

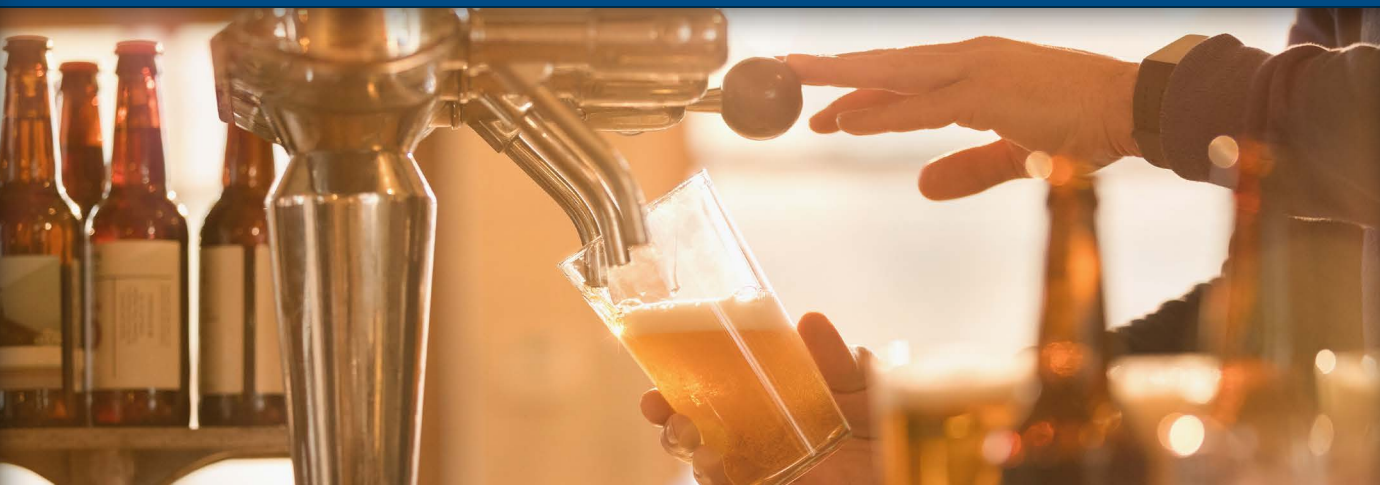


# Master Brewers Certificate Program

**UCDAVIS**

Continuing and Professional Education





## Serious Programs for Serious Brewers

The UC Davis Master Brewers Certificate Program is one of the longest-running and most respected brewing programs in the United States. Our industry-recognized program, now available in online and in-person formats, has produced hundreds of graduates that have gone on to start their own breweries and work for some of the biggest names in the business. If you're ready to turn your passion for brewing into a meaningful career, our Master Brewers Certificate Program can help make your dream a reality.

### Contents

Master Brewers Certificate Program	▶	Page 2
Curriculum	▶	Page 4
Prerequisites	▶	Page 6
Frequently Asked Questions	▶	Page 7
Learn from the Best in the Business —About Our Faculty	▶	Page 8
From the Classroom to the Brewing Industry—Alumni from our Professional Brewing Programs	▶	Page 9

### For More Information

Call toll free **(800) 752-0881** (within the U.S.) or **(530) 757-8777** (outside of the U.S.). For more specific program information, email [brewingprograms@ucdavis.edu](mailto:brewingprograms@ucdavis.edu). To apply, visit our website:

[cpe.ucdavis.edu/brewing](http://cpe.ucdavis.edu/brewing)

 [facebook.com/UCDavisCPEbrewing](https://facebook.com/UCDavisCPEbrewing)

## PROFESSIONAL BREWING PROGRAMS AT UC DAVIS

**W**ith the continued growth of the brewing industry worldwide, owners and managers of major breweries, microbreweries and brew pubs can no longer afford to consider hiring untrained brewing staff. Employers continue to seek professionals who have been trained in the science and engineering of running a brewery operation, as well as those who know and understand the demands of the brewing industry.

UC Davis has been the leading provider of university-level qualification in brewing science and brewery engineering since 1964. As one of the world's most respected providers of brewing education, UC Davis Continuing and Professional Education offers world-renowned brewing programs designed for novice and experienced brewers and brewing industry professionals.

Not only do our graduates gain unparalleled expertise in brewing science, technology and engineering, they also go on to become leaders in the brewing industry. Discover for yourself the most comprehensive brewing education programs—and join our tradition of excellence.

### Online and In-Person Training

The Master Brewers Certificate Program is a unique program offered both in-person and conveniently online. The program provides an in-depth understanding of brewing science and brewery engineering, and prepares students to enter the brewing industry with the potential to rise to the highest levels of leadership within it. Major topics covered include malting, brewing, fermentation, finishing, fluid flow, heat and mass transfer, solid-liquid separation and more. Students explore these subject areas through professional-level equivalents of UC Davis degree-program courses and expand their brewing knowledge through assigned reading and writing exercises.

Students who attend the in-person program will also participate in visits to breweries in Northern California, while students in the online program will have the opportunity to supplement their training with hands-on experience through an optional weeklong bootcamp at our state-of-the-art August A Busch III pilot brewery and Sierra Nevada Brewing Science laboratory. Program curriculum and prerequisites are the same for both formats. Schedule and fees vary. See table on page 3 for details.



# Master Brewers Certificate Program

## A Program By and For Serious Brewers, Like You

The Master Brewers Certificate Program is designed to teach you the skills and knowledge you need to step in and run a professional brewing operation. Whether you complete our in-person or online program, you will receive the very best training in brewing science and brewery engineering from experts in their respective fields. The following sections provide additional details on what you'll learn and how to enroll in this life-changing program.

### Lecture Topics

Lectures are designed to provide you with an understanding of:

- Grain handling, malting, malt analysis and their effects in brewing
- Brewhouse processes and the control of wort quality
- Yeast and fermentation processes and their effects on beer quality
- Finishing beer, sterilization of beer and packaging technology
- Establishing a quality operation
- Flow of fluids in pipes and through pumps in a brewery setting
- Heat transfer and the effects of insulation and fouling on efficiency
- Theory and practice of carbonation, including mixed gas technology
- Theory and practice of refrigeration in the brewery
- Beer flavor and sensory science

For more information about program curriculum, see page 4.

### Objective

The Master Brewers Certificate Program enables students to become knowledgeable, thoughtful, accomplished and professional practical brewers who are eagerly sought by employers in today's brewing industry. Upon completion of the program, you will be prepared to:

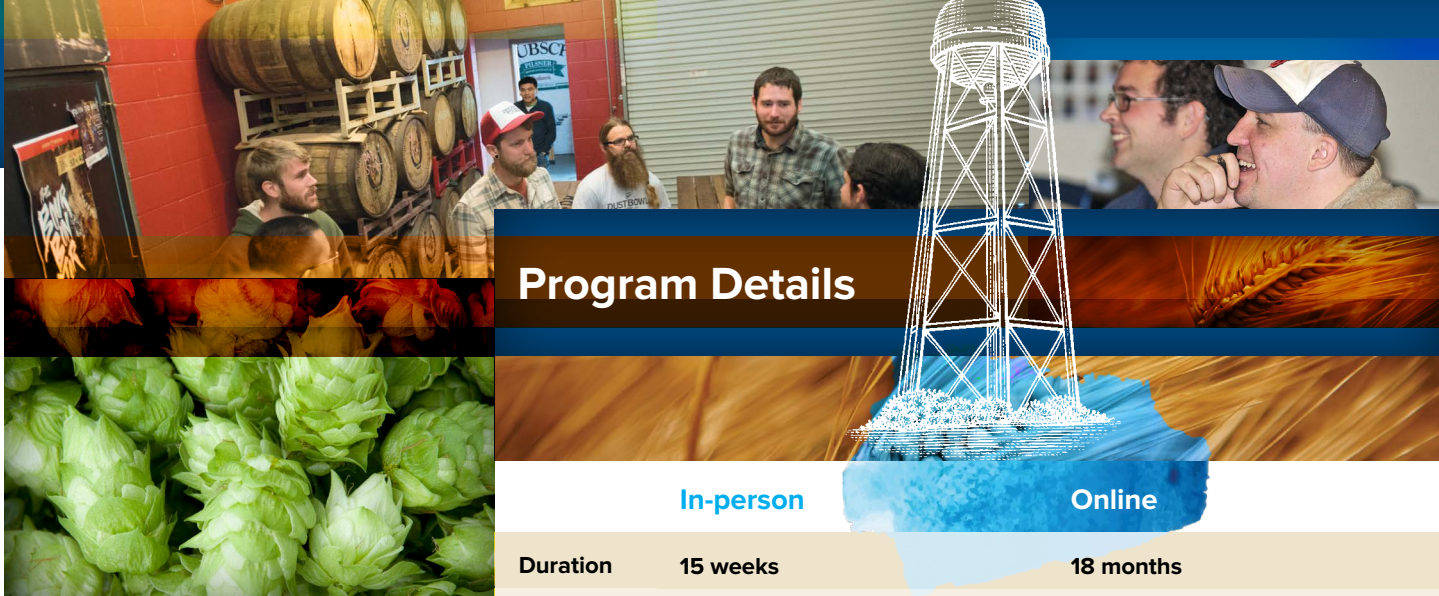
- Evaluate and select raw materials for specific brewing objectives and product qualities. Efficiently and safely operate the brewhouse for wort production. Manage yeast and fermentation to meet product objectives, and finish and package the product to contemporary standards of excellence. Conduct a quality assurance program suited to the brewery and product mix.
- Design a brewery unit, or offer educated input to a brewery design team. Wisely select, or help to select, equipment from among several choices. Oversee installation of it to contemporary standards. Make logical and useful evaluations of processes used in a brewery and select appropriate options.
- Undertake a wide variety of problem-solving tasks related to product quality, process efficiency or plant design.
- Understand beer flavors and their origins. Manage a sensory quality control program including data analysis and communication. Design, execute and analyze flavor data to inform brewery decisions, including selecting raw materials, developing new products, ensuring the quality and consistency of existing products and determining process parameters and beer shelf life. Integrate consumer feedback into the product development process.
- Apply sensory science principles and techniques to inform everyday product and process decisions.

### Who Should Attend

This program is designed for persons who desire a formal professional qualification in brewing science and engineering, either to enter the brewing industry or to advance within it, or for those in formal training programs at breweries. Previous professional brewing experience not required.







## Program Details

### In-person

### Online

#### Duration

15 weeks

18 months

#### Schedule

**Begins in March.** Meets Monday through Friday, 9 a.m. to 4 p.m. for the duration of 15 weeks.

**Begins in January.** Each course will take 10-12 weeks to complete.

#### and

#### Instruction Format

Taught in a state-of-the-art classroom facility located at Sudwerk Brewing Company in Davis, California, giving students the opportunity to observe brewing and packaging operations on Sudwerk's 65-barrel Steinecker system.

Format consists of highly produced, prerecorded lectures and scheduled, live class sessions. Students are required to complete all seven courses in the order they are offered to earn their certificate.

**An optional** in-person, week-long bootcamp is available for students seeking hands-on training in a brewery setting.

#### Price

\$16,000

Fee includes all texts and course materials. It does not include room and board.

All fees are subject to change.

\$13,200

Fee *does not* include textbooks and course materials.

Textbooks & Materials: \$1,100 (approximate cost)

Bootcamp (optional): \$1,400

All fees are subject to change.

### Prerequisites

While a degree is not required for acceptance to this program, college-level work in mathematics, biological sciences, chemistry, physics and engineering is required for success in the program. Those who cannot document successful completion of the minimum academic prerequisites will not be admitted to the program. Such students should prepare at least one year before entering the Master Brewers Certificate Program by taking appropriate college-level courses. For detailed information about the academic prerequisites see page 6.

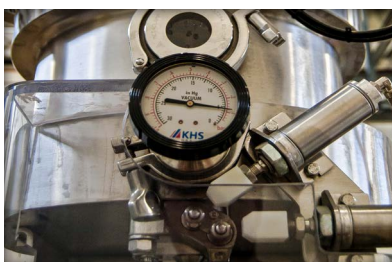
### Withdrawal/Refund

If a request for withdrawal is received within the first five days of the course and all course materials are returned, a refund will be granted for tuition fees paid beyond the non-refundable \$1,125 deposit. No refunds will be granted after the fifth class day.

### Application Details

Applications are reviewed and accepted on a first-come, first-served basis. Class size is limited. Early application submission is encouraged.

A non-refundable deposit of \$1,000 and a non-refundable \$125 certificate fee are due at the time of acceptance to the program. The balance is due prior to the first day of the program. Complete application packages must include a completed application form, transcripts supporting the academic prerequisites, a résumé listing any practical experience in brewing or related fields and the application fee of \$45. **At this time, only the in-person program has been approved for VA educational benefits.**



"I could not be happier and more proud of what I get to do for 40+ hours a week: brew beer. I have the Master Brewers Program to thank for that. I cannot put into words how much the program has benefited me."

Jason Eich, production brewer, The Dudes' Brewing Company, Torrance, Calif.

# Curriculum

Upon completion of the Master Brewers Certificate Program, you will have a solid understanding of the topics listed below at the level of a master brewer, and will be prepared intellectually to take on significant responsibility for a brewery and provide the technological guidance required for successful operation.

## Brewing Science and Technology

### Brewing Science: Barley to Beer

Gain a thorough understanding of the science and technology of ale and lager brewing and become familiar with the specialized language and concepts of the brewing industry. This is accomplished by a sequential study of brewing raw materials, brewing processes and quality control methods of the industry and their influence on beer character. This recurring theme illustrates the scientific and practical confines within which successful brewing is performed. Upon completion of the program, you will have a good understanding of what constitutes beer quality and how this is achieved by contemporary methods of manufacture.

Topics include

- The history of brewing. Brewing and beer around the world. Overview of the process from barley to malt. A review of basic science relevant to brewing.
- Brewhouse calculations and technology. Biochemistry of brewhouse processes, starch, amylases and the control of wort properties. Water quality and adjustment.
- Technology of malting from selection of barley to preparation of specialty malts. Biochemistry of malting and malt quality and analysis. Malt handling, mills and milling.



- Malt, malting processes and malt components in wort and beer and their role in beer quality with special focus on haze, foam and microbiological stability. The non-volatile components of beer and their origin in the biochemistry of malt, their modification by process decisions and their role in beer quality.
- Technology of production of hops and hop products. Hop chemistry. Kettle boil.
- The chemistry of hops and their measurement and the role of hop compounds in beer quality, including flavor, foam and stability. Brewing water and brewing calculations (e.g., for beer formulation and for adjustment of brewing water).



- Yeast propagation and handling. Fermenters and technology of fermentation.
- Biology of yeasts. Biochemistry of fermentation and fermentation kinetics. Production of beer flavor compounds. Beer maturation.
- Yeast and fermentation: the yeast cell, fermentation and fermenter design, yeast physiology, normal and abnormal beer flavors and their relation to wort composition, beer quality and the brewing processes that produce them. Evaluation of yeast quality and amount and its relation to consistent fermentations.

- Microbiology and sanitation. Packaging and dispense. Brewery effluents.
- Use of a microscope and haemocytometer for yeast count. Microbiological plating techniques on beers and worts. Standard analytical methods for alcohol, real extract, pH, color. Packaged beer headspace air, CO2 content, foam and haze stability. Tests on barley, malt and milled samples. Limited practical brewing on the UC pilot plant.
- Wort production: the chemistry of carbohydrates. The spectrum of these compounds present in worts and beers and their origin and role in product quality. Extract yield and the variables that influence it (e.g., milling, mash thickness, mash temperature and solid-liquid separation). Wort stabilization and composition relative to yeast nutrition.
- Maturation and finishing: the challenge of beer finishing for sale, especially maturation, clarification, carbonation, stabilization and their relation to raw materials and brewing processes. Influence of raw materials selection and brewing processes on beer quality, especially stability and finishing processes.
- Finishing and filtration. Carbonation and stabilization of beers, beer analysis and quality control methods.
- Sensory analysis of beers.

### Brewing Exercises

For those participating in the in-person program, you will have the opportunity to view some of the principles covered by observing brewing at Sudwerk Brewing Co. You will also visit local breweries and malt houses to further reinforce topics covered in the program curriculum. Finally, you will spend approximately two weeks in the August A Busch III pilot brewery and Sierra Nevada Brewing Science laboratory on the UC Davis campus participating in practical brewing and lab exercises.





## Brewery Engineering

### Physical Principles in Brewing

Learn the physical and engineering principles that have important applications in the brewing industry, including: fluid-flow (through pumps, pipes and valves); properties of steam, energy balances, heat transfer and refrigeration (in boilers, calandria, heat exchangers and refrigeration plant); and the gas laws (carbonation and dispense). Although the program is concerned with concepts, computation is a major theme applied to the solution of realistic problems, including brewing equipment design. The objective is to ensure that you can hold an intelligent discussion with engineers and can evaluate engineering proposals.

Topics include

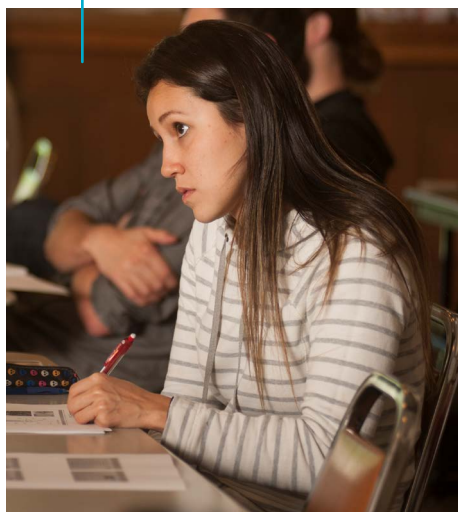
- Physical principles of engineering.
- The properties of steam, including phase diagrams and steam tables. Conservation of energy. Energy balance.
- Fluid flow, measurement, streamline/ turbulent flow, valves, pipes and pumps.
- Pressure, volume and temperature relationships. Carbonation.
- Modes of heat transfer: conduction, convection and radiation.
- Refrigeration.
- Packaging.
- Psychometrics. Gas-vapor mixtures, humidity and drying.
- Solid-liquid separation and filtration performance.
- Pumps, pipes and fluid flow. Friction factors. Rheology.

### Engineering Exercises

Compute solutions to typical problems that arise in breweries and examine equipment and demonstration devices designed to illustrate the principles discussed in the lecture material.

## Beer Flavor and Sensory Science

Learn how to hone your senses and apply sensory science principles and techniques to inform everyday product and process decisions. Flavor perception and sensory bias will be discussed to set the stage for understanding how to best apply various sensory methodologies and statistical analysis techniques. Case studies and real-world examples will be used to display how sensory can be used for raw materials selections, test verification, consumer research and quality control. Nuances of panelist feedback and data communication within complex production dynamics will also be discussed. You will gain a deeper understanding of beer flavor through guided tastings and learn panelist training techniques you can take to any brewery. You will design, execute, and analyze real flavor data to set brand targets, flag problems and identify trends in your brewing data.



### Topics include

- **Sensory Bias** – To achieve the best sensory data, sensory biases will be presented and discussed. You will learn how to find erroneous data and how to address bias.
- **Raw Materials Flavor and Analysis Techniques:**  
 Water Flavor – Off flavors and seasonal considerations will be discussed and remedies presented. Hop Aroma – Standard evaluation methods will be presented and performed in hands-on activities. Malt Flavor – The Hot Steep method will be performed to evaluate the flavor of malt using the standard Malt Flavor Maps. Yeast Flavor – Yeast-derived flavors will be addressed to help inform recipe development and proper yeast treatment.
- **Judging Beer** – Standard beer judging techniques will be presented and distinguished from other sensory methods.
- **Rapid Sensory Quality Control** – You will learn how to set brand targets, identify defects, and determine action plans for production beers.
- **In Process and At Line Evaluations** – Rapid in-production tasting techniques will be discussed to help inform the progression of beer throughout the process.
- **Beer Attributes** – You will become familiarized with specific flavor attributes and their origins hands on tastings
- **Advanced Methods** – Advanced sensory methods will be introduced to highlight where your sensory program can go as it grows.
- **Shelf Life** – Shelf life determining methods will be presented so you can be confident setting best by dates for your brands.

# Prerequisites



Success in the *Master Brewers Certificate Program* requires a background in biology, microbiology, biochemistry, chemistry, physics, mathematics and engineering topics. Though a college degree related to one of these areas is preferred, it is not necessary for admission. Nevertheless, because instruction is in strictly scientific terms, some relevant college-level work is required in these areas to assure that students get the most out of their experience. However, the breadth of topics covered in the program is wide, and few candidates will be adequately prepared in all areas. The following prerequisites apply to both the in-person and online programs.

**All minimum prerequisites must be completed in advance of applying. Incomplete applications will not be considered for admission.**

**You must take course(s) from an accredited institution and you must receive a passing grade in order for the course(s) to count towards the prerequisite coursework.**

You should have **(a) adequate preparation in mathematics (pre-calculus) and (b) relevant preparation in at least two other areas listed below.**

**Mathematics** — (i.e., pre-calculus); The brewery engineering program does not require calculus for success, but algebra skills are necessary for calculating fluid flow and heat exchange. These skills are usually described as “pre-calculus,” meaning the most advanced mathematics course before a calculus course. The engineering program provides ample opportunity for computation, and you should not be intimidated by this.

**Biological Sciences** — (i.e., biochemistry, microbiology or cell biology); Such courses, along with chemistry, are the foundation of our brewing science studies (e.g., malting, mashing and fermentation), which is about two-thirds of the total effort. You should choose courses that are general in approach and include cell structure and function, cell components (e.g., proteins enzymes and carbohydrates) and the biochemical pathways that drive the life of cells. Students with a good biology background should focus on physics/math preparation.

**“I owe where I am to this program. It helped get me on a career path, not just a job, a lifelong brewing career.”**

Kevin Wright, founder and brewmaster,  
Third Space Brewing, Milwaukee, Wis.

**Chemistry** — (i.e., general chemistry course or beyond); Inorganic chemistry covering the nature of matter (e.g., atoms, chemical bonds, gases, liquids and solids, solutions, colloids and change of state) is useful. A similar introductory course in organic chemistry is also desirable because most all of the molecules relevant to brewing are organic. Ideally, you should understand nomenclature, structure, bonding/ bonds and isomerism of organic molecules, and the properties of functional groups on alcohols, esters, organic acids, aldehydes and ketones as these compounds are important in intermediary metabolism and in beer flavor.

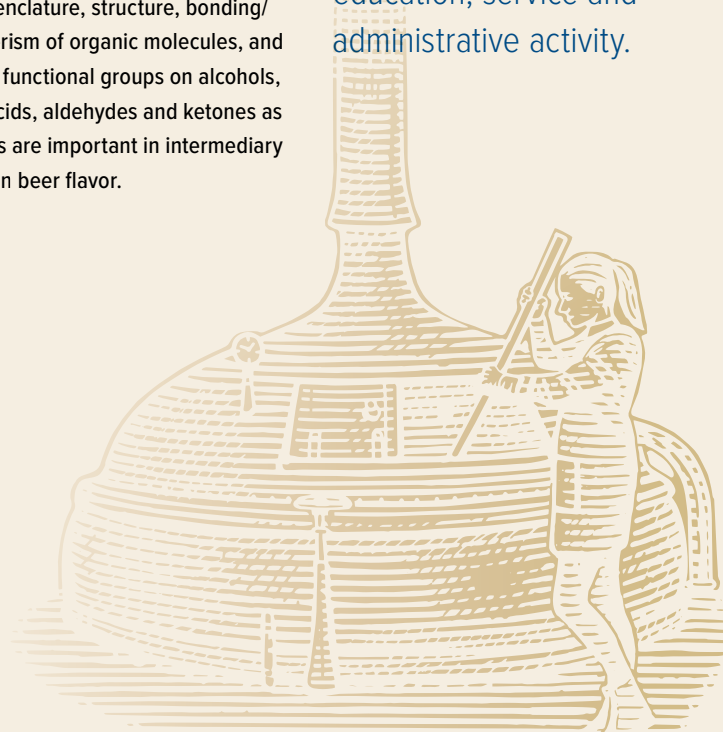
**Physics** — Physics is a very useful foundation for our engineering courses, and candidates without engineering course experience should complete some physics coursework. Physics courses on heat (temperature and thermal properties of matter and heat transfer) and mechanics (mechanical properties of matter, motion, work/energy, momentum, gas laws) are useful. Courses on electricity, magnetism and light are not applicable.

**Engineering** — Candidates with mechanical and/or chemical engineering courses are likely to have adequate physics and math skills and probably a sufficient grasp of chemistry for our program. However, such candidates are often under prepared in biology and should concentrate on biology courses.

Practical brewing experience is valued because it provides a useful context for learning, but is not required for admission into the program and will not substitute for adequate preparation in science.

**For questions regarding prerequisites, please call (530) 757-8876.**

**We pledge to recognize and support diversity and equal opportunity in our education, service and administrative activity.**





# Frequently Asked Questions



## Do I need to be 21 to apply?

Students do not need to be 21 years of age to apply; however, students **must be 21** years of age when they begin the *Master Brewers Certificate Program*.

## How does the waitlist work?

Applicants who are placed on the waitlist, but are not called to participate in the program during the year for which they applied will automatically roll over to the following year, with the top 35 being guaranteed a position and all others going back on a waitlist. The application will continue to roll until the applicant is offered a formal position in the program.

## Do my transcripts need to be official?

No. Unofficial transcripts and/or photocopies of official transcripts will suffice.

## How do I transfer credits from another institution?

You will not officially transfer credits to UC Davis Continuing and Professional Education. Instead, you will submit a transcript demonstrating successful completion of the academic prerequisites with your application.

## Is financial aid available for the Master Brewers Certificate Program?

At this time UC Davis Continuing and Professional Education students are not eligible for financial aid based on the FAFSA (Free Application for Federal Student Aid), sometimes referred to as Title IV funds, which have requirements UC Davis Continuing and Professional Education programs do not meet. However, students in courses and programs offered through UC Davis Continuing and Professional Education may be eligible for a tax credit for educational expenses, job training funds, alternative student loans (which do not require enrollment in a degree program) or other financial assistance. For more information visit [Financing Your Education](#) on the UC Davis Continuing and Professional Education website.

## What forms of payment are accepted?

UC Davis Continuing and Professional Education accepts Visa, MasterCard, Discover, American Express, Wire Transfer, checks drawn on a U.S. bank and U.S. money orders. UC Davis Continuing and Professional Education is not responsible for any transaction fees. If submitting payment by wire transfer, contact the Student Services department for banking information at [cpeinfo@ucdavis.edu](mailto:cpeinfo@ucdavis.edu) or (530) 757-8777 or (800) 752-0881. Please allocate sufficient time to process wire transfer payments.

## Does UC Davis Continuing and Professional Education accept VA benefits?

Yes. VA benefits are accepted for both the online and in-person programs, but may not cover a housing stipend. Veterans of the U.S. military who have available educational benefits can enroll in UC Davis Continuing and Professional Education certificate programs and obtain reimbursement from the Veterans Administration. UC Davis Continuing and Professional Education has approval under the Veterans Educational Benefits program to allow veterans, their dependents and others who qualify for Veterans Educational Benefits to further their education via one of our certificate programs.

This program is NOT included the CalVet college fee waiver benefits to dependents of disabled or deceased veterans. If you have questions about the process of utilizing your VA benefits, please contact our Student Services office at (530) 757-8777 or email [cpeinfo@ucdavis.edu](mailto:cpeinfo@ucdavis.edu).

## Is on-campus housing available for students in the Master Brewers Certificate Program?

No. On-campus housing is not available to students in the program. Most students rent apartments or homes in Davis or surrounding areas (Woodland, Sacramento, Dixon). For more information about the Davis community and/or rental properties, please visit: [daviswiki.org](http://daviswiki.org) or [siss.ucdavis.edu/housing](http://siss.ucdavis.edu/housing)

## Do you offer job placement services for graduates of the Master Brewers Certificate Program?

While we do not offer formal job placement services to the graduates of our program, we do actively aid students in finding jobs in the brewing industry. For example, each year we publish a booklet that contains the résumés of each student enrolled in the *Master Brewers Certificate Program*. We then provide digital access to The Résumé Booklet, as it's called, to decision makers at breweries in the United States.

In addition, a weekly "Job Postings" email is distributed to alumni of the program, which lists various job opportunities available in the brewing industry. There are ample opportunities to network with industry representatives during the *Master Brewers Certificate Program* as well.

## Is the Master Brewers Program a master's degree program?

No. The *Master Brewers Certificate Program* is not a UC Davis master's degree program. It is a certificate program. Students who successfully complete the program will be awarded the Master Brewers Certificate.

## Can I defer my acceptance?

Yes! We allow students to defer their acceptance for one year; however, you must submit the non-refundable deposit and certificate fee (\$1,125) to hold your seat in the program. If you defer and are not able to attend, you will forfeit your acceptance and deposit and will need to re-apply to attend a future program.

Additional questions? Please contact Kristy Craig, enrollment coach, at (530) 757-8876 or schedule a one-on-one appointment with her at [calendly.com/kncraig](https://calendly.com/kncraig).

## Do you offer scholarships?

Yes! UC Davis Brewing Scholarships promote enhanced programming and student support, including merit-based and diversity-focused scholarships. For more information, visit: [cpe.ucdavis.edu/brewing-scholarships](http://cpe.ucdavis.edu/brewing-scholarships)

# Learn from the Best in the Business



**CHARLES W. BAMFORTH**, Ph.D., D.Sc. (Hull), D.Sc. (Heriot-Watt), is distinguished professor emeritus at the University of California, Davis, and senior quality advisor to Sierra Nevada Brewing Company. He has more than 40 years of academic and professional brewing expertise, including senior roles with Brewing Research International and Bass Brewers. Bamforth is fellow of several organizations,

including the Institute of Brewing and Distilling, and has published extensively on beer and brewing. He has received numerous awards, including the Award of Honor from the Master Brewers Association of the Americas.



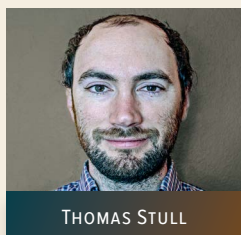
**JONATHAN G. HUGHES**, Ph.D., is the director of brewing and sensory science at UC Davis Continuing and Professional Education and the microbiology instructor for the Master Brewers Certificate Program. He entered the brewing industry in 2013, when, as a graduate student in microbiology at UC Davis, he founded the QA/QC laboratory at Heretic Brewing Company in Fairfield, California.

Before joining Continuing and Professional Education, Hughes served as the quality assurance manager at Heretic while teaching introductory brewing and microbiology classes at Sacramento State University and UC Davis.

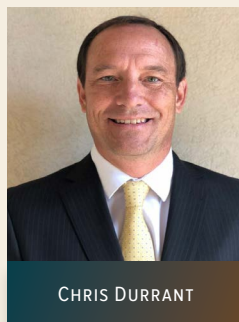


**PATRICK GREER**, M.B.A., a senior supply chain professional with more than 30 years of experience in the beer industry, manages all aspects of supply operations, including procurement, production, inventory management, capacity planning and distribution. He also works with First Key as part of a distinguished team of senior beer industry professionals, helping breweries of all sizes

reduce costs, improve operations and expand distribution. Greer has worked for Anheuser-Busch (A-B InBev), is a certified Supply Chain Pro™ and speaks at industry conferences and webinars.



**THOMAS STULL** is the head brewer of Sudwerk Brewing Company in Davis, California. He holds a B.S. in economics from George Mason University and is a graduate of the UC Davis Continuing and Professional Education's *Master Brewers Program*. He has been with Sudwerk Brewing Company since 2009.



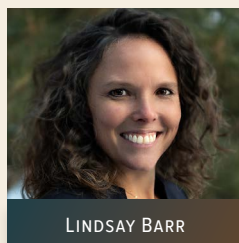
**CHRIS DURRANT**, P.E., is a licensed professional engineer with more than 24 years of experience in industrial water treatment and process design. He has managed numerous engineering teams over his career and has been involved in the project management, design and consulting on over 130 industrial systems to date. Durrant is part owner and executive officer of a 10 barrel brewery in Washington State and served as the engineering advisor for equipment installation, piping and hydraulic,

electrical work, and system start-up.



**GLEN FOX**, Ph.D., joined UC Davis in 2019 as the new Anheuser-Busch Endowed Professor of Malting & Brewing Science. He obtained his Ph.D. from Southern Cross University in the area of barley genetics related to barley and malt quality. Fox has conducted research with some of the world's largest beer companies. His current research interests include understanding the broad

composition of malt and its impact on processing and flavor. In 2018, he was elected a fellow of the Institute of Brewing & Distilling.



**LINDSAY BARR**, M.S., is the CSO and founding partner of DraughtLab Sensory Software where she works with food and beverage companies to apply tasting data to inform product development and quality control. For five years she served as the chair of the American Society of Brewing Chemists Sensory Committee where she co-authored seven new globally adopted sensory evaluation techniques.

She holds a B.S. in biochemistry and molecular biology from the University of New Mexico, and a master's in food science and technology from UC Davis. With DraughtLab, she's published numerous industry-standard lexicons, including the Beer Flavor Map™.



# From the Classroom to the Brewing Industry...

## **Eric Augustin**

Abita Brewing Co.

## **Eric Bachli**

Trillium Brewing Co.

## **Aaron Barth**

Big Storm Brewery

## **Stephen Borutta**

MillerCoors

## **Damian Brown**

The Bronx Brewery

## **Robert Brown**

7 Bridges Brewing

## **Luke Burcham**

Saint Arnold Brewing Co.

## **Justin Burnsed**

Mockery Brewing Co.

## **Corey Campbell**

Big Sky Brewery

## **Andrew Carle**

Lagunitas Brewing Co.

## **Nathan Crane**

Friends and Allies Brewing Co.

## **Russell Croel**

Solid Ground Brewing

## **Brent Crowell**

Foothills Brewing

## **Rob Croxall**

El Segundo Brewing Co.

## **Timothy Daglow**

Big Wood Brewery

## **Mark Denari**

New World Ales

## **Laura Gomes de Aguiar**

Anheuser-Busch, InBev - Brazil

## **Preston Doris**

21st Amendment Brewery

## **Thijs Derksen**

Heineken

## **Daryl Eisenbarth**

The Monocacy Brewing Co.

## **Ronnie Fink**

Modern Brewery

## **Kevin Foster**

Anheuser-Busch, InBev

## **Andrew Gibbons**

Lost 40 Brewing Co.

## **Aaron Gibbs**

Elliott Bay Brewery Co.

## **Jeffrey Graves**

Anheuser-Busch, InBev

## **Kelly Harper**

Deschutes Brewery

## **Joe Hamborg**

Toppling Goliath Brewing Co.

## **Jacob Harper**

Deschutes Brewery

## **Patrick Hayes**

Firestone Walker Brewing Co.

## **Chris Helderman**

Land Grant Brewing Co.

## **Kelsey Holstein**

21st Amendment Brewery

## **Jeff Hueneman**

Mother Earth Brew Co.

## **Rod Hughes**

Steamworks Brewing Co.

## **Brandon Jacobs**

Stone Brewing Co.

## **Bruce Johnson**

Springfield Brewing Co.

## **JC Jordan**

Braxton Brewery

## **Chris Keeton**

Alaro Craft Brewery

## **Matthew Kendall**

Banks DIH Ltd.

## **Brian Kiss von Soly**

Stone & Wood Brewing Co.

## **Abbot Koehler**

Widmer Brothers Brewing

## **Amanda Koeller**

Big Dog's Brewing Co.

## **Micah Krichinsky**

Dogfish Head Craft Brewery

## **Mike Lieser**

Frost Beer Works

## **Steve Luke**

Cloudburst Brewing

## **Bryan C. McCarthy**

Upland Brewing Co.

## **Patrick Meehan**

Swiftwater Brewing Co.

## **Jasper Miller**

Higherground Brewing Co.

## **Benjamin Mills**

Fossil Cove Brewery

## **Drew Morden**

Tioga-Sequoia Brewing Co.

## **Kristina Pengelly**

Sudwerk Brewing Co.

## **Kate Peters**

Mill Street Brewery

## **Amanda Petro**

Dogfish Head Craft Brewery

## **Adam Osborn**

RaR Brewing

## **Dhaneshwar Ramnauth**

Banks DIH Ltd.

## **Robert Rand**

Sierra Nevada Brewing Co.

## **Tyson Read**

Iron Horse Brewery

## **Mackenzie Remington**

Creemore Springs Brewery

## **Dana Robles**

Boneyard Beer

## **James Scott**

Deschutes Brewery

## **Ben Smith**

Surly Brewing Co.

## **Bruce Stamski**

Still River Brewery

## **Nathan Stephens**

Ballast Point Brewing and Spirits

## **Brandt P. Stewart**

Third Space Brewing

## **Tom Stull**

Sudwerk Brewing Co.

## **Sevag Taslakian**

Beirut Beer

## **Peter Trapani**

Sierra Nevada Brewing Co.

## **Cortlandt Toczylowski**

Barebottle Brew Co.

## **Kenjiro Tomita**

Crooked Thumb Brewery

## **Gerardo Gómez Vargas**

Cervecería Libertad Gto MX.

## **Juan Alejandro Vasquez**

Boyaca Brewery

## **Dan Watson**

Cleophus Quealy Beer Co.

## **Dan Weber**

Dogfish Head Craft Brewery

## **Clark Wiant**

Golden Road Brewing

## **Alan Windhausen**

Pikes Peak Brewing Co.

## **Brandon Winneker**

Lost Winds Brewing

## **Kevin Wright**

Third Space Brewing


## **Drew Yeager**

Fat Bottom Brewing

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224105

A man with dark, wavy hair and a mustache is sitting at a wooden bar, holding a glass of beer and looking directly at the camera. The background is a dimly lit brewery with shelves of beer bottles and various signs on the wall.

**“This program is good for anyone of any skill level.  
It gives you a step above anyone else when looking for jobs.”**

Ronnie Fink, director of brewing operations,  
Modern Brewery, Saint Louis, Mo.

**Check out Ronnie’s story and see more of our student reviews!**

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