Beer Brewing Technology Course

Instruction in basic brewing and fermentation technology

May 5 - 7, 2017

A one-week comprehensive course aimed at gaining a basic understanding of the brewing process and the scientific principles that guide it. Attendees will learn the science and process of brewing beer from grain-to-glass. This will include the importance of water, malt, hops, yeast and microbiology, fermentation, and process engineering, as well as downstream processing (finishing, filtration, carbonation, and cleaning). A Pico system will be used to provide hands-on experience for recipe development. At the end of the course, key concepts will be reviewed and discussed.

**Class Syllabus**

**Day 1**
- Brewing Process Overview
- Alcohol, Beer and Health
- History of Brewing
- Beer Styles
- Introduction to Pico System

**Day 2**
- Introduction to Sensory
- Composition of Grain
- Barley Cultivation and Harvesting
- Malting and Malt Analysis
- Enzymes in Brewing
- Recipe development

**Day 3**
- Pico System: Training and Recipe Development
- Brewing Calculations and Fermentation Practices
- Practical Problems and Brewery Hazards
- Yeast Maintenance and Propagation
- Hops

**Day 4**
- Filtration
- Carbonation
- Kegging and Dispense
- Maturation and Aging
- Packaging

**Day 5**
- Cleaning and Sanitizing
- Waste Water
- Pumps and Pipes
- Biological Control
- Discussion on Recipe Outcome: Process and Sensory Perspective

**Time**
Friday to Sunday, 9 a.m. - 5 p.m.

**Location**
The course will be held at the Tufts University Sensory and Science Center located at 200 Boston Avenue, Ste G700 in Medford, MA. Please use the following link for directions: [https://goo.gl/maps/cn9CALgB8rr](https://goo.gl/maps/cn9CALgB8rr)

**Tuition**
The tuition for this course is $1,500, which includes all course materials, and light daily refreshments. It does not cover lodging or other meals. Register at: [http://as.tufts.edu/tussc/courses](http://as.tufts.edu/tussc/courses)

**Contact Information**
Contact Stefan Winkler directly at (617) 627-0786 or email him at Stefan.Winkler@tufts.edu

**WHO SHOULD ATTEND**
This program is intended for brewing industry professionals or any individuals interested in becoming proficient in brewing. It has been organized to assist individuals who are charged with monitoring production processes in the industry for quality assurance, processing, packaging, or shipping and handling. In addition, individuals from other business functions within a brewing organization such as marketing, research and development, logistics, and technical services will benefit from this knowledge.