

Intensive Brewing Science For Practical Brewing

Nuts-and-bolts short course on brewing science and brewery engineering

This popular short course offers an intensive introduction to the sciences of brewing, and it draws a direct connection between brewing science and brewing practice. The program covers the technological and biochemical aspects of the brewing process, including raw materials, malting, brewing, fermentation and finishing. Engineering concepts, sanitation, sensory evaluation and quality control are integrated with the main subject matter. Instructors stress the reasons for brewing practices and the relationship between raw materials or processes and product quality. In addition to formal lectures, the course includes a tour of a famous craft brewery and beer tasting with a professional sensory scientist. The instructors always encourage questions and an informal exchange of views among those of the brewing, malting, service and supply communities, and other attendees.



Course Topics

Review

- Overview of brewing: raw materials processes and products; brewing terminology and analytical methodology
- Overview of basic sciences: starch and sugar; proteins and amino acids; microbes and their actions

Barley, Malt and Malting

- Origins of varieties of barley
- Growth and structure
- Barley quality and malting objectives
- The malting process and biochemistry
- Malt quality

Wort Production

- Brewhouse objective and materials
- Brewhouse technology

- Biochemistry
- Process control and wort quality • Hops chemistry
- Kettle boiling of wort

Fermentation

- Raw materials: wort quality and yeast nutrition
- Fermentation processes and technology • The yeast cell: structure and behavior
- Biochemistry and process control
Sanitation
- Fermentation: the quality factor

Maturation and Finishing

- Lagering and beer maturation
- Beer stabilization processes
- Pasteurization, product assessment and bottled beer quality

Course Details

Class Schedule

Monday-Friday, 9 AM-4 PM
Check website for specific dates

Tuition

\$1,400. Includes course materials, two dinners and refreshments. It does not cover housing or other meals. Tuition is subject to change.

Withdrawal/refund

If a request for withdrawal is received at least seven days prior to the start of the class, a refund, less a \$100 processing fee, will be granted.

Questions?

Call (800) 752-0881 or email
cpeinfo@ucdavis.edu

cpe.ucdavis.edu/brewing

Who Should Attend

The program is intended for brewing industry professionals. It is of special interest to less experienced employees who need technical training to enable them to understand how their jobs fit into the larger context of brewery operations. Past attendees have also included senior officers and researchers from breweries and malting companies and individuals from allied trad.