

# 2017 MBAA Brewing and Malting Science Course

University of Wisconsin | Madison, Wisconsin, U.S.A

October 29 – November 10, 2017

**Course Director:** Fred Scheer, Kronen, Inc.

## Sunday, October 29 | Lowell Center

All Day Students pick up course information packets when checking in at the front desk

6:00 PM – 6:45 PM **Welcome Reception in Hospitality Room – Room 118 Lowell Center**

7:00 PM – 8:30 PM **Dinner – Lowell Center Dining Room**  
**Course Introduction and Lowell Center Information**  
*Fred Scheer, Course Director*

## Monday, October 30 | Pyle Center Room 335

8:00 AM – 8:30 AM **Team Assignments, Case Studies, and Student Introductions**  
*Fred Scheer, Course Director*

8:30 AM – 10:00 AM **Life Sciences for Brewers**  
*Jon Roll, University of Wisconsin, Department of Bacteriology*

10:15 AM – 12:00 PM **Malting Barley: Origins, Production, and Quality**  
*Scott Heisel, American Malting Barley Association*

12:00 PM – 1:00 PM **Lunch – Pyle Center Dining Hall**

1:00 PM – 3:00 PM **Malting and Malt Plant Operations**  
*Joseph Hertrich, Anheuser-Busch (retired)*

3:15 PM – 5:00 PM **Malt Analysis and Specifications**  
*Joseph Hertrich, Anheuser-Busch (retired)*

## Tuesday, October 31 | Pyle Center Room 335

8:00 AM – 9:30 AM **Brewing Adjuncts**  
*Scott Helstad, Cargill Sweeteners North America*

9:40 AM – 10:55 AM **Enzymes in Brewing**  
*David Maradyn, Novozymes*

11:05 AM – 12:15 PM **Specialty Malts—Manufacturing and Use**  
*Bob Hansen, Briess Malt & Ingredients*

12:15 PM – 12:45 PM **Lunch – Boxed Lunches**

12:45 PM – 1:00 PM **Load onto Bus at Pyle Center**

1:00 PM – 1:40 PM **Bus Trip to Waterloo, WI for Briess Malthouse Tour**

2:00 PM – 3:30 PM **Tour of Briess Waterloo Malthouse**

3:30 PM – 4:15 PM **Q&A and Refreshments at the Briess Malthouse**

4:30 PM – 5:15 PM **Board Bus and Return to Lowell Center**

## **Wednesday, November 1 | Pyle Center Room 335**

8:00 AM – 12:00 PM	<b>Hop Production: Harvest, Processing, and Pelleting</b> <i>Val Peacock, Hop Solutions Inc.</i>
12:00 PM – 1:00 PM	<b>Lunch – Pyle Center Dining Hall</b>
1:00 PM – 2:30 PM	<b>Hop Extracts &amp; Advanced Hop Products</b> <i>Tim Kostelecky, John I. Haas, Inc.</i>
2:45 PM – 4:15 PM	<b>Dry Hop Practices</b> <i>Jim Mellem, The Bruery</i>
4:15 PM – 5:00 PM	<b>Hop Discussion Panel</b>

## **Thursday, November 2 | Pyle Center Room 335**

8:00 AM – 10:30 AM	<b>Brewery Water and Adjustment</b> <i>Jim Mellem, The Bruery</i>
10:45 AM – 12:00 PM	<b>Brewery Effluent Management</b> <i>Jeff Van Voorhis, Symbiont</i>
12:00 PM – 1:00 PM	<b>Lunch – Pyle Center Dining Hall</b>
1:00 PM – 5:00 PM	<b>Principles of Brewery Cleaning, Sanitizing, and CIP</b> <i>Alejandro Rojas, Ecolab</i>

## **Friday, November 3 | Pyle Center Room 335**

8:00 AM – 10:15 AM	<b>Brewing Grain: Transport, Receiving, Storage, and Pest Control</b> <i>Steve Presley, Anheuser-Busch (Retired)</i>
10:30 AM – 12:00 PM	<b>From Grain to Wort: Milling</b> <i>Steve Presley, Anheuser-Busch (Retired)</i>
12:00 PM – 1:00 PM	<b>Lunch – Pyle Center Dining Hall</b>
1:00 PM – 3:00 PM	<b>From Grain to Wort: Mashing</b> <i>Steve Presley, Anheuser-Busch (Retired)</i>
3:15 PM – 5:15 PM	<b>From Grain to Wort: Separation</b> <i>Fred Scheer, Course Director</i>

## **Saturday, November 4 | Pyle Center Room 335**

8:00 AM – 10:00 AM	<b>From Grain to Wort: Wort Boiling, Whirlpool, and Cooling/Aeration</b> <i>Fred Scheer, Course Director</i>
1:00 PM – 4:00 PM	<b>Brewery Quality Assurance</b> <i>Laura Hill, Spoetzl Brewing</i>

## **Sunday, November 5 | Free Day**

All Day	<b>No Classes Scheduled</b>
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*\*subject to change*

## **Monday, November 6 | Pyle Center Room 335**

8:00 AM – 9:30 AM	<b>Yeast Metabolism</b> <i>Jon Roll, University of Wisconsin</i>
9:45 AM – 11:45 AM	<b>Brewing Microbiology</b> <i>Bill Maca, MillerCoors (Retired)</i>
11:45 AM – 12:45 PM	<b>Lunch – Pyle Center Dining Hall</b>
12:45 PM – 2:30 PM	<b>Nature of Brewing Yeasts</b> <i>Bill Maca, MillerCoors (Retired)</i>
2:45 PM – 5:15 PM	<b>Plant Engineering, Utilities, and Process Control</b> <i>Fred Scheer, Kronos, Inc.</i> <i>Darren Goodlin, Goodlin Process Solutions</i>

## **Tuesday, November 7 | Pyle Center Room 335**

8:00 AM – 10:00 AM	<b>Wort Aeration, Yeast Pitching, and Fermentation</b> <i>Jeff Biegert, New Belgium Brewing Company</i>
10:15 AM – 12:00 PM	<b>Cellar Operations and Beer Filtration</b> <i>Shannon Ambrosio, Miller Coors</i>
12:00 PM – 1:00 PM	<b>Lunch – Pyle Center Dining Hall</b>
1:00 PM – 2:30 PM	<b>Alternative Fermentations and Barrel Aging</b> <i>Steven Pauwels, Boulevard Brewing Company</i>
2:30 PM – 2:45 PM	<b>Load onto Bus at Pyle Center</b>
2:45 PM – 3:45 PM	<b>Bus Trip to New Glarus, WI</b>
4:00 PM – 5:30 PM	<b>Tour of New Glarus Brewing Company</b>
5:30 PM – 6:45 PM	<b>Board Bus and Return to the Lowell Center</b>

## **Wednesday, November 8 | Pyle Center Room 335**

8:00 AM – 10:00 AM	<b>Brewery Calculations</b> <i>John Seabrooks, Rio Bravo Brewery</i>
10:15 AM – 12:00 PM	<b>Formulating Specialty Beers</b> <i>Randy Thiel, New Glarus Brewing Company</i>
12:00 PM – 1:00 PM	<b>Lunch – Pyle Center Dining Hall</b>
1:00 PM – 2:45 PM	<b>Physical and Flavor Stability of Beer</b> <i>Tom Eplett, Miller Coors</i>
3:00 PM – 5:00 PM	<b>Beer Quality: Process Control and Quality Management</b> <i>John Seabrooks, Rio Bravo Brewery</i>

## **Thursday, November 9 | Pyle Center Room 335**

8:00 AM – 12:00 PM	<b>Student Team Presentations   Teams 1-6</b> <i>Case Study Review Panel</i>
12:00 PM – 1:00 PM	<b>Lunch – Pyle Center Dining Hall</b>
1:00 PM – 2:15 PM	<b>Basic Sensory Evaluation</b> <i>Roy Desrochers, GEI Consultants</i>

*\*subject to change*

2:15 PM – 2:45 PM

**Break – UPS Shipping Service Available at Pyle Center**

2:45 PM – 5:00 PM

**Beer Flavor Training**

*Roy Desrochers, GEI Consultants*

5:00 PM – 7:00 PM

**Hospitality Room Open – Room 118 Lowell Center**

7:00 PM – 9:00 PM

**Dinner and Awarding of Certificates – Lowell Dining Room**

*Fred Scheer, Course Director*

**Friday, November 10**

**| Pyle Center**

Before 11:00 AM

**Hotel Check Out**

8:45 AM – 9:00 AM

**IBD Exam Check-In**

9:00 AM – 11:00 AM

**IBD General Certificate (Brewing) Examination** (Prior registration required)

*Fred Scheer, Course Director*