Faculty

STEVEN WAGNER, PhD
Early in his career, Wagner trained as a microbiologist with special interests in fermentation processes from cheese to beer. He is the instructor for BIOL 317 Principles of Biochemistry and Brewing. He has taught courses in biological fermentation and teaches genetics, general biology, molecular biotechnology, and developments in cellular biology. He enjoys hoppy Pacific Northwest Ales and clear northern German Pilsners.

JIM JOHNSON, PhD
Johnson is an expert in mycology and microbiology. His instructional experience at Central Washington University involves yeast and bacterial biology, as well as microbiological laboratory techniques. Johnson teaches BIOL 312 Brewing Microbiology. Johnson also teaches mycology, field mycology, plant pathology, fundamentals of biology, introductory microbiology, introduction to evolution, and general biology I.

ROGER BEARDSLEY, PE
Beardsley is a Registered Professional Engineer in the state of Washington. He co-founded the Roslyn Brewing Company, a microbrewery in Roslyn, Washington, where he worked from 1990 to 2004. Currently, Beardsley teaches IET 360 Brew Process Technology as well as classes in thermodynamics, fluid mechanics, and heat transfer in the Mechanical Engineering Technology department.

DWAYNE DOUGLAS, BS
Douglas has worked in the sales and marketing industry for more than forty years and brings a wealth of real world knowledge to the classroom. He has worked for large and small firms ranging from Zepak Corporation, Hallmark Cards Inc., and Suncadia Resort. Douglas is the instructor for RMT 320 Principles of Merchandising Management for Microbreweries.
Why Craft Beer?

By definition a craft brewery is small, independent, and traditional. And America’s appetite for craft beers is growing like never before. Sales of craft beers grew by more than $1 billion in 2011, from $7.6 to $8.7 billion!

As of February, 2012 there were in excess of 2000 breweries in the United States, the highest number in more than 100 years. Washington State is home to more than 130 breweries, ranking it second nationally behind California. Nearby Oregon ranks third with 120.

A major challenge for this growing industry is finding properly qualified employees for their growing businesses. Not only are brewers needed, but also graduates from other academic disciplines who have an understanding of the craft beer industry.

Central Washington University’s Craft Beer Trade Certificate program provides the education, training, and skills needed for careers in this exciting, growing industry.

Program Description

The Craft Beer Trade Certificate is an interdisciplinary program that provides an overview of the art, science, technology, and business aspects of the craft beer industry. The program is designed to be challenging and interactive. Students learn about the craft beer trade using a variety of approaches including lab work, hands-on experience, lectures, field trips, and industry speakers. This is one of only a handful of craft brewing education programs in the United States.

Advisory Board

The program is advised by a board of craft beer industry professionals. Members include brewery owners, presidents, general managers, and head brewers, as well as professionals in public relations, the hop trade, and beer-related industries. These members rotate every two years and bring a real world approach to our curriculum.

Course Outline and Topics

The Craft Beer Trade Certificate is split into four courses. Each course is ten weeks long.

1. Principles of Biochemistry and Brewing – 4 credits
   Raw materials, enzymes, proteins, wort production, hop analysis, and sensory evaluation

2. Principles of Merchandising Management for Microbrewing – 3 credits
   Selling process, operations management, distribution process, behavioral concepts, and creating a business plan

3. Brew Process Technology – 3 credits
   Understanding the brew house, efficiency, heating and cooling, wort transfer, cleaning, and packaging techniques.

4. Brewing Microbiology – 4 credits
   Microbiological techniques, yeast biology, wild yeasts, yeast production, microorganisms in the brewery, and sanitation.

Brewing System

The Craft Beer Trade Certificate Program uses a MoreBeer 10-gallon flat brew sculpture. Systems like this are frequently used as pilot systems in craft breweries. Students are able to perform experiments and receive hands-on instruction. In addition to brewing, students are able to ferment their beer, package it, and later sample it for sensory evaluation.

Eligibility

Admission to this program is selective and the total number of applicants admitted may be limited. The following requirements must be met:

- Be 21 years of age or older
- A minimum overall college GPA of 2.5
- Completed one of the following: Chemistry 101, Chemistry 111, or Chemistry 181 or equivalent.
- Completed Math 153 (pre-calculus) or equivalent
- Work experience may substitute for the above academic prerequisites and is subject to evaluation by the advisor.
- In order to receive the certificate, students must earn a grade of B- or above in each of the four courses.

Application Procedure

Students may participate in the program as a non-matriculated (non-degree-seeking) student. Admission to Central Washington University is not required. Interested students may apply directly to the Office of Continuing Education at CWU. The deadline to apply for fall quarter is August 1.

Students will be notified of acceptance to the program and automatically be enrolled in all classes. Students will not enroll through the university’s online registration system (SAFARI). Enrollment is limited and accepted on a first-come, first-serve basis. Individuals who have met the eligibility requirements must submit the following to apply:

- Completed application to the program in person or by mail.
- One of the following: CAPS report, official transcripts, or resume (supporting the eligibility requirements).
- A short essay describing your interest in craft beer and your anticipated career path.

Submit all documents in one package to:

Office of Continuing Education
Central Washington University
400 East University Way
Ellensburg, WA 98926-7433

Financial obligations

Self-support funded programs do not allow the use of tuition waivers. The Continuing Education cost per credit may be higher than the regular CWU state tuition rate and may be subject to change. Additional university fees may apply. Courses are eligible for financial aid if the applicant is a matriculated student at Central Washington University.