BREWING SHORT COURSES

SUMMER 2018

New courses in sensory science and brewing chemistry

New online brewing quality courses
Take your craft to the next level with comprehensive brewing short courses for novice and experienced homebrewers and brewing industry professionals.

**Intensive Brewing Science for Practical Brewing**

Receive an intensive introduction to the sciences of brewing, drawing a direct connection between brewing science and brewing practice in this popular course. Build your understanding of the technological and biochemical aspects of the brewing process, as well as engineering concepts. Instructors stress the reasons for brewing practices and the relationship between raw materials or processes and product quality. Tour a famous craft brewery and participate in a beer tasting with a professional sensory scientist.

You must be 21 years of age or older to enroll and attend.

**INSTRUCTORS:** CHARLES BAMFORTH, REBECCA BLEIBAUM, JAMES BROWN and MICHAEL LEWIS

- June 11-15: Mon.-Fri., 9 a.m.-4 p.m.
- $1,400. Enroll in section 181BRW700.
- Davis: Sudwerk Brewing Company, 2001 2nd St., Suite 5.

**NEW! Sensory Science for Craft Brewers**

Sensory evaluation skills should be an essential part of your brewing operation and are critical for maintaining consistent quality, developing new brews and more. Learn to easily apply fundamental sensory science to your craft brewing operation. Acquire tools and methods for assessing your brew’s flavor and style and how to measure the impact of changes in ingredients, production techniques and packaging. Get robust quality insights and hard data on which you can base your business decisions. Class exercises include demonstrations of sensory evaluations of brews and the chance to discuss your actual research and production issues with professional sensory scientists.

You must be 21 years of age or older to enroll and attend.

**INSTRUCTORS:** REBECCA BLEIBAUM, CHRISTIAN MILLER and JANET WILLIAMS

- June 23: Sat., 9 a.m.-4 p.m.
- $450. Enroll in section 181BRW750.
- Davis: Sudwerk Brewing Company, 2001 2nd St., Suite 5.

**Brewing Microbiology Workshop**

Explore the microbial world of brewing. Receive microscope training and practical exercises for identifying beer microorganisms. Lecture topics include yeast and bacteria strains, pitching yeast, fermentations and brewery sanitation. In the lab, explore the use of sterile techniques, plating of cultures, isolation of microorganisms, use of counting chambers and viability assays. You will spend a considerable amount of time on the microscope.

**INSTRUCTORS:** LUCY JOSEPH and MICHAEL RAMSEY

- June 25-27: Mon.-Wed., 9 a.m.-4 p.m.
- $585. Enroll in section 181BRW740.
- UC Davis: Robert Mondavi Institute for Wine and Food Science, 392 Old Davis Rd., North Building, Room 1127.

**Brewing Chemistry: Water and Mash**

Examine the basics of brewing water and mash chemistry for commercial and advanced homebrewing. Designed for brewers with little chemistry knowledge, this class presents the fundamentals of the underlying chemistry critical to successful all-grain brewing. Review basic chemical interactions and equilibriums, and explore their influence on water chemistry, potential water treatments for the small commercial and home producer, the complexities of mash pH and the activity of malt enzymes vital in the production of quality wort.

**INSTRUCTOR:** MICHAEL RAMSEY

- Aug. 25: Sat., 9 a.m.-4:30 p.m.
- $280. Enroll in section 181BRW745.
- Davis: Sudwerk Brewing Company, 2001 2nd St., Suite 5.

**ENROLL TODAY**

CALL (800) 752-0881

EMAIL extension@ucdavis.edu

GO ONLINE extension.ucdavis.edu/brewing
NEW! Brewing Chemistry: Hops and Boil

Study the fundamentals of the underlying hop and boil chemistry critical to successful brewing. Designed for commercial and advanced homebrewers with little chemistry knowledge, this class examines hop biology, as well as the chemical constituents, bitterness units, dry hopping and chemistry of wort boiling, wort cooling and wort aeration vital in the product of quality wort.

INSTRUCTOR: MICHAEL RAMSEY
• Aug. 26: Sun., 9 a.m.-4:30 p.m.
• $280. Enroll in section 181BRW746.
• Davis: Sudwerk Brewing Company, 2001 2nd St., Suite 5.

NEW! Introduction to Practical Brewing

Learn from one of the world’s foremost brewing experts in this in-depth course for advanced homebrewers and early career professional brewers, using the amazing resources of the 1.5 barrel pilot brewery in the state-of-the-art brewing facility on the UC Davis campus. This class combines clear and detailed lectures with practical, hands-on brewing and laboratory tests. Go all the way from raw material selection through to the quality and stability of the finished beer. A class ale will be brewed, and analyses on barley, malt, hops, yeast, wort and beer will be explored.

You must be 21 years of age or older to enroll and attend.

INSTRUCTORS: CHARLES BAMFORTH and JOSEPH WILLIAMS
• Aug. 27-31: Mon.-Thurs., 9 a.m.-4 p.m., and Fri., 9 a.m.-12 p.m.
• $1,400. Enroll in section 181BRW732.
• UC Davis: Robert Mondavi Institute for Wine and Food Science, 392 Old Davis Rd., August A. Busch III Brewing and Food Science Lab, Room 1106.

NEW! Consumer Research for Craft Brewers

Understanding your customers and target market is essential for developing a successful craft brew or cider business. Acquire the skills for conducting market research and how to turn those results into fact-based selling presentations. Learn how to assess your position against the competition and how to identify which flavors and attributes really click with your target audience. You will also explore how to develop and test new labels, names, packages or containers that will communicate your brand’s personality and appeal to your customers.

You must be 21 years of age or older to enroll and attend.

INSTRUCTORS: REBECCA BLEIBAUM, CHRISTIAN MILLER and JANET WILLIAMS
• Sept. 5: Wed., 9 a.m.-4 p.m.
• $450. Enroll in section 181BRW751.
• Davis: Sudwerk Brewing Company, 2001 2nd St., Suite 5.
• CCBA members eligible for a discount.

NEW! Online Brewing Quality Courses

Check out our new online courses from Charlie Bamforth. The first course in this self-paced series features foam and starts May 21. The series includes topics on flavor, freshness and color and clarity. Visit the web to learn more.

extension.ucdavis.edu/brewing
THE ART AND SCIENCE OF BREWING

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