

A Field of *Dreams*

**NEW HIGHER-
ED PROGRAMS
PROVIDE CAREER
OPTIONS, MEET
INDUSTRY DEMAND
FOR EXPERIENCED
GRADUATES**

If you build it, they will come. That's what a few entrepreneurial industry association leaders and educators discovered when they stepped up to the plate to address the construction workforce shortage.

Construction employers are desperate to train and hire skilled people to work as craft professionals, supervisors and managers. Instead of waiting for the problem to solve itself, these industry leaders took the initiative to create new and innovative higher education programs that will prepare the next generation for the myriad

BY LAUREN PINCH
career opportunities ahead.

Two new construction programs, the Northwest College of Construction, Portland, Ore., and Everglades University's, Boca Raton, Fla., are helping to fill the industry's pressing need for experienced graduates. Now that the programs are built, a fresh set of enthusiastic and hard-working students—with several construction firms backing them up as mentors—have come.

Remarkably quickly, recent high school grads, construction professionals seeking continuing education and adults setting out on a new career path enrolled in the programs, which continue to grow thanks to positive industry reviews.

The programs use the foundation established by programs already offered by groups like Associated Builders and Contractors (ABC), Associated General Contractors (AGC), the National Center for Construction Education and Research (NCCER) and local community colleges.

Construction Executives, Meet Your Replacements

If they could, construction employers would clone students like the ones who participated in Associated Builders and Contractors' (ABC) Student Chapter Construction Management Competition. These students possess all the skills needed to take on management positions left vacant by a retiring baby boom generation.

University of Cincinnati's (UC) team, for example, topped 23 other college and university teams in the project management/scheduling, estimating and safety areas of the competition, held March 21–22 in Nashville, Tenn.

Team captain Michael Padgett, a UC senior, says construction is in his blood. His father and brother both work in the trades, his cousins work as steel erectors, one grandfather was a carpenter and the other a draftsman.

Hands-on training and mentorship by seasoned professionals have helped to prepare students like Padgett for the world of construction. UC construction management students must complete a co-op program in which they gain paid field experience at local construction firms.

Padgett worked with two firms in Cincinnati—Messer Construction and Turner Construction Company—performing almost every management skill imaginable: layout, submittals, scheduling small jobs, updating documents, attending subcontractors' meetings, tracking work-in-place for subcontractors, reporting to the project manager and superintendent, reviewing pay applications and communicating with design professionals about RFIs and design issues.

Padgett says the ability to form relationships with these professionals is the primary component of a successful construction management degree program.

"Construction is an art that is constantly evolving, and people with executive experience in the field are the masters of developing young project engineers and managers for the industry's future," he says.

In addition to courses in building systems and construction law, Padgett currently is completing his senior project, which requires students to develop a business plan and an operations manual for a fictional construction company. Padgett's manual, numbering at least 350 pages, was applied to a proposal for a \$122 million hospital project that received various change orders and challenging scenarios from his professors.

"There's nothing comparable to seeing a project from start

to finish," Padgett says. "It's simply amazing to see the design, management and process used to bring an idea, such as a building, from paper to reality."

UC Junior Jessi Metzger, incoming president of the ABC student chapter, found her way into construction because it combined subjects she enjoyed—math and science—with the people skills necessary for management. Like Padgett, she is gaining paid field experience.

"The most important thing, I believe, is that UC provides opportunities for students to get more involved than just the regular classroom learning," she says. "When we graduate, we will have seven quarters of directly related experience on our résumés. There's not much that can beat that, especially in a field like construction where you learn by doing."

Metzger currently is enrolled in structural systems, construction methods, project costing, advanced construction management and managerial psychology—all courses that apply to the real world of construction.

Applying their classroom and field knowledge during the national competition, Metzger, Padgett and UC teammates Brad Frey, Lou Horn, Michelle Podsiadlo, Brandon Seibert, Jeff Ward and Kevin Zix participated in a mock bid-day for an office building.

Teams received subcontractor bids every 15 minutes and then submitted an overall bid form to the judges. The finalists were narrowed to five teams that were required to give a presentation with supporting materials justifying the calculations in their bids.

Needless to say, the UC team is thrilled with the win.

"The ABC National Convention was awesome," Metzger says. "When we realized we were top-five, we marched straight to our rooms and began preparing for the presentation. We worked non-stop to be fully prepared for it the next day."

Padgett adds, "It wouldn't have been possible to win if it weren't for [the whole team's] dedication and talent."

Construction employers need to act fast to network with these promising students; many graduates of construction management degree programs are already receiving job offers. UC construction management students, like others around the country, have a 100 percent job placement rate.

The other top-five winners in the ABC Construction Management Competition were University of Florida, Brigham Young University, University of Southern Mississippi and The Florida International University.

Colleges and universities participating in the event also included: Auburn University; California Polytechnic State University; California State University-Chico; Eastern Kentucky University; Minnesota State University-Mankato; Montgomery College; Pennsylvania College of Technology; Purdue University; Texas A&M University; Texas A&M University-Commerce; University of Alabama; University of Central Florida; University of Houston; University of North Florida; University of Northern Iowa; University of Washington; University of Wisconsin-Platteville; University of Wisconsin-Stout; Virginia Polytechnic Institute and State University (Virginia Tech).

For a full list of baccalaureate degree programs accredited by the American Council for Construction Education, visit www.acce-hq.org/baccalaureateprograms.htm.

—By Lauren Pinch



From left, Tim Johnson, chairman of ABC's Workforce Development Coordinating Committee; UC students Lou Horn, Brad Frey, Jeff Ward, Kevin Zix, Michelle Podsiadlo, Jessi Metzger, Brandon Seibert and Michael Padgett; and Bill Fairchild, ABC National chairman-elect.



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MEETING NEEDS IN THE NORTHWEST

In 2002, Dan Graham, president of the Northwest College of Construction (NWCC), pitched the idea of forming a new construction college to Tammy Bachofner, president of ABC's Pacific Northwest Chapter. Graham, then head of AGC's training and apprenticeship programs, realized his association alone couldn't tackle the industry's requests to provide more advanced skills training. As a result, the two groups formed a unique partnership to collaborate on construction education.

Helping to develop Graham's vision, Bachofner served as one of the NWCC's original steering committee members and helped the new school gain approval from the state's Joint Apprenticeship and Training (JATC) committees.

In late 2003, the Home Builders Association of Metropolitan Portland (HBA) and the National Utility Contractors Association of Oregon and Southwest Washington joined the effort to design a feasibility study. In July 2005, the NWCC was incorporated as a private, non-profit institution with eight board members.

After negotiating the purchase of a commercial building, the school began a \$1 million renovation with Keene Construction Co., Maitland, Fla., as the general contractor.

The NWCC moved into the facility in March 2006, and by September 2006, classes began running full-tilt. Currently, the NWCC employs 10 full-time instructors and 23 part-time instructors who each average 15 years of industry experience. This year, enrollment averaged about 400 students each quarter, but by next year, Graham estimates an enrollment of 470 students each quarter.

"This is the first partnership among national construction associations to collaborate on education in a formalized way, at a private career school that handles multiple crafts," Graham says. "This makes us unique from other programs."

The NWCC offers craft, technical, supervisory and management-level courses that combine lectures, group interaction and hands-on training.

The local ABC and AGC chapters continue to offer their own apprenticeship programs, but use the NWCC as a means to further benefit the industry.

"I think we are the wave of the future,"

Graham says. "We are spending a lot of energy meeting with high school guidance counselors and career centers, and we've bused in students to visit from as far as 100 miles away. The word is getting out that we are here."

Setting up shop also required a lot of energy. Classroom spaces needed to be transformed into laboratories, complete with machinery like HVAC and welding equipment, for the various craft specialties.

"No labs had been set up in the facility, and it was a challenge making the transition from the community college curriculum to the National Center for Construction Education and Research's [curriculum]," Bachofner says.

"Another hard part was joining together without losing our own identity as separate organizations," she says.

The process of registering with the state department of education as a career school, transferring the existing programs from ABC and AGC, and re-registering the school with the NCCER was a bit overwhelming, Graham admits. "A lot of it was learn-as-you-go. For awhile it seemed like we were drinking out of a fire hose."

Several local vendors and craft professionals donated their time and equipment to set up the laboratories for the new school. Other firms offered advice on adjusting the various craft curriculums to best provide graduates the skills they'll need on the job.

For example, New Tech Electrical, Inc., Portland, Ore., installed a new electrical system for the NWCC facility, modified the power supply to suit institutional rather



Everglades University offers a flexible class schedule at this Boca Raton, Fla., facility.



than commercial usage, and installed an up-to-code fire alarm system.

"I think it's important to give back to an industry that has given so much," says Bob Bachofner, president of New Tech Electrical (and Tammy's brother-in-law). He has been a member of Oregon's electrical apprenticeship board for 12 years. "I've always felt a strong interest in trying to upgrade our apprenticeship programs and get new programs off the ground to help the construction industry maintain its workforce," he says.

Hunter-Davisson, Inc., Portland, Ore., an HVAC company that has been active in the state's Area 1 apprenticeship program for approximately 16 years, volunteered to participate in the development of the college as a representative of ABC.

Executive Vice President Dean Glover, who previously taught courses for ABC's apprenticeship program and Portland Community College, paired with Entek Corporation, Longview, Wash., to co-design and build HVAC systems for the remodeled NWCC building. Hunter-Davisson donated approximately \$20,000 in material and labor by doing the job nearly at cost.

The company is working with several other firms to improve the school's HVAC craft labs and secure more donated materials and equipment for hands-on training.

Two Hunter-Davisson technicians teach evening HVAC courses, and President Jeff Davisson chairs the Area 1 HVAC apprenticeship program.

"From my perspective, our HVAC industry requires technicians to have a broad base of knowledge and training, including electrical fundamentals, heat transfer fundamentals, refrigeration cycle fundamentals, hand tool use, refrigerant handling and pipefitting," Glover says. "I feel it is so important that a technician be trained properly in all the areas of our trade. This helps the industry as a whole and certainly provides the technicians with a marketable skill set that offers opportunity and a stable, well-paying occupation."

Now that the facility exists, the industry needs to remain proactive in promoting and developing it. "We can't wait for someone else to do our training if we want it done correctly and thoroughly," he says.

Other ABC member companies that participated in developing the NWCC

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Although it has not yet graduated its first set of students, and no data exists on job placement, the NWCC is already a success story in the construction industry.

With a place of their own to improve their skills, craft students have a heightened level of esteem in the industry, Bachofner says. In addition, the school is bringing more publicity to the benefits of merit shop training.

"Now, instead of having eight different training programs, we have one big voice to promote our training efforts," she says. "We show that as a group, [ABC and AGC] are committed to training beyond the apprenticeship programs we continue to offer."

The school is already receiving positive feedback about its students. In one instance, a brick masonry apprentice, having recently learned about preventing brick fluorescence, helped to save his contractor \$80,000 on a job for Oregon State University.

Graham, Bachofner and the NWCC board hope the school will become a model for other associations and academic institutions.

"The biggest goal I see for the future of the college is that someone who is thinking about going into construction first thinks of the NWCC," Bachofner says. "Some students have never even swung a hammer. Others want to open their own business. And many just desire some extra management training to get that promotion."

PROVIDING CAREER SKILLS IN THE SOUTHEAST

Everglades University, a not-for-profit school that offers undergraduate and graduate degree programs for adult learners, added a bachelor of science degree program in construction management in August 2005.

The program is tailored to construction professionals who are looking for career advancement while maintaining their current jobs.

The early seeds for the new program were planted by the school's business development committee and board of trustees, which took an interest in construction education for the supervisor or project manager, as opposed to the architect or engineer.

"Industry professionals from the community contributed their ideas and voiced their need for qualified supervisors or proj-

The Northwest College of Construction was built with construction industry associations' support.



ect managers who not only have industry experience, but academic preparation," says Dr. Jayne Moschella, vice president of academic affairs. Many voiced concern about promoting craftsmen and artisans to management positions when they lack a business degree and basic management skills.

The Everglades University program provides instruction in management as well as industry-specific technical and occupational subjects, including planning, safety, finance, codes, cost estimating, electrical and mechanical systems, masonry, ethics and construction law. Students complete 123 credit hours, including 30 hours in general subjects such as English, humanities and social sciences.

Like the NWCC, Everglades University seeks advice from construction experts to ensure the curriculum is consistently up to date and meets industry standards. Several construction firms and associations, including ABC's Florida chapters, provided guidance for the program's early development.

Students admitted to the construction management degree program must show they have some experience in the construction industry. Because many students hold full-time jobs, Everglades University offers flexible day, evening, weekend and online class schedules. Undergraduate students take only one class each month, promoting concentration in each individual class. Small class sizes provide for individualized attention and greater interaction between the students and the faculty.

The new program is gaining attention within the industry, and students are quickly signing up. Enrollment grew from 10 students to 100 within a year and a half.

"We have marketed the program in the community, but I think it sells itself because it's really filling a demographic need. Students are happy to go to school for something they already love," Moschella says. "The students are very committed, very involved, and our retention so far is good. They come in with pride, and they are excited to be able to bring their own real-world experiences to the classroom."

The feedback from employers is positive, as well. "The industry is chomping at the bit for our graduates," she adds. Several students already have job offers or internships set up for the summer.

While its main facility is in Boca Raton, Everglades University has additional branches in Sarasota and Orlando. The institution is accredited by the Accrediting Commission of Career School and Colleges of Technology, and licensed by the Florida State Board of Independent Colleges and Universities.

In the future, the university hopes to move to a traditional campus to gain more space for students while maintaining small class sizes and individual attention.

"We want to remain a leader in construction management education, and we are very proud of our program," Moschella says.

The NWCC and Everglades University serve as a model and inspiration to other construction associations and academic institutions to build new programs of their own.

For more information and full course descriptions, visit www.nwcc.edu or www.evergladesuniversity.edu.

Pinch is assistant editor of *Construction Executive*.



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