns to solder copper.



High school students learn to use the cutting torch in the Pacific Northwest Ironworkers Apprenticeship workshop.



A participant on Careers for Women Day shows her excitement after climbing the 100-foot ladder in a workshop with Portland Fire and Rescue.



High school students learn the basics of soldering copper from Nichet Newsome (right) in a workshop with Local 290 Plumbers and Steamfitters Apprenticeship.

Photos courtesy of Oregon Tradeswomen Inc.

NW Youth Careers Expo Spotlights Future for 5,800 Students

Annual event showcases career, skill-building opportunities

The NW Youth Careers Expo, held on March 18 at the Convention Center in Portland, showcased a variety of future career options for high school students. Over 120 exhibitors were on hand to discuss career paths in business, manufacturing, construction, healthcare, technology, communications and the arts. The Expo is designed to peak a student's interest and help them learn more about the skills, training, and education required to pursue family-wage jobs while also helping businesses build their future workforce.

Organized by the Portland Workforce Alliance for the 10th year, the Career Expo continues to grow with over 5,800 high school students attending from around the region. Participation from schools outside of the Portland area rose with students traveling from as far away as the coastal community of Tillamook to the west and Pendleton to the east. Participating companies included Nike, Wieden+Kennedy, Oregon Iron Works, Microsoft, Legacy Health, OHSU, Howard S. Wright, PGE and many others.

Construction was one of the largest industries represented at the Expo. Thirty-one companies and organizations comprised the Construction Zone, an area that

physically covered one-fourth of the Convention Center floor and highlighted a variety of careers in design and construction. Careers in traditional trade skills like painting and carpentry were represented, as was cutting-edge technology such as Building Information Modeling (BIM) software.

Even though internships and entry-level jobs could be many years away for most students, businesses are interested in connecting with high school kids at the Expo for several reasons. Mostly, employers will need to add a lot of people in the next few years to replace an aging workforce. It might be hard to believe after the recession, but according to a report from Worksystems Inc., only 65 percent of the 2025 workforce is employed today. This is due in part to growth of industry, but also a large number of Baby Boomers (born between 1946-1964) are expected to retire in the next 10 years. That means their jobs need to be filled with new workers. All industries are becoming more high-tech, so businesses will also need employees with specialized skills and training that older employees do not have.

Businesses also get involved in the Expo because they want to give back and

help give students a purpose to stay in school. Oregon's on-time graduation rate is the second worst in the country. However, studies show that students are more likely to stay in school if they understand how today's lessons apply to a future careers in their interest area. Many of the Expo's exhibitors, such as Howard S. Wright Construction, also hold career days throughout the school year to give students a more in-depth look at the skills and training needed for the construction industry. After touring a construction site, a student interested in construction will be more likely to graduate high school and seek the appropriate training they need to land the job after school.

"We support the youth expo because we want young people to learn about and explore the amazing career opportunities in construction," said Rhonnda Parsons Edmiston of Howard S. Wright.

During the Expo, students learned about specific careers and spoke directly to future employers about what skills, interests, and education they need to land their desired job. They also participated in hands-on activities from welding to operating a crane, from computer demos to working a virtual paint machine. Students also got an up-

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close look a variety of heavy machinery including an ambulance from OHSU, a camera car used in the film industry, and a backhoe used at construction sites. Equipment and materials identification were also part of the construction zone.

The Portland Human Resources Management Association (PHRMA) recruited over 100 human resource professionals who volunteered their time to help students prepare for job opportunities by conducting mock interviews, offering instruction in completing an application and making a good impression with prospective employers.

"PHRMA is pleased to partner with PWA again for the 10th annual NW Youth Career Expo," says Natalie Miller, of Lee Hecht Harrison and co-chair, Youth to Work PHARMA. "Workforce readiness is one of our chapter's key initiatives to help build and strengthen our workforce. Our partnership with PWA has been a win-win-win for the employers, PWA and students. Our volunteers are always eager to participate and this is a highlight for our chapter every year."

Students were able to meet with university, community college and apprenticeship training center representatives to explore post high school educational resources.

"There are so many career opportunities for students to explore," said Jeanne Yerkovich, Career Pathways senior manager at Portland Public Schools. "The Expo provides a one-stop shop for career discovery."

The Expo fulfills the state education graduation requirement for attending a career-related learning opportunity.

The Expo is organized by the Portland Workforce Alliance (PWA). PWA works year-round to help high school students gain the information they need to make informed career choices. They partner with regional employers and high schools to organize career days, job shadows and mentorship programs throughout the greater Portland area. For more information, go to their website, social media pages, and by signing up for the mailing list.

This article was submitted by the Portland Workforce Alliance. Photos by Portland Public Schools photographers (ppscotts) and courtesy of Portland Workforce Alliance.



Construction Zone Exhibitors

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Associated General Contractors
Bassetti Architects
Cascade Acoustics Inc.
CAWS/Worksystems
CH2M Hill
Cochran Electric
Dull Olson Weekes – IBI Group
Architects Inc.
Emerick Construction
Heery International
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NECA-IBEW Electrical Training
Center
OR & SW WA Painters & Drywall

OR & SW WA Roofers & Waterproofers
Oregon State University
Oregon Tradeswomen Inc.
P & C Construction Company
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PSU Architecture
Ace Mentoring
Sheet Metal Institute
Skanska
Slayden Construction Group Inc.
Turner Construction Company
Walsh Construction



Building Careers

Clark County Skills Center prepares youth for future

High school students today are concerned about their future. Some will go off to college but most will complete their high school years with no plan or job skill readiness.

In Vancouver, Wash., the Clark County Skills Center bridges this gap. Students are bused in twice a day from their home school and spend half of their school day in technical programs such as Construction Technology. The program is run like a business/job to prepare students for their future in the construction industry. Instructors Lance Landis and Bill Draper believe that relevance to the job and application of skills are keys to the student's success and job preparation.

During the first year, the students learn a variety of skills designed to prepare them for entry level into the industry. They learn skills such as safety, construction mathematics, tool operation, reading building plans, and framing techniques. The students synthesize a variety of information to create products such as a carpenter's toolbox, a working set of building plans, a utility shed, and a scale model house of their design.

After completion of the first year, students have the opportunity to return for a second year. During the second year, the students will build a residential home in Clark County. The students start their year reviewing several of the skills taught in the first year. They review math skills such as the calculation of area, volume and how to square a corner using the Pythagorean Theorem.

They also review the building plans, engineered plans, and any specific codes needed for the build. In addition, the students also review safety and tool use prior to starting the house project.



For nearly 30 years, the Clark County Skills Center's students have been building homes. Sub-contractors and inspectors comment on the level of quality of the homes the students build. Instructor Lance Landis attributes that to students being taught to achieve quality in their workmanship.

For nearly 30 years, the construction program has been building homes in Clark County. The sub-contractors and building inspectors often comment on the level of quality of the house. Instructor Lance Landis states that this is due in part because the students are taught to achieve quality in their workmanship and if they don't do it correctly, they have them do it until it is right.

Students arrive on the chilly jobsite early in the morning to start the day. The tool van maneuvers into position in front of the lot as the students unload off the bus. There is a sense of urgency as the class unloads their gear out of the van awaiting the instruction for the day. The class is typically split into crews with a student assigned as a crew leader for each group.

Today the students are using tape measures, calculators, string line and stakes to establish where the house will sit on the lot. A squared plus B squared equals C squared is the formula of the day.

"Finally I get this" many of the students jokingly say. There is a lot of math involved with construction, you can't avoid it. It is difficult for many of the students when they first enter the program, but with patience, practice, and a lot of application to the projects, the cloud of math mystery is slowly lifted. Many of the students have expressed pride and a sense of accomplishment for the first time in their lives in regards to math.

On another day out at the site, the foundation has been poured and the teenagers, both boys and girls, are busy

building the floor system. Many of them say they wish they could be out here all day. They are developing skills that will assist them in getting and keeping their first job in construction and they know it. Many parents comment on the fact that this is the only class they ever talk about and they are finally talking in terms of their future, which for most parents is a blessing.

The rain has settled in and the walls are being framed. The whirl of the skill-saws, the pounding of many hammers, and like a professional crew, the students are learning to be productive, profitable, and a quality employee. The surrounding neighbors keep a watchful eye on this bunch. At first glance, most nearby residents would shutter at the thought of 25 teenagers ascending into their neighborhood on a daily basis. Soon the dough is lifted when they realize these are not kids, but trained individuals with a mission to produce a quality home in a professional manner.

One of the Skills Center's hallmarks is its professionalism curriculum. Every program spends approximately 20 percent of instruction time on the development of these skills. The students learn and practice teamwork, conflict resolution, quality, time management, and communication skills to name a few. It is obvious to the locals! Many of the local apprenticeship programs highly value and will select the Skills Center students for these reasons.

Soon the students will start the roof construction, donning harnesses and other fall protection methods. The house build is a year-long process, with a summer school class working on the interior finish. Once the house is completed, it is sold and the process starts again in

The Skills Center program includes a focus on professionalism. About 20 percent of instruction time is dedicated to students learning and practicing teamwork, conflict resolution, quality, time management, and communication.



September with a fresh new group of eager students ready to start their future in the construction trades.

Bill Draper is the Construction Tech I Instructor at Clark County Skills Center.



ACE Academy: A Different Learning Environment

Are you a student who is interested in architecture, construction, or engineering? Would you prefer to learn in a place where class sizes are smaller, so you can get more one-on-one help? Do you learn better when you can see how math, science, and English are used in real-world contexts? If you answer yes to one or more of these questions, keep reading!

ACE Academy is a public charter school focused on Architecture, Construction, and Engineering (ACE), and it is open to students who attend Parkrose, Reynolds, Centennial, Gresham, Sam Barlow, or Springwater Trail high schools in East Multnomah County. ACE is for juniors and seniors only and it is a half-day program, so students spend half their day at their home high school and half their day at ACE. This arrangement allows students to stay actively involved in the events at their home high school while taking advantage of the pathway courses at ACE. Buses run between ACE and the home high school so there is no problem for students who are involved in after-school activities or sports.

The teachers in each of our pathways bring professional experiences to the classroom in order to provide students with the foundation for pursuing a career in any of these professions. Our curriculum provides students with opportunities to gain experience with industry-standard materials and software.

Let me give you some examples:

ARCHITECTURE

Our architecture program is led by a practicing architect who will provide students with the tools to pursue design and architecture at either the community college or university level after they graduate from high school. Students learn about all aspects of building design and use Revit software to design their own buildings.



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CONSTRUCTION

Our construction program will be building a mini-house in 2014-15. This is a 400-square-foot, fully functional house that we will sell upon completion. The house consists of a bedroom, bathroom, kitchen, and living room. In addition to our ACE instructor, students also will receive instruction from trades people from throughout the region and will learn construction skills from carpenters, sheet metal workers, plumbers, electricians, and other members of the trades. We are in the process of developing a pre-apprenticeship program that will give our graduates an edge if they choose to pursue a career in any of the trades.

As the mini house program evolves, our architecture students will become involved in working with clients to customize the mini houses to their particular wishes. This will provide real world experience for



both of these programs as our students will be working with clients, designing, and then building, a home for them.

ENGINEERING

Our engineering program is unique in the state of Oregon because our teacher provides students with seven credits of lower division college credit transferable to major universities in Oregon. Students will learn fundamental aspects of the engineering field including statics, dynamics, materials, robotics, and digital electronics.

At ACE we also have math, science, and English classes. These core classes are integrated into our pathways courses and provide students with the opportunity to reinforce their learning by applying their math, science, and English in their chosen pathway. For example, our science program focuses on the chemistry of materials and students take what they learn in



ACE students have the opportunity to visit job sites and gain an understanding of all aspects of the industry. Prospective students can visit ACE any time, and ACE representatives visit the high schools several times a year to discuss the programs. For more information, call the ACE Academy at 503-546-9928.



science and then apply it. If the student has chosen engineering then there will be an application of their science curriculum within the engineering class. This provides students with a hands-on opportunity to apply their learning in a real-world context.

At ACE students also have the opportunity to visit job sites and gain an understanding of all aspects of the industry. Our engineering students compete in robotics competitions and our architecture students visit cutting edge buildings using the latest in sustainability methods. Our program is designed to help you learn and to make learning as fun as possible.

You can come and visit ACE any time you would like. We also come out to each high school several times a year to discuss our program and share what we do. Contact your counseling department if you have any questions about ACE, or you can contact us directly at 503-546-9928. Don't cheat yourself out of a great opportunity by not taking a look at all that ACE has to offer you!

Mark Clifford is director of the ACE Academy.

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