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DraftSight In Use



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ONWARD BOUND: Machine shop veteran urges teens to choose careers over crime

In an odd way, Bill Malone can thank the recession for his career success and satisfaction. Not this recession, the other one – those horrendous economic times in the early 1970s under the Nixon and Ford administrations. Malone had earned his master's degree in industrial psychology at Minnesota State University-Mankato, and had no idea he soon would be wielding a blowtorch for a paycheck.

"I couldn't get a job in my field to save my soul back then," he recalls. "So I stuck with the opportunities that were given to me. Looking back, I'm glad I got into manufacturing!"

Malone took a welding training course and made himself useful at a few Minneapolis-area shops before getting his foot in the door at the Tennant Company, a global manufacturer of floor scrubbing machines and street sweepers. More than 32 years later, he's still enjoying work as a tool and die maker.

Nearing retirement, the tireless 61-year-old machine shop veteran currently puts in the traditional 40 hours at Tennant and invests an additional 30 hours a week in "Operation Living Hope," a charity founded by his wife Annie, a full-time real estate agent.



Serving the most disadvantaged neighborhoods in their city, the couple helps provide crisis prevention counseling and partners with the local Second Harvest Heartland food bank to distribute groceries to struggling families. Those volunteer efforts inspired their latest philanthropic venture, "Onward Bound," a vocational education outreach program for incarcerated juvenile offenders.

"I want to arouse fascination and give these kids some hope that they can get into a rewarding career," Malone says. "That's where my heart is."

The game plan is to teach a four-hour "Gateway to Manufacturing" course that will introduce how to use precision digital measuring tools, show how welding "can be a form of artistic expression," share the full spectrum of vocational career options and experience CAD software for the first time. He plans on sharing the blueprints for the Millennium Falcon, Han Solo's spacecraft in Star Wars, to show how engineers need to design everything from the top, bottom, front, back and side views.

Part of the course also involves having students use DraftSight, a free 2D CAD product, to design a seemingly simple object such as a washer, and discover how the slightest measurement error can later cause problems.

"The course will simulate what it is like working in a designing environment at a company. I want to take them through the entire workflow experience, from the brainwork to the final inspection," Malone says. "I also want to introduce them to the different kinds of engineers and demystify the corporate lingo."

The Onward Bound pilot program is supposed to launch in December at the Hennepin County Juvenile Detention Center in downtown Minneapolis. The program is waiting for the delivery of eight laptop computers and a digital projector pledged by a major corporation.

At the end of the course, students will receive a diploma certifying their participation. Malone acknowledges the limitations of four hours of classroom work, but says the certificate will let prospective employers know the applicants are serious about enrolling in a training program.

"I want my students to make a real world connection between manufacturing and their everyday lives. Whenever I go to a McDonald's, I look at their marvelous stainless steel counters and notice how beautiful the welds are. I want them to notice things like that, too."

According to the American Welding Society, there is a significant welder shortage in the United States, with the average age of welder in their late 50s. The AWS recently got a boost from comedian Jay Leno, who stars in a short recruitment video aimed at young people (link: <http://www.youtube.com/watch?v=PASEG5xLIRg>).

"We won World War II because we could turn out a plane – a Liberator, a B-17 – every 55 minutes. We could actually make airplanes quicker than they could shoot them down," Leno says. "We had skilled young people – 18, 19, 20 years old, who were making airplanes. Now these same guys are making airplanes... except they're 80, 90 years old!"

Videotaped in his classic auto garage, Leno tells students they can earn high salaries as welders "and bleed people like me dry because I need you."

Whether students who go through Onward Bound become welders, engineers or choose a completely unrelated profession, Malone says it makes sense to try to cultivate ambitions and goals in a population often written off as a lost cause.

"A lot of these kids have a great aptitude toward artistic expression," he says. "Hopefully, they'll engage in a new interest in ways they never realized before."

To learn more about Bill Malone's "Gateway to Manufacturing Course," and how it might be replicated in your area, visit <http://www.OnwardBound.org>

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