



UNITED WE BREW

2023 Brewing and Malting Sciences Course

Sept. 29, 2023 – Dec. 1, 2023

Course Director: Rob McCaig

Virtual

Orientation: Friday, Sept. 29, 1:00 - 2:00 pm US Central Time

Week 1: September 29 – October 13 (Extra time allotted due to the Master Brewers Conference)

Independent Learning:

- Life Sciences for Brewers – *John Roll, University of Wisconsin, Department of Bacteriology*
- Malting Barley: Origins, Production, and Quality -- *Ashley McFarland, American Malting Barley Association*
- Workplace Health and Safety -- *Gary Nicholas, SanTan Brewing Company*

Live Zoom Discussion: Friday, October 13 (1:00 -4:00 CT)

Happy Hour (Optional, 4:00- 5:00)

Week 2: October 14- 20

Independent Learning:

- Plant Automation Principles and Automation for Craft -- *Martin Lutz, ProLeiT Corp*
- Brewing Microbiology -- *Bill Maca, HWM Yeast Solutions LLC*
- Brewery Water and Adjustment -- *Joe Walts, Karben4 Brewing*

Live Zoom Discussion: Friday, October 20 (1:00 -4:00 pm US Central Time)

Happy Hour (Optional, 4:00- 5:00)

Week 3: October 21-27

Independent Learning:

- Hop Production – *Ryan Gregory, Hopsteiner*
- Principles of Brewery Cleaning, Sanitizing and CIP -- *Dirk Loeffler, Loeffler Hygiene & Safety Solutions*
- Design and Operations Considerations for CIP – *Dirk Loeffler, Loeffler Hygiene & Safety Solutions*

Live Zoom Discussion: Friday, October 27 (1:00 -4:00 US Central Time)

Happy Hour (Optional, 4:00- 5:00)

Week 4: October 28- November 3

Independent Learning:

- Sour Beer Production -- *Marcio Buffolo, Shades Brewing*
- QC/QA – *Emily Wang, Fermly*
- Specialty Beers Design -- *Andy Farrell, Bell's Brewery Inc.*

Live Zoom Discussion: Friday, November 3 (12:30 -4:00 pm US Central Time)
Happy Hour (Optional, 4:00- 5:00)

Week 5: November 4 - 10

Independent Learning:

- Brewery Effluent Management -- *Jeff VanVoorhis, Symbiont, A Mead & Hunt Company*
- Cellar Operations and Beer Filtration -- *Tom Eplett, JT Eplett Brewing Technology Consulting LLC*
- Trends in Brewing (Alternative Beverages) -- *Emily Wang, Fermly*

Live Zoom Discussion: Friday, November 10 (12:30 -4:00 pm US Central Time)
Happy Hour (Optional, 4:00- 5:00)

Week 6: November 11 - 17

Independent Learning:

- Physical and Flavor Stability of Beer *Tom Eplett, JT Eplett Brewing Technology Consulting LLC*
- Nature of Brewing Yeast -- *Bill Maca, HWM Yeast Solutions LLC*
- Wort Aeration, Yeast Pitching, and Fermentation -- *Jeff Biegert, New Belgium Brewing*

Live Zoom Discussion: Friday, November 17 (12:30 -4:00 pm US Central Time)
Happy Hour (Optional, 4:00- 5:00)

In-person at The University of St. Thomas, Minneapolis, MN

Sunday, November 26

- Hotel Check-in
- Opening Banquet (6:00 pm)

Monday, November 27

- Tour: Rahr Malthouse
 - Malting and Malt Analysis – *Trevor Cowley*
 - Malthouse Tour
 - Technical Center Tour

Tuesday, November 28

- Brewing – *Steve Presley*
- Tour: Surly Brewing

Wednesday, November 29

- Brewing continued– *Steve Presley*
- Barrel Ageing of Beer – *Troy Casey*
- Sensory – *Janelle Harmon, Molson Coors Beverage Co.*
- Group Project—*Work time*

Thursday, November 30

- Brewing Adjuncts – *Scott Helstad, Cargill*
- Specialty Malt – *Dan Bies, Briess Malting Co.*
- Malt Flavor and Aroma – *Rob McCaig*
- Tour: Summit Brewery

Friday, December 1

- Hops, Hop Products & Dry Hopping – *John Paul Maye*
- Student Project Presentations
- Closing Banquet (6:00 pm)