

Brewing Science and Brewery Operations

AAS

The Brewing Science and Brewery Operations program is designed for the entry-level brewer wishing to expand their theoretical knowledge and experience in the field of brewing science and business operations. Graduates should be prepared for mid-level brewery jobs, with potential for management or entrepreneurial ventures with commensurate field experience. Students will build on an operations-based foundation (first-year CTS curriculum) with second-level brewing coursework, as well as chemistry and business operations classes. Students have exclusive use of the custom 4-barrel campus brewery and pilot system, quality lab, and classroom. They will complete coursework including topics in brewing technology and operations, fermentation sciences, recipe design, sensory techniques, brewery safety and compliance, and business applications.

Upon successful completion of the Brewing Science and Brewery Operations AAS, students will be able to:

- Formulate beer recipes with an integral understanding of the ingredients and processes in mind;
- Analyze yeast fermentation performance, and the influence health and nutrients have on the end beer flavor, aroma, and stability;
- Aseptically handle and propagate yeast for use and re-use in brewery fermentations;
- Understand stability techniques employed by small and large breweries;
- Perform chemical analysis of beer ingredients and products, and asses for brewing and shelf-life suitability;
- Understand inventory management of raw ingredients and product, and build software to assist in tracking and predictions;
- Write a start-up business plan for a brewery;
- Perform all aspects of commercial brewery production from raw ingredient procurement to packaging, with quality, consistency, safety and sanitization as priorities.

REQUIRED COURSES

Total Program Credits: 61

Fall Semester

<u>CourseNo.</u>	<u>Title</u>	<u>Credits</u>
BIOB 160	Principles of Living Systems	4
BREW 101	Brewing Methods I	5
BREW 131	Beer Styles and Sensory Eval. I	1
BREW 149	Beer Packaging and Draught Tech.	2
BREW 151	Cellar Operations	3

Fall Semester Credits : 15

Spring Semester

<u>CourseNo.</u>	<u>Title</u>	<u>Credits</u>
BIOM 208	Applied Brewing Microbiology	3
BREW 132	Beer Styles and Sensory Eval. II	1
BREW 150	Brewhouse Processes	4
BREW 199	Capstone I: Brewing Operations	5
BREW 222	Safety, Sustainability in Brewing	1

Spring Semester Credits : 14

Required Electives, 8 credits.

- BREW 298: Professional Internship. 2 cr.
 - Eligible after second semester of coursework at an approved brewery
- **Related Instruction:
 - WRIT 101/BMGT 205. 3 cr.
 - COMX 111C/115C. 3 cr.

Second Fall Semester

<u>CourseNo.</u>	<u>Title</u>	<u>Credits</u>
BREW 102	Brewing Methods II	5
BREW 231	Beer Styles and Sensory Eval. III	1
CAPP 116	Short Courses: MS Excel	1
CHMY 121	Introduction to General Chemistry	4*

2nd Fall Total Credits : 11

Second Spring Semester

<u>CourseNo.</u>	<u>Title</u>	<u>Credits</u>
BREW 141	The Business of Brewing	2
BREW 232	Beer Styles and Sensory Eval. IV	1
BREW 299	Capstone II: Brewing Operations	6
CHMY 170	Applied Brewing Chemistry	4

2nd Spring Total Credits : 13

Program Information

- All courses in this program must be passed with a grade of “C” or better for graduation eligibility.
- *Denotes pre-requisite requirement(s).

Admission Guidelines and Application Deadline

- Due to limited classroom and lab availability, this degree requires an admissions process: **Application Deadline is August 1st**. Placement exams may be required.
- Students must be 21 years of age to start the program.

Additional Costs

- Total program costs, books and labs, are estimated at \$2,000. Scholarships are available.

Opportunities after graduation

- This degree prepares students for entry- and mid-level brewing industry positions with excellent opportunities for advancement.

Advisor:

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