**South Texas College**

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***The Science of Suds:* Brewery Apprenticeship Program will Tackle Regional Demand**

It takes *a lot* of hard work to relax properly.

For the 38% of Americans who name beer as their “go-to” after work wind-down, there’s nothing quite like a cold brew at the end of a rough day. And with small-batch brewing now accounting for nearly a quarter of the market share, the craft beer craze has become a way of life. But how much do we really think about the “craft” in craft beer?

At South Texas College, students will be doing more than just thinking about it. Thanks to a unique Texas Workforce Commission-backed partnership with local breweries like Mission’s 5x5 Brewing Co., STC students will have the opportunity to get an education in fermentation. The upcoming program will respond to high demand – the number of craft breweries in Texas has ballooned from 60 to more than 280 in the last eight years, making it one of the state’s fastest-growing industries.

“Brewing science is very much hands-on – you can read it all day long, and not understand it,” says George Rice, Director of Operations and co-owner at 5x5 Brewing Co. “We’re getting the region ready for everything this industry is going to be.”

The Brewery Apprenticeship program will be another one of the College’s unique endeavors in matching regional skills to workforce needs. The College also recently launched highly successful apprenticeship programs in biomedical maintenance, certified nursing, customer service and cybersecurity in partnership with the Texas Workforce Commission. But with no precedent set for the regional brewing industry, the new program will navigate uncharted waters.

“As far as we can tell, South Texas College’s 5x5 Brewery Apprenticeship is the only one of its kind,” says Texas Workforce Commission spokesman Francisco Gamez. “In Texas, apprenticeship programs have traditionally been associated with trades such as construction, electrical and plumbing. South Texas College has listened to industry in their area and implemented a unique program.”

The need for tech-savvy brewing professionals is swelling in Texas. According to the Texas Craft Brewers Guild, the industry accounts for $5.2 billion in annual economic impact, ranking third nationwide. Meanwhile, the number of craft breweries has more than quadrupled in Texas since 2011, creating a dire “skills gap” that threatens to paralyze industry growth.

“We have a skills problem here in the valley,” says Rice. “It’s a specific trade, lots of science and math. We honestly don't have the labor force here for it.”

The Brewery Apprenticeship program will draw from the certification curriculum of the American Brewers Guild, which provides an academic foundation for the complex science of craft brewing. What will really make the program unique, however, is the hands-on experience students will gain through live brew projects at 5x5, using real industry facilities and technology.

 “Lots of things go into this process that anyone else would probably overlook – looking at nuances, details, slight differences with consistency,” says Carlos Margo, Associate Dean of Industry Training and Economic Development at South Texas College. “5x5 needed employees to get a little more advanced when it came to tech skills.”

It’s not just the quality of beer that’s rising in South Texas. For career-educated and workforce-trained professionals in the brewing industry, paychecks are skyrocketing as well. According to the U.S. Bureau of Labor Statistics, average brewery salaries have increased by 25 percent in the last 10 years, rising to a national average of $67,236. With Texas trailing only California and Colorado in craft beer production, good things are brewing for future STC apprentices.

“They’re going to be getting paid more, with potential to be more marketable,” says Margo. “[5x5] has a good ability to deliver a lot of beer wholesale, and wants to make sure that employees have a consistent education. That’s the goal here.”

With industry demand peaking, implementing a Brewery Apprentice program may seem like a “no-brainer.” But with no regional precedent, the partners at STC, 5x5, and the Texas Workforce Commission knew there would be work involved.

Contact for the project was initiated by Rice, a South Texas College alumnus. Rice had always admired the College’s outcome-focused ideology, which melded with the “painfully blunt” philosophy shared by Rice and his military veteran co-founders.

“I reached out thinking this would be a pretty amazing partnership,” says Rice, who attended the College’s EMT/Paramedic program prior to launching 5x5 Brewing Co. “We need tradesmen in skilled labor. STC is mindful of this stuff.”

Rice reached out to STC Vice President David Plummer, who saw the regional potential in the industry, and began the time-consuming work of connecting existing curriculum, Texas Workforce Commission resources, and STC services with the project. Just last month, 5x5 began sending its first group of employees through STC’s apprenticeship program, as a pilot for the ongoing initiative. As part of the program, students will learn industry techniques directly from 5x5 lead brewer Esteban Phillips.

“I have a lot of admiration for what STC is doing. It’s very much like us as a business,” says Rice. “It made sense that STC would be the best choice.”

“It took lots of commitment from a lot of different people,” adds Margo. “George really initiated everything, and the Texas Workforce Commission has been instrumental in providing support.”

For aspiring professionals in South Texas, the craft beer boom provides a unique, outside-the-box opportunity to turn a passion into a profession. But what kind of person gravitates toward a career in brewing?

“Nerds,” says Rice, in his pointed, military-tempered manner. “A lot of science, math biology, chemistry. Tons of mechanics: hydraulics, fluid dynamics… math and science all play into it.”

According to Rice, the actual brewing accounts for only about 15 percent of a brewer’s job. The rest of the time is spent cleaning, sanitizing, milling and mashing, formulating, and handling finished products. The goal is to cultivate a product that’s not only well-balanced and pleasing to the palette, but consistent between every bottle, can, growler, and pint glass.

“In brewing, it’s all about consistency,” says Rice. “Math needs to be on point. Chemistry needs to be on point.”

“It is very scientific,” adds Margo, who considers brewing very much a STEM career. “There’s the malting process, biochemistry, looking at biochemical change with enzymes, being able to evaluate beer. People make their own beer, but it’s very different – not consistent, not very scientific.”

Though craft beer has been slower to catch on in Texas, it now accounts for nearly 20 percent of the in-state market, with no signs of slowing down. Just last month, Texas passed a new law allowing beer purchases directly from craft brewery taprooms, in response to increasing customer demand.

With big things on the horizon, South Texas College and 5x5 aren’t satisfied to rest on their laurels. In fact, they’ve already invited other craft breweries in their area – Brewsome and Padre Island Brewing Company – into the apprenticeship fold.

“Right now, we’re in expansion mode,” says Margo. “When it comes to the industry, it benefits them all.”