

# CRAFT BREWING AND FERMENTATION CERTIFICATE OF TECHNICAL STUDIES

|                                     |                               |   |
|-------------------------------------|-------------------------------|---|
| BMGT 102                            | Bus Basics Brewing/Distillery | 3 |
| BIOM 208                            | Applied Brewing Microbiology  | 3 |
| PPT 140                             | Brewing Process Technology    | 2 |
| Summer Semester (or by arrangement) |                               |   |
| BGEN 299                            | Capst: Brewing & Fermentation | 2 |

The Craft Brewing and Fermentation certificate program is a 16-credit undergraduate program that provides an overview of biochemistry, microbiology, technology, and business of craft brewing industries (beer, spirits, and wine). The program was developed with input of industry professionals and is aimed at developing a skilled workforce for the burgeoning craft brewing industries in Montana. Courses include lab work, hands-on brewing, industry speakers, and an opportunity to gain experience with a local craft brewing business through an internship or special project.

Since this program is offered on a self-support basis, federal and state financial aid (including tuition waivers) is not available for most participants.

However, you may qualify for a private loan. To find out more about this option, please see The SmartStudent Guide to Financial Aid ([www.finaid.org/loans/privatestudentloans.phtml](http://www.finaid.org/loans/privatestudentloans.phtml)) (<https://catalog.msubillings.eduHTTP://www.finaid.org/loans/privatestudentloans.phtml/>). Current MSUB students seeking degrees offered by the Biological and Physical Sciences Department should consult with the MSUB Office of Financial Aid and their program advisor.

Interested individuals must apply for admission separately for this program. Please contact Extended Campus for more information.

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Gain fundamental knowledge and demonstrate understanding of biological and chemical components of fermentation.
- Gain fundamental knowledge and demonstrate understanding of the craft brewing and fermentation business and industry, including the aspects of licensing and compliance.
- Evaluate quality of malt and hops brewing materials.
- Evaluate quality of final fermentation products.
- Develop a comprehensive business plan for a start-up brewery, winery, or distillery.
- Demonstrate the understanding of craft brewing and fermentation processes through a specialized project or internship.

## Required Courses

| Code                         | Title                         | Credits   |
|------------------------------|-------------------------------|-----------|
| BGEN 105B                    | Introduction to Business      | 3         |
| BGEN 299                     | Capst: Brewing & Fermentation | 2         |
| BIOM 208                     | Applied Brewing Microbiology  | 3         |
| BMGT 102                     | Bus Basics Brewing/Distillery | 3         |
| CHMY 170                     | Applied Brewing Chemistry     | 3         |
| PPT 140                      | Brewing Process Technology    | 2         |
| <b>Total Minimum Credits</b> |                               | <b>16</b> |

## Suggested Plan of Study

| Code            | Title                     | Credits |
|-----------------|---------------------------|---------|
| Fall Semester   |                           |         |
| BGEN 105B       | Introduction to Business  | 3       |
| CHMY 170        | Applied Brewing Chemistry | 3       |
| Spring Semester |                           |         |