

Beer, Weed and College: Three Things that Shouldn't Go Together?

What do beer, weed, and college have in common? It seems like an obvious answer, but for continuing educators, it means opportunity. With changing legislation, advances in sciences and more resources to establish small businesses, like the micro-brewery industry, the cannabis industry could also grow (no pun intended) and be fertile ground (pun intended) for institutions of higher education. While legislation is positive on the state level, legalization nationwide, as well as in Canada, still has hurdles to overcome. Although the microbrewery and cannabis industries have many major differences, there may also be similarities. This article primarily focuses on the microbrewery industry asking that readers look for examples and insight as to possible opportunities around cannabis. To do so, we must first understand the microbrewery industry and its roots.

Prior to the ratification of the 18th amendment in 1919, which led to the prohibition of all alcoholic beverages, there were more than 1,300 thriving breweries throughout the United States producing more than 2 billion gallons of beer annually.¹ Only a handful of these breweries survived by the time prohibition was repealed by the 21st amendment in 1933, including Coors, Yuengling, Anheuser-Busch, Pabst Blue Ribbon, Pittsburgh Brewing Company, and Stroh's. Post-prohibition, these breweries focused their production on light lagers that were cheaper to produce, lower in alcohol, and appealed to a broad audience. They were mass marketed to a population that was largely unfamiliar with the broader variety of beer styles that existed before prohibition. Light lagers dominated the beer market in the United States for more than a half-century and continue to make up the majority of the U.S. and global beer market today.

While home winemaking was legalized by the 21st amendment, homebrewing beer remained illegal until 1978 when President Jimmy Carter signed into law HR 1337, which legalized homebrewing "for personal or family use, and not for sale."² Homebrewing as a hobby grew rapidly in the 1980s and homebrew shops offering equipment, supplies, and instruction opened retail locations in many states. Intrepid homebrewers, often inspired by their experiences sampling beer in Europe, began experimenting with different beer styles not available from the large industrial breweries. In addition to the legalization of homebrewing, several states legalized brewpubs in the early 80s, inspiring some homebrewers to open their own brewpubs and then breweries.

The interest in homebrewing, brewpubs and small craft breweries grew throughout the 1980s. In the 1990s, the annual volume of craft beer produced increased from 35 percent in 1991, to 58 percent in 1995. The number of craft breweries has grown from eight in 1980, to 537 in 1994, to over 6,000 in 2018, and the number of breweries in planning stages continues to grow.³

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470475/>

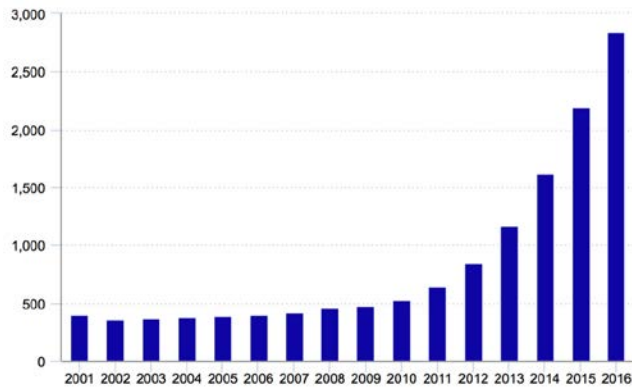
² <https://www.theatlantic.com/politics/archive/2010/08/jimmy-carter-not-the-king-of-beers-updated/61599/>

³ <https://www.brewersassociation.org/brewers-association/history/history-of-craft-brewing/>

Between 2011 and 2016, there was a dramatic rise in the total number of breweries in the United States. In 2016, the beer industry generated nearly 2.23 million jobs through direct and indirect employment. Microbreweries accounted for over 27% of the industry’s workforce.⁴

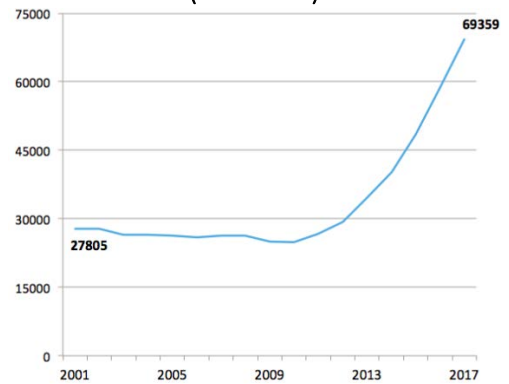
With the rapid increase in the total number of breweries in the United States, total employment has also seen a surge, increasing from 27,805 in 2001 to 59,359 in 2017.

Figure 1: Total Number of Breweries in the United States (2001-2016)



Source: <https://www.bls.gov/spotlight/2017/industry-on-tap-breweries/home.htm>

Figure 2: Total Employment at U.S. Breweries (2001-2017)



Source: <https://www.theatlantic.com/business/archive/2018/01/craft-beer-industry/550850/>

As the number of craft breweries and brewpubs skyrocketed, the demand for experienced brewmasters, as well as brewery operations specialists who focus on areas such as mechanical process engineering, brewing chemistry, microbiology, ecology, raw materials agronomy, and automation technology, continued to grow.⁵ Until the 1990s, only a small number of mostly European universities had brewing-specific education and training programs designed to produce brewers for large European breweries. These brewing schools typically fall into two categories: institutions that offer traditional academic programs focused on scientific and engineering theory and practice and institutions that offer brewing vocational instruction, “more in line with the apprentice and journeyman traditions of the past.”⁶

EMSI data shows that between February 2013 and February 2018 there have been a total of nearly 8,000 job postings for brewers (production), of which nearly 2,000 were unique postings⁷.

Figure 3: Job Posting Data for Brewers in the United States (Feb 2013 – Feb 2018)



⁴ <http://beerservesamerica.org/wp-content/uploads/2017/05/2017-Beer-Serves-America-Report.pdf>

⁵ <https://beerandbrewing.com/dictionary/uxn9BY8j1A/brewing-schools/>

⁶ Ibid

⁷ Data is from EMSI 2018.2

EMSI data also shows trends in job posting data for brewers by state (Figure 4). The states with the highest number of unique postings include California (217), Oregon (127), Texas (126), Illinois (104), and Florida (103)⁸. One of the challenges of this data is the likely under-representation of small brewers or restauranteurs that support both breweries and food establishments.

Figure 5 shows the top employers in the brewing industry⁹. The list shows that after the Craft Brew Alliance, many of the major employers that follow are major industrial breweries, large restaurant groups and some specialty beer makers. The Craft Brew Alliance is a consortium of microbreweries that includes Redhook, Widmer, Kona, Omission and Square Mile Cider.

While major employers have more resources to develop their employees, microbreweries have become more dependent on specialized programs, university extension services, chambers of commerce, collaborations and guilds, and their own professional associations.

According to one craft brewing professional, “The industry growth has definitely outpaced the talent pipeline. How can the industry sustain itself over the long term if you don’t have people that are formally trained?”¹⁰ Unfortunately, many aspiring brewmasters do not have the resources or language ability to attend European brewmaster programs. In order to meet this demand, several American universities have responded by creating specialized education programs focused on theoretical education as well as hands-on practical training in science, engineering, and business specifically related to making quality beer on a commercial scale in a craft brewery. Currently, there are more than 25 such accredited programs at higher education institutions throughout the United States.¹¹ Leading the way in microbrewery management and sciences are Oregon State University and the University of Vermont, among others.

Figure 4: Job Postings for Brewers Regional Breakdown

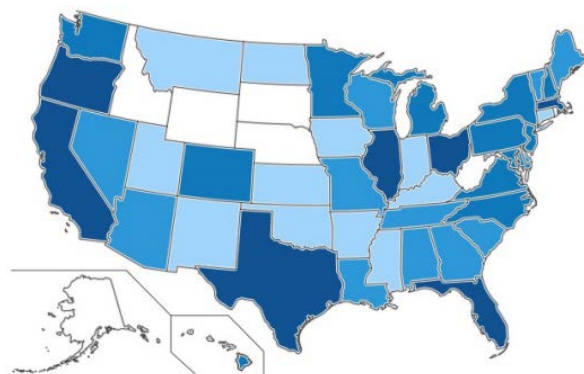



Figure 5: Top Companies for Brewers by Job Postings

Company	Total/Unique (Feb 2013 - Feb 2018)	Posting Intensity	Unique Postings Trend (Feb 2013 - Feb 2018)
Craft Brew Alliance, Inc.	284 / 130	2:1	
Anheuser-Busch Companies, Inc.	370 / 106	3:1	
North American Breweries, Inc.	117 / 50	2:1	
Gordon Biersch Brewing Company	78 / 32	2:1	
BJ's Restaurants, Inc.	118 / 30	4:1	
Millercoors LLC	94 / 30	3:1	
The Boston Beer Company Inc	68 / 20	3:1	
Sierra Nevada Brewing Co.	34 / 17	2:1	
Milo's Tea Company, Inc.	63 / 16	4:1	
Blue Plate Restaurant	89 / 15	6:1	



⁸ Ibid

⁹ Ibid

¹⁰ <http://allaboutbeer.com/article/brewing-schools/>

¹¹ <http://allaboutbeer.com/article/beer-schools/>

One of the oldest and most well-respected of these programs was developed by the Department of Food Science and Technology at the University of California, Davis, also known for its long-standing winemaking courses. UC Davis offers a specialization in brewing sciences as part of its undergraduate degree program as well as several short brewing courses and an 18-week intensive program.¹²

Like microbreweries ten years ago, who often lacked “the mark of a thriving community,”¹³ will the cannabis market share the same growing pains? While one could argue that there are two different markets among both microbrewing and cannabis, that being the business end and the other being the science, the cannabis industry distribution business may be far less capital-intensive, but more technology-driven. On the scientific-side of the business, colleges and universities, especially those with strong agricultural and biotechnology programs are certain to be developing an important stream of scientists. Education will provide opportunities for entrepreneurs to open new business in communities ready for a larger cannabis market.

Given that the cannabis industry is niche, it is likely that demand for qualified workers will outstrip the number of qualified employees. Both the production and business side of the industry, as well as the scientific side, will have a need for new content development and certification. Some colleges and universities have taken an early lead on cannabis education, including Northern Michigan University,¹⁴ Ohio State University,¹⁵ and the University of Vermont.

Higher education has an opportunity to learn from the microbrewing industry and its history. Cannabis has been let out of the bottle and will be difficult to put back in. As a result, new science and business degrees—as well as noncredit and certification opportunities—specific to the cannabis industry, are certain to arise. The questions for professional and continuing education are when will it happen, should I get involved, and which side of the equation should I invest in—the business and distribution or the science?

¹² <https://beerandbrewing.com/dictionary/uxn9BY8j1A/brewing-schools/>

¹³ <http://allaboutbeer.com/breweries-thriving-communities/>

¹⁴ <https://www.usatoday.com/story/news/nation-now/2017/10/09/marijuana-degree-northern-michigan-university/745964001/>

¹⁵ <https://www.forbes.com/sites/julieweed/2017/09/02/physicians-and-budtenders-taking-cannabis-classes-this-fall/#76327edc4429>