WORLD BREWING ACADEMY

DOEMENS ACADEMY • SIEBEL INSTITUTE OF TECHNOLOGY

Academic Catalog

2022

WBACATALOG-8.5X11-02092022-ENG

Table of Contents

WORLD BREWING ACADEMY

World Brewing Academy

What is the WBA?

The World Brewing Academy (WBA) was created in 2001 between Doemens Academy of Munich, Germany, and the Siebel Institute of Technology, to create educational offerings which provide knowledge and expertise developed by these two long-standing and respected brewing institutes.

The core of the WBA approach is an intensive combination of theory and practice. Our two most advanced WBA programs begin at the Siebel Institute of Technology campus in Chicago, where students obtain the necessary theoretical base that will allow them to better understand the brewing process. The program then takes students to the Doemens Academy campus in Munich, where they deepen this accrued knowledge and put into practice. This special "new world/old world" approach, supported by experienced brewmasters on both campuses allows students the unique opportunity to experience different brewing cultures on two continents.

Steps to

Becoming a Brewer

Each WBA offering can be taken independently or together to complete a certificate program.

★☆☆

Entry Level

May be needed as a prerequisite to enroll in the WBA Concise Course in Brewing Technology, depending on a persons brewing knowledge and experience.

- **A** WBA Executive Overview of the Brewing Process

★★☆

Intermediate Level

May be needed as a prerequisite to to enroll in any advanced level courses or programs, depending on a persons brewing knowledge and experience.

- **B** WBA Fundamentals of Brewing Technology
- **C** WBA Concise Course in Brewing Technology

★★★

Advanced

The WBA Concise Course in Brewing Technology may be needed as a prerequisite, or passing the online assessment found on our website.

- 1 WBA Raw Materials and Wort Production Module (Module 1)
- 2 WBA Beer Production and Quality Control Module (Module 2)
- 3 WBA Packaging and Process Technology Module (Module 3)

WBA ADVANCED BREWING THEORY PROGRAM

- 4 WBA Business of Brewing and Technical Case Studies Module (Module 4)
- 5 WBA Applied Brewing Techniques Module (Module 5)
- 6 WBA European Brewery Study Tour Module (Module 6)

WBA INTERNATIONAL DIPLOMA IN BREWING TECHNOLOGY

- 7 WBA Advanced Applied Brewing Techniques Module (Module 7)

WBA MASTER BREWER PROGRAM

Available Online *Available on Campus (see each offering for specifics)*

WORLD BREWING ACADEMY

DOEMENS ACADEMY • SIEBEL INSTITUTE OF TECHNOLOGY

Advanced Level Offerings

World Brewing Academy

Master Brewer Program

Objectives

- *Provides an understanding of issues in brewing from a new world/old world international perspective — a unique education not offered by any other brewing school.*
- *Graduates will be capable of qualifying for many brewery positions such as head/lead brewer, brewing supervisor, lab tech, department manager, production manager or scheduler, etc.*

LOCATION

Siebel Institute, Chicago, USA
Doemens Academy, Munich, Germany

MODULE LENGTH/CLOCK HOURS

20 weeks (100 days)/700 hours

DOCUMENTS

Certificate of Completion and Transcript of Grades

TOTAL COST

- *$2,750 Application Processing Fee (non-refundable)*
- *$26,245 Regular Tuition*
- *Total: $28,995*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

This 20-week intensive program is comprised of in-depth theory and hands-on practical application of the learned knowledge. The program is divided into 1-to-8-week modules, with each module specializing in a particular area of brewing process or technologies.

WBA Raw Materials and Wort Production Module (Module 1) (Siebel Campus) — Provides training in the technology and science of wort creation. Each critical factor in wort production, from barley growth to wort boiling and cooling, is explained in detail. Students will complete this 2-week module with a complete understanding of the effects of products and processes on this area of the brewing cycle.

WBA Beer Production and Quality Control Module (Module 2) (Siebel Campus) — Provides the technical theory from the completion of wort cooling and boiling to the evaluation of packaged beer. This module offers in-depth instruction in fermentation and maturation, including all aspects of yeast handling and performance. This module also includes instruction in the process of quality control and assurance, ensuring that students understand the critical role that QA/QC plays in retaining the consistency and longevity of beer and other malt-based fermented products.

WBA Packaging and Process Technology Module (Module 3) (Siebel Campus) — Deals with processing and packaging of finished beer, as well as important engineering and "physical properties" issues. The packaging information includes the most recent developments in alternative materials (such as plastic bottles) and super-high-speed bottling systems. Engineering and process instruction includes topics such as properties of metals and other materials, fluid and pump dynamics, and other areas critical to improving brewery performance.

WBA Business of Brewing and Technical Case Studies Module (Module 4) (Doemens Campus, Spring 2022, otherwise Chicago campus) — The primary purpose of this 1-week module is to expose students to the challenges of running a packaging brewery. They will also learn the importance of anticipating competition regulatory and supply chain challenges, and their impact on the planning and budgeting processes, as well as the overall financial health of the brewery.

The Technical Case Studies portion is designed to emulate the dynamics found in commercial breweries. Students become part of small work groups and assigned case studies based on actual problematic situations. On the final day, each group will give a presentation resolving the given case study to both a panel of professionals and to their fellow classmates.

WBA Applied Brewing Techniques Module (Module 5) (Doemens Campus) — This 3-week module allows students to experience hands-on commercial brewing techniques in the brewing facilities of Doemens Academy in Munich. In this information-packed module, students will perform practical operations in brewing, maturation, packaging, and laboratory environments. Lab exercises are also included in this module. Students will also be trained in both traditional and state-of-the-art brewing techniques, giving them a truly international perspective of beer production.

WBA European Brewing Study Tour Module (Module 6) (Doemens Campus) — Over the span of nearly two weeks, students will travel throughout Europe to experience "behind the scenes" tours of breweries, equipment manufacturers, and product suppliers. Tours are conducted in English throughout this program by our World Brewing Academy instructional team, preparing students to get the most out of their visits.

World Brewing Academy

Master Brewer Program (cont)

WBA Advanced Applied Brewing Techniques Module (Module 7)

(Doemens Campus, Munich, GR) — This section is designed to give students advanced level practical skills in every key area of commercial brewing operations. Created by the faculty of Doemens Academy, this module takes students through over 300 hours of hands-on activities including extensive instruction in brewing microbiology and beer production at Doemens Academy, as well as practical hands-on experience at Munich area breweries. This intensive module will give students the practical skills and knowledge needed to work effectively in breweries of practically any size or configuration, and it will provide complete understanding of the activities involved in each department of a typical commercial brewery.

Blended-learning Option

Those wishing to take the WBA International Diploma in Brewing

Technology Program as “blended learning” by taking Modules 1-3 online (the WBA Advanced Brewing Theory program), then 4-6 in Munich, Germany, in Spring 2022, should contact the registrar for assistance on the registration steps.

Prerequisites

The WBA Master Brewer program requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll. This can be satisfied by: (a) Successfully passing the WBA Concise Course in Brewing Technology OR (b) Successfully passing the online Assessment

Admission Requirements

All students must be at least twenty-one (21) years of age.

Tuition Fees and Charges

The tuition pricing applies only to those enrolled in the 20-week continuous program.

Module-by-module "Over Time" Option

Those wishing to take the WBA Master Brewer Program on a module-by-module basis over one or more years are required to pay the individual tuition rates for each module. Please see the individual module pages in this catalog or our website for individual module tuition fees and charges. For assistance in calculating tuition costs, please contact the Registrar.

Students taking the full, continuous 20-week program receive round-trip airfare (Chicago O’Hare International Airport, Chicago, U.S.A., to Munich Franz Joseph Strauss International Airport and back to Chicago) within the cost of tuition. Room and board is the responsibility of the students in both Chicago and Munich.

Other Expenses

Living Expenses: $145.00 (hotel per day average)
Meals, City transportation, misc.: $55.00 (per day average)

World Brewing Academy

International Diploma in Brewing Technology Program

Objectives

- *Addresses issues in brewing from an international perspective, providing a depth of experience that is unavailable through any other institution.*
- *Graduates will be prepared to advance their careers through practical application of the learned advanced-level theory*

LOCATION

Siebel Institute, Chicago USA
Doemens Academy, Munich, Germany

MODULE LENGTH/CLOCK HOURS

12 weeks (60 days)/420 hours

DOCUMENTS/GRADED

Certificate of Completion and Transcript of Grades/Yes

TOTAL COST

- *$2,500 Application Processing Fee (non-refundable)*
- *$15,965 Regular Tuition*
- *Total: $18,465*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

This 12-week program is comprised of brewing theory and technologies, divided into 1-to-3-week modules, with each module specializing in a particular area of brewing process or technologies.

WBA Raw Materials and Wort Production Module (Module 1) (Siebel Campus) — Provides training in the technology and science of wort creation. Each critical factor in wort production, from barley growth to wort boiling and cooling, is explained in detail. Students will complete this 2-week module with a complete understanding of the effects of products and processes on this area of the brewing cycle.

WBA Beer Production and Quality Control Module (Module 2) (Siebel Campus) — Provides the technical theory from the completion of wort cooling and boiling to the evaluation of packaged beer. This module offers in-depth instruction in fermentation and maturation, including all aspects of yeast handling and performance. This module also includes instruction in the process of quality control and assurance, ensuring that students understand the critical role that QA/QC plays in retaining the consistency and longevity of beer and other malt-based fermented products.

WBA Packaging and Process Technology Module (Module 3) (Siebel Campus) — Deals with processing and packaging of finished beer, as well as important engineering and "physical properties" issues. The packaging 12 information includes the most recent developments in alternative materials (such as plastic bottles) and super-high-speed bottling systems. Engineering and process instruction includes topics such as properties of metals and other materials, fluid and pump dynamics, and other areas critical to improving brewery performance.

WBA Business of Brewing and Technical Case Studies Module (Module 4) (Doemens Campus only for Spring 2022 at this time, otherwise at Siebel) — The primary purpose of this 1-week module is to expose students to the challenges of running a packaging brewery. Students will learn the importance of planning and budgeting, both areas where they may currently, or soon, will need to contribute to. They will also learn the importance of anticipating competition regulatory and supply chain challenges, and their impact on the planning and budgeting processes, as well as the overall financial health of the brewery.

The Technical Case Studies portion is designed to emulate the dynamics found in commercial breweries. Students become part of small work groups and assigned case studies based on actual problematic situations. On the final day, each group will give a presentation resolving the given case study to both a panel of professionals and to their fellow classmates.

WBA Applied Brewing Techniques Module (Module 5) (Doemens Campus) — This 3-week module allows students to experience hands-on commercial brewing techniques in the brewing facilities of Doemens Academy in Munich. In this information-packed module, students will perform practical operations in brewing, maturation, packaging, and laboratory environments. Extensive instruction in brewing microbiology is included in this module. Students will also be trained in both traditional and state of the art brewing techniques, giving them a truly international perspective of beer production. WBA European Brewing Study Tour.

WBA European Brewing Study Tour Module (Module 6) (Doemens Campus) — Over the span of nearly two weeks, students will travel throughout Europe to experience unique "behind the scenes" tours of breweries, equipment manufacturers, and product suppliers. Tours are conducted in English language and overseen by Doemens instructional staff, ensuring students get the most out of the visits.

World Brewing Academy

International Diploma in Brewing Technology Program (cont)

Location
This program is split between the Siebel Institute in Chicago, USA, and Doemens Academy, Munich, Germany.

Blended-learning option:
Those wishing to take the WBA International Diploma in Brewing Technology Program as “blended learning” by taking Modules 1-3 online (the WBA Advanced Brewing Theory program), then 4-6 in Munich, Germany in Spring 2022, should contact the Registrar for assistance on the registration steps.

Prerequisites
The WBA International Diploma in Brewing Technology program requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll. This can be satisfied by: (a) Successfully passing the WBA Concise Course in Brewing Technology OR (b) Successfully passing the online Assessment

Admission Requirements
All students must be at least twenty-one (21) years of age.

Tuition
The tuition applies only to those enrolling in the full 12-week continuous program.

Module-by-module "Over Time" Option
Those wishing to take the WBA International Diploma in Brewing Technology Program on a module-by-module basis over one or more years are required to pay the individual tuition rates for each module. Please see the individual module pages in this catalog or our website for individual module tuition fees and charges. For assistance in calculating tuition costs, please contact the Registrar.

Students taking the full, continuous 12-week program receive round-trip airfare (Chicago O’Hare International Airport, Chicago, U.S.A., to Munich Franz Joseph Strauss International Airport and back to Chicago) within the cost of tuition. Room and board is the responsibility of the students in both Chicago and Munich.

Other Expenses
Living Expenses: $145.00 (hotel per day average)
Meals, City transportation, misc.: $55.00 (per day average)

World Brewing Academy

Advanced Brewing Theory Program

Objectives

- *Provides a complete understanding of the theoretical and technical issues encountered in professional brewing, no matter the size or scale of the operation*
- *Graduates will know how to improve their products, processes and profits*

LOCATION OPTIONS

Siebel Institute, Chicago USA
Online

MODULE LENGTH/CLOCK HOURS

6 weeks (30 days) or 9 months online access/210 hours

DOCUMENTS/GRADED

Certificate of Completion and Transcript of Grades/Yes

TOTAL COST

- *$1,000 Application Processing Fee (non-refundable)*
- *$9,995 Regular Tuition*
- *Total: $10,995*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

This program addresses the key theoretical topics in brewing technology and consists of three modules:

WBA Raw Materials and Wort Production Module (Module 1)
Provides education in the technology and science of wort creation. Each critical factor in wort production, from barley growth to malting to mashing and lautering to wort boiling and cooling, is explained in detail. Students will complete this module with a complete understanding of the effects of products and processes on this area of the brewing cycle.

WBA Beer Production and Quality Control Module (Module 2)
Provides the technical theory from the completion of wort cooling and aeration to the evaluation of packaged beer. This module offers in-depth instruction in fermentation and maturation, including all aspects of yeast handling and performance. This module also includes instruction in the process of quality control and assurance, ensuring that students understand the critical role that QA/QC plays in retaining the consistency and longevity of beer and other malt-based fermented products.

WBA Packaging and Process Technology Module (Module 3)
Deals with processing and packaging of finished beer, as well as important engineering and "physical properties" issues. The packaging 12 information includes the most recent developments in alternative materials (such as plastic bottles) and super-high-speed bottling systems. Engineering and process instruction includes topics such as properties of metals and other materials, fluid and pump dynamics, and other areas critical to improving brewery performance.

Location

The WBA Advanced Brewing Theory program (ABT) is offered both online or campus. The on-campus option allows students to participate in vibrant classroom discussions and develop close networks with fellow students. The online option allows students to advance through the program at their own pace and is run as a "virtual classroom" with weekly live chats and all lectures are fully narrated.

Prerequisites

The WBA ABT program requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll. This can be satisfied by: (a) Successfully passing the WBA Concise Course in Brewing Technology OR (b) Successfully passing the online assessment

Admission Requirements

All students must be at least twenty-one (21) years of age to attend campus. If a student is applying to the online option, the student must be of legal drinking age in their country of residence.

Module-by-Module "Over Time" Option

Those wishing to take the WBA Advanced Brewing Theory Program on a module-by-module basis over one or more years are required to pay the individual tuition rates for each module. Please see the individual module pages in this catalog or our website for individual module tuition fees and charges. For assistance in calculating tuition costs, please contact the Registrar.

Other Expenses-Campus

Living Expenses: $145.00 (hotel per day average)
Meals, City transportation, misc.: $55.00 (per day average)

World Brewing Academy

Raw Materials and Wort Production Module (Module 1)

Objectives

- *Gives students a complete understanding of the effects of products and processes on this area of the brewing cycle*
- *Each critical factor in wort production, from water to barley and malting technology to hop growing and usage through wort boiling and cooling is explained in detail*

LOCATION

Siebel Institute, Chicago USA
Online

MODULE LENGTH/CLOCK HOURS

2 weeks (10 days)/3 months online access/70 hours

DOCUMENTS/GRADED

Transcript of Grades/Yes

TOTAL COST

- *$550 Application Processing Fee (non-refundable)*
- *$3,425 Regular Tuition*
- *Total: $3,975*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

Great beer starts with quality raw materials and sound brewhouse practices, and the WBA Raw Materials and Wort Production module provides advanced-level education in the technology and science of wort creation. Students will also learn the analytical techniques involved in assessment of raw materials and wort towards achieving consistency in wort quality.

The WBA Raw Materials and Wort Production module can be taken individually, and the module is part of the WBA Advanced Brewing Theory, WBA International Diploma in Brewing Technology, and WBA Master Brewer programs.

Location

This module is offered both online and in-person. The campus option allows students to participate in vibrant classroom discussions and develop close networks with fellow students. The online option allows students to advance through the fully narrated module at their own pace and is run as a "virtual classroom" with weekly live chats and periodic live guided lectures. The average time spent studying is normally 7-10 hours per week depending on the individual.

Prerequisites

The WBA Raw Materials and Wort Production Module requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll. This can be satisfied by: (a) Successfully passing the WBA Concise Course in Brewing Technology OR (b) Successfully passing the online Assessment

Admission Requirements

All students attending campus must be at least twenty-one (21) years of age. If a student is applying to the online option, the student must be of legal drinking age in their country of residence.

Other Expenses - Campus

Lodging: $145.00 (per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

Underlying Fundamentals - Barley to Beer
Barley - The Cereal Grain
Barley - The Science of Seed Germination
Preparation for Malting
Malting Process: Steeping
Malting Process: Germination
Malting Process: Kilning
Malt Evaluation - Maltster's View
Malt Evaluation - Brewer's View
Adjuncts
Introduction to Hops
Hops - Types and Forms
Reduced Isomerized Hop Extracts
Hop Chemistry and Analysis
Hop Storage and Stability
Specialty Malts
Brewing Water Composition
Brewing Water Adjustmentsa
Hops: Craft Brewer's Perspective
Brewery Hazards
Milling
Mashing Theory and Enzymes
Mashing Process and Wort Composition
Wort Separation -- Lautering
Wort Separation -- Mash Filters
Wort Boiling
Wort Clarification
Wort Cooling, and Aeration
Brewing Calculation -- Mixing Formula
Recipe Formulation
Brewery Waste - Liquid and Solid Effluents
Brewhouse Cleaning and Sanitation
Hop Addition: "Hot Side"

World Brewing Academy

Beer Production and Quality Control Module (Module 2)

Objectives

- *Gives students in-depth instruction in fermentation and maturation, quality assessment and quality control, together with an understanding of the science of yeast and fermentation and its role in defining many of the key attributes in the finished beer*

LOCATION

Siebel Institute, Chicago USA
Online

MODULE LENGTH/CLOCK HOURS

2 weeks (10 days)/3 months online access/70 hours

DOCUMENTS/GRADED

Transcript of Grades/Yes

TOTAL COST

- *$550 Application Processing Fee (non-refundable)*
- *$3,425 Regular Tuition*
- *Total: $3,975*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

This module offers instruction in the process of fermentation, understanding yeast and yeast morphology, microbiology, and beer filtration, ensuring that students understand how critical each of these areas plays into maintaining quality, consistency and shelf life of the finished beer.

The WBA Beer Production and Quality Control module can be taken individually, and the module is part of the WBA Advanced Brewing Theory, WBA International Diploma in Brewing Technology, and WBA Master Brewer programs.

Location

This module is offered both online and in-person. The campus option allows students to participate in vibrant classroom discussions and develop close networks with fellow students. The online option allows students to advance through the fully narrated module at their own pace and is run as a “virtual classroom” with weekly live chats and periodic live guided lectures. The average time spent studying is normally 7-10 hours per week depending on the individual.

Prerequisites

The WBA Beer Production and Quality Control Module requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll. This can be satisfied by: (a) Successfully passing the WBA Concise Course in Brewing Technology OR (b) Successfully passing the online Assessment

Admission Requirements

All students attending campus must be at least twenty-one (21) years of age. If a student is applying to the online option, the student must be of legal drinking age in their country of residence.

Other Expenses - Campus

Lodging: $145.00 (per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

Yeast Morphology
Yeast Characteristics for Brewing
Yeast Nutrition
Yeast Metabolism
Yeast Pure Culture and Propagation
Yeast Physical Behavior
Fermentation Operations
Alternative Fermentation Techniques
Fermentation Flavor Compounds
Yeast Quality Measurement
Yeast Management (Handling Practices)
Dry Yeast Production
Maturation -- Storage Principles
Alternative Aging and Storage Techniques
Processing Aids
Beer Filtration: Theory and Mechanisms
Beer Filtration: Filters and Operations
Centrifuges
Carbonation
Hop Addition: "Cold Side"
Introduction to Brewing Microbiology
Beer Spoilage Potential and Brewery Contaminants
Detection and Identification of Brewery Contaminants
Brewery CIP
Oxygen Control
Colloidal Stability
Flavor Stability
Beer Chemical Analyses
Interpretation of Beer Analyses
Comprehensive QA/QC Program
Beer Foam
Cleaning and Sanitizing
Application of Genetic Tests in Breweries

World Brewing Academy

Packaging and Process Technology Module (Module 3)

Objectives

- *Provides students with instruction on processing and packaging of finished beer, as well as important engineering issues*
- *Students will leave with a solid knowledge of the various options available for packaging along with troubleshooting pumps, valve applications and process knowledge*

LOCATION

Siebel Institute, Chicago USA
Online

MODULE LENGTH/CLOCK HOURS

2 weeks (10 days)/3 months online access/70 hours

DOCUMENTS/GRADED

Transcript of Grades/Yes

TOTAL COST

- *$550 Application Processing Fee (non-refundable)*
- *$3,425 Regular Tuition*
- *Total: $3,975*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

Packaging and brewery engineering play a major role in any brewery, so brewers need a sound understanding about the principles involved in this complex area of brewing science.

The packaging course segments include the most recent developments in alternative materials (such as plastic bottles) along with the latest craft packaging options and super-high-speed bottling systems. Engineering and process instruction includes topics such as materials of construction, fluid and pump dynamics, and other areas critical to ensuring product integrity .

The WBA Packaging and Process Technology module can be taken individually, and is part of the WBA Advanced Brewing Theory, WBA International Diploma in Brewing Technology, and WBA Master Brewer programs.

Location

This module is offered both online and in-person. The on-campus option allows students to participate in vibrant classroom discussions and develop close networks with fellow students. The online option allows students to advance through the fully narrated module at their own pace and is run as a "virtual classroom" with weekly live chats and periodic live guided lectures. The average time spent studying is normally 7-10 hours per week depending on the individual.

Prerequisites

The WBA Packaging and Process Technology Module requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll. This can be satisfied by: (a) Successfully passing the WBA Concise Course in Brewing Technology OR (b) Successfully passing the online Assessment

Admission Requirements

All students attending campus must be at least twenty-one (21) years of age. If a student is applying to the online option, the student must be of legal drinking age in their country of residence.

Other Expenses - Campus

Lodging: $145.00 (per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

Beer Packaging Overview
Cask Conditioning
Bottle Conditioning
Kegging -- Single Valve Keg
Draught Dispense
Packaging Line Design and Flow
Packaging Materials
Bottle Filling and Crowning Technology
Principles of Canning
Principles of Pasteurization
Maintenance Principles
Brewery Design
Fluid Flow Fundamentals
Gases in a Brewery
Valves in a Brewery
Pumps in a Brewery (and Troubleshooting Exercises)
Steam Fundamentals
Principles of Heat Transfer (and Basic Energy Calculations)
Glycol Cooling Fundamentals
Principles of Refrigeration
Materials of Construction
Process Control and Automation
CO2 Collection Systems
Compressed Air Systems
Statistics
Process Troubleshooting

World Brewing Academy

Business of Brewing & Technical Case Studies Module (Module 4)

Objectives

- *Exposes students to the challenges of running breweries and making sound business decisions*
- *Students will leave with an understanding of how to budget and financially operate a business in a fiscally responsible manner*

LOCATION

Siebel Institute, Chicago USA - Fall 2022
Doemens Academy, Munich, Germany - Winter 2022

MODULE LENGTH/CLOCK HOURS

1 week (5 days)/35 hours

DOCUMENTS/GRADED

Transcript of Grades - Pass/Fail

TOTAL COST

- *$250 Application Processing Fee (non-refundable)*
- *$2,270 Regular Tuition*
- *Total: $2,520*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Business of Brewing

Utilizing a format where groups of students create their own brewing company and take part in a simulated "beer market" to compete against each other breweries to better understand the importance of planning and budgeting — both areas where many may currently, or soon need to, contribute to. They will also learn the importance of anticipating competition, changes to the market, supply chain issues, and their impact on the planning and budgeting processes.

Technical Case Studies

Designed to emulate the dynamics found in commercial breweries, students are assigned case studies based on actual situations from operating breweries. Each group must create and deliver a presentation in the classroom that addresses solutions for their assigned case. As part of our advanced course offerings, the WBA Technical Case Studies is meant for those with a previous understanding of commercial brewing education and brewing technologies.

This module can be taken individually if the previous modules have been successfully completed, and is part of the WBA International Diploma in Brewing Technology and WBA Master Brewer programs.

Location

Coursework in Spring 2022 is offered at Doemens Academy in Munich, Germany. (Doemens campus, Spring 2022, otherwise Chicago campus)

Prerequisites

This module cannot be taken unless the applicant has completed and passed the WBA Advanced Brewing Theory Program or those modules thereof.

Admission Requirements

All students must be at least twenty-one (21) years of age.

Other Expenses

Lodging: $145.00 (per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

- Planning and budgeting
- Understanding how to react to competitive, regulatory, and supply chain issues
- Analysis of real-life brewery problem scenarios and arriving at options addressing production and financial implications

World Brewing Academy

Applied Brewing Techniques Module

(Module 5)

Objectives

- *Train students in a full range of brewing techniques, offering them a truly international perspective on beer production*
- *Students will possess practical experience in the brewery and lab*

LOCATION

Doemens Academy, Munich, Germany

MODULE LENGTH/CLOCK HOURS

3 weeks (15 days)/105 hours

DOCUMENTS/GRADED

Transcript of Grades/Yes

TOTAL COST

- *$1,000 Application Processing Fee (non-refundable)*
- *$5,515 Regular Tuition*
- *Total: $6,515*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

The 3-week WBA Applied Brewing Techniques module allows students to experience hands-on commercial brewing and lab exercises in the facilities of Doemens Academy, Munich, Germany. Doemens Academy offers one of the most advanced practical training facilities in brewing education, with a fully equipped, 4-vessel, state-of-the-art brewhouse, open and closed fermentation vessels, and a fully modern packaging environment.

In this information-packed module, students will perform practical brewing operations in beer production, from recipe formulation to milling, brewing, yeast pitching, and monitoring to fermentation through filtration and packaging. Students will also be trained in a range of brewing techniques while under the supervision of the exceptional brewing instructors working at Doemens.

During the module, students also get to experience the historic brewing culture of Munich, one of the world's foremost brewing capitals, and a central gateway to many of the great regions of Europe, allowing students to explore as their study schedule permits.

The module can be taken individually if the previous modules have been successfully completed and passed and is part of the WBA International Diploma in Brewing Technology and WBA Master Brewer programs.

Prerequisites

This module cannot be taken unless the applicant has completed and passed the WBA Advanced Brewing Theory Program or those modules thereof.

Admission Requirements

All students attending campus must be at least twenty-one (21) years of age.

Other Expenses

Lodging: $145.00 (per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

Hop Calculations
Bottle Fermentation Calculations
Brewing Calculations
Practical Filling
Chemical Technical Analysis Theory
Yeast Propagation
Cleaning and Disinfection
Microbiologyand Theory
German Purity Law
High Gravity Brewing
Implementation of Quality Analysis
Brew Preparation and Control
Beer Styles and Sensory
Filling Plant Introduction
Practical Brewing
Filtration
Draught Systems

World Brewing Academy

European Brewing Study Tour Module
(Module 6)

Objectives
- *Students will travel throughout Europe to get behind-the-scenes tours of breweries, equipment manufacturers, and product suppliers*
- *Students will see how different breweries utilize differing techniques, equipment and ingredients to create their beers*

LOCATION

Doemens Academy, Munich, Germany

MODULE LENGTH/CLOCK HOURS

2 weeks (9 days touring)/70 hours

DOCUMENTS/GRADED

Pass/Fail

TOTAL COST

- *$550 Application Processing Fee (non-refundable)*
- *$3,425 Regular Tuition*
- *Total: $3,975*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description
The WBA European Brewing Study Tour module is more than just a brewing field trip, it is a learning experience like no other. The study tour is designed to build on the knowledge students have previously gained in the advanced brewing modules.

Over the span of nearly two weeks, students will travel throughout Europe to get behind-the-scenes tours of breweries, equipment manufacturers, and product suppliers. While fast-paced, the tour allows students time to absorb the beauty of Europe while learning from each location visited.

The module can be taken individually and is part of the WBA International Diploma in Brewing Technology, and WBA Master Brewer programs.

Location
The tour will feature European breweries, equipment manufacturers and ingredient suppliers across several countries.

Prerequisites
The tour requires students to have a specific knowledge of brewing technologies and/or related sciences in order to be approved to enroll.

Admission Requirements
All students must be at least twenty-one (21) years of age.

Other Expenses
Hotel costs will be provided to students minimally 4-weeks before the tour begins, and to be paid 3-weeks before the start of the tour.

Meals, city transportation, misc.: $55.00 (per day average)

Topics Include:
- Behind-the-scenes visits to suppliers, manufacturers and breweries throughout Europe
- See the application in real-life of the theoretical knowledge accrued through the program of study
- Immersion into the beer culture of each country and region visited

World Brewing Academy

Advanced Applied Brewing Techniques Module (Module 7)

Objectives

- *Students will receive advanced-level practical skills in every key area of brewing operations*
- *Students will possess expertise needed to work effectively in breweries of practically any size or configuration*

LOCATION

Doemens Academy, Munich, Germany

MODULE LENGTH/CLOCK HOURS

8 weeks (40 days)/280 hours

DOCUMENTS/GRADED

Transcript of Grades/Yes

TOTAL COST

- *$2,500 Application Processing Fee (non-refundable)*
- *$13,260 Regular Tuition*
- *Total: $15,760*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Prerequisites

To qualify for the Advanced Applied Brewing Techniques Module (Module 7), all previous modules must have been successfully completed previously.

Admission Requirements

All students must be at least twenty-one (21) years of age.

Other Expenses

Living Expenses: $145.00 (hotel per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

- Advanced-level lab testing
- Advanced-level QA/QC applications
- Hands-on brewing both at Doemens Academy and at external breweries in the Munich area

Description

This module is designed to give students advanced-level practical skills in every key area of a brewing operation, including over 300 hours of hands-on activities in the production and lab facilities of Doemens Academy. Students will produce batches of beer from recipes which they will have written and developed, and the Doemens' instructional staff will shepherd the students through the entire brewing process while conducting numerous tests to assure the quality and consistency of the beers.

Upon completion, students will have a complete understanding of the activities involved in each production area of a typical brewery.

World Brewing Academy

Specialized Lectures

Available Online Lectures:

Series 100 – Malting and Raw Materials

Underlying Fundamentals - Barley to Beer *coming soon*
Barley - The Cereal Grain *coming soon*
Barley - The Science of Seed Germination *coming soon*
Preparation for Malting *coming soon*
Malting Process: Steeping *coming soon*
Malting Process: Germination *coming soon*
Malting Process: Kilning *coming soon*
Malt Evaluation - Maltster's View *coming soon*
Malt Evaluation - Brewer's View *coming soon*
Adjuncts
Introduction to Hops
Hops - Types and Forms
Reduced Isomerized Hop Extracts *coming soon*
Hop Chemistry and Analysis *coming soon*
Hop Storage and Stability *coming soon*
Specialty Malts
Brewing Water Composition *coming soon*
Brewing Water Adjustments *coming soon*
Hops: Craft Brewer's Perspective

Series 200: Brewhouse

Brewery Hazards
Milling
Mashing Theory and Enzymes *coming soon*
Mashing Process and Wort Composition *coming soon*
Wort Separation -- Lautering
Wort Separation -- Mash Filters
Wort Boiling
Wort Clarification *coming soon*
Wort Cooling, and Aeration *coming soon*
Brewing Calculation -- Mixing Formula
Recipe Formulation
Brewery Waste - Liquid and Solid Effluents
Brewhouse Cleaning and Sanitation
Hop Addition: "Hot Side"

Series 300: Yeast and Cellars

Yeast Morphology
Yeast Characteristics for Brewing
Yeast Nutrition
Yeast Metabolism
Yeast Pure Culture and Propagation
Yeast Physical Behavior
Fermentation Operations
Alternative Fermentation Techniques
Fermentation Flavor Compounds *coming soon*
Yeast Quality Measurement
Yeast Management (Handling Practices)
Dry Yeast Production
Maturation -- Storage Principles
Alternative Aging and Storage Techniques
Processing Aids
Beer Filtration: Theory and Mechanisms
Beer Filtration: Filters and Operations
Centrifuges
Carbonation
Hop Addition: "Cold Side"

Series 400: Quality Assurance and Control

Introduction to Brewing Microbiology
Beer Spoilage Potential and Brewery Contaminants
Detection and Identification of Brewery Contaminants
Brewery CIP
Oxygen Control
Colloidal Stability
Flavor Stability
Beer Chemical Analyses
Interpretation of Beer Analyses
Comprehensive QA/QC Program
Beer Foam
Cleaning and Sanitizing
Application of Genetic Tests in Breweries

World Brewing Academy

Specialized Lectures

Series 500: Packaging

Beer Packaging Overview *coming soon*
Cask Conditioning *coming soon*
Bottle Conditioning
Kegging -- Single Valve Keg
Draught Dispense
Packaging Line Design and Flow *coming soon*
Packaging Materials *coming soon*
Bottle Filling and Crowning Technology *coming soon*
Principles of Canning
Principles of Pasteurization *coming soon*
Maintenance Principles

Series 600: Engineering

Brewery Design
Fluid Flow Fundamentals
Gases in a Brewery
Valves in a Brewery
Pumps in a Brewery (and Troubleshooting Exercises)
Steam Fundamentals
Principles of Heat Transfer (and Basic Energy Calculations)
Glycol Cooling Fundamentals
Principles of Refrigeration
Materials of Construction
Process Control and Automation
CO2 Collection Systems
Compressed Air Systems
Statistics
Process Troubleshooting
Liquid Processing

WORLD BREWING ACADEMY

DOEMENS ACADEMY • SIEBEL INSTITUTE OF TECHNOLOGY

Intermediate Level Offerings

World Brewing Academy

Concise Course in Brewing Technology

Objectives

- *Covers every topic critical to successful brewery operations of all sizes*
- *Provides a comprehensive intermediate level of knowledge of the brewing process and dynamics of brewery operations*
- *Successful completion qualifies students to continue their brewing education in the advanced level programs such as the WBA Advanced Brewing Theory, WBA International Diploma in Brewing Technology, or the prestigious WBA Master Brewer.*

LOCATION

Siebel Institute, Chicago USA
Online

COURSE LENGTH/CLOCK HOURS

2 weeks (10 days) or 3 months online access/70 hours

DOCUMENTS

Certificate of Completion and Transcript of Grades

TOTAL COST

- *$550 Application Processing Fee (non-refundable)*
- *$3,430 Regular Tuition*
- *Total: $3, 980*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

The WBA Concise Course in Brewing Technology is an ideal course for those considering entrance into the brewing industry, or for those who are currently working in the industry but need to understand the "why" of what they are doing. After completion, students will have built upon their existing knowledge of brewing science and technology — advancing and improving their current level of knowledge.

Location

This course is offered on campus or online. The campus option allows students to participate in vibrant classroom discussions and develop close networks with fellow students. The online option allows students to advance through the course at their own pace and is run as a "virtual classroom" with weekly live chats and periodic live guided lectures.

Prerequisites

Prior knowledge of brewing process basics through either home brewing (1 year) OR having previously earned a Certificate of Attendance for the WBA Executive Overview of the Brewing Process is required. Student performance for the latter is subject to review.

Admission Requirements

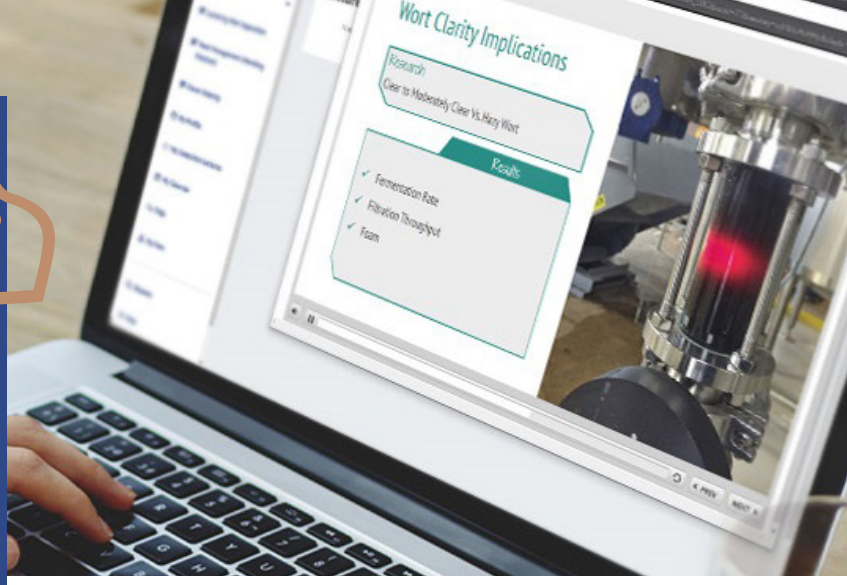
All students must be at least twenty-one (21) years of age to attend campus. If a student is applying to the online option of a course, the student must be of legal drinking age in their country of residence.

Other Expenses - Campus

Living Expenses: $145.00 (hotel per day average)
Meals, City transportation, misc.: $55.00 (per day average)

Topics Include:

Brewing Process Overview
Basic Brewing Chemistry
Brewing Water Basics
Brewing Water Adjustments
Introduction to Hops
Barley and Malting
Malt Analyses
Specialty Malts
Adjuncts
Milling
Mashing
Wort Separation
Wort Boiling
Wort Clarification, Cooling and Aeration
Recipe Formulation
Brewing Calculations and Mixing Formula
Nature of Yeast
Yeast Growth and Propagation
Yeast Management
Fermentation, Maturation, and High Gravity Brewing
Fermentation Flavors
Principles of Beer Filtration (Introduction to Centrifugation)
Keg and Dispense
Keg Cleaning and Filling
Brewery Hazards
Introduction to Sensory Evaluation
Introduction to Beer Styles
Brewery Contaminants
Brewery Cleaning and Sanitizing
Beer Stability (Colloidal, Foam and Flavor)
Valves - Brewery Applications
Introduction to Pumps
Packaging Processes



World Brewing Academy

Fundamentals of Brewing Technology

The 5-weeks of online access for the online WBA Fundamentals of Brewing Technology course will provide students with the primary foundations of the brewing process at an intermediate level. Within a very short timeframe, students will gain a level of brewing knowledge that will benefit them immediately.

LOCATION

Siebel Institute, Chicago USA
Online

COURSE LENGTH/CLOCK HOURS

5 days or 5 weeks of access

DOCUMENTS

Certificate of Accomplishment

TOTAL COST

- *$0 Online / $100 Application Processing Fee (non-refundable)*
- *$1,545 Regular Tuition*
- *Total: $1,545 Online / $1,645 On campus*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

The WBA Fundamentals of Brewing Technology course is a recently created offering, targeting only the core topics from our more thorough WBA Concise Course in Brewing Technology. The subject matter was carefully selected based on what is considered to be essential brewing knowledge, important to both professional and experienced homebrewers alike. The concept was born out of an increasing demand for a shorter intermediate-level educational offering for those with limited time and finances. Also of importance is if in the future a student would like to take the WBA Concise Course in Brewing Technology, the full amount paid for the WBA Fundamentals of Brewing Technology course will be applied towards the tuition for the WBA Concise Course of Brewing Technology, taken either online or on campus.

Admission Requirements

All students applying for this course must be of legal drinking age in the country residing in.

Location

This course is offered as a 5 day on campus course or online with 5-weeks of access, beginning immediately upon payment. This allows students to fast-track their own education and advance through the material at their own pace, with the opportunity to request content clarification from an expert monitor via email.

Prerequisites:

Prior knowledge of the brewing process basics through either home brewing (1-year) OR having previously completed the WBA Executive Overview of the Brewing Process is recommended

Topics Include:

Brewing Process Overview
Basic Brewing Chemistry
Brewing Water Basics
Brewing Water Adjustments
Introduction to Hops
Barley and Malting
Specialty Malts
Milling
Mashing
Wort Separation
Wort Boiling
Wort Clarification, Cooling and Aeration
Recipe Formulation
Nature of Yeast
Yeast Growth and Propagation
Yeast Management
Fermentation, Maturation, and High Gravity Brewing
Fermentation Flavors
Principles of Beer Filtration (and Introduction to Centrifugation)
Brewery Contaminants

WORLD BREWING ACADEMY

DOEMENS ACADEMY • SIEBEL INSTITUTE OF TECHNOLOGY

Entry Level Offerings

World Brewing Academy

Executive Overview of the Brewing Process

Objectives

- *Allows executives, administrative staff, and brewing industry decision-makers to understand the very basics of beer production.*
- *Will assist those interested in joining the brewing industry or for those wanting to understand the basics of the commercial brewing process*

LOCATION

Online

COURSE LENGTH/CLOCK HOURS

3 weeks online access (21 days)/21 hours

DOCUMENTS

Certificate of Attendance

TOTAL COST

- *$100 Application Processing Fee (non-refundable)*
- *$915 Regular Tuition*
- *Total: $1,015*

ENROLL

To apply, please visit our website at ***siebelinstitute.com***

Description

Learn the basics of brewery dynamics without the need to travel. The online WBA Executive Overview of the Brewing Process course offers an extensive range of topics covering each area of beer production.

Participants study as their schedule permits and can utilize the resources of their own brewery (if applicable) for practical application of their course materials.

Location

This course is offered online, and three sessions per year. A three weeks window of access is given to complete the course, which allows students to advance through the material at their own pace. The course is also run as a "virtual classroom" with weekly chat sessions.

The average time per student spent studying is 5-hours or less per week, depending on the individual.

Tutors

Students are tutored by the instructional staff of the World Brewing Academy (WBA), drawing on the talents of some of the most knowledgeable scientists, technologists, and brewmasters in the world.

Prerequisites

For this course, prior brewing knowledge is not required.

Admission Requirements

All students applying for an online program, module or course must have proof to be of legal drinking age in their country of residence in order to be approved and admitted by submitting a copy of their passport, residence permit or driver's license.

Payment Terms

To reserve a seat in any course, module or program, the required non-refundable Application Processing Fee (APF) must be paid within 5 (five) days after a student is accepted.

To qualify for "Regular Tuition" pricing, full payment must be received no later than 14-days in advance of the course, module or program start date. "Late Tuition" will apply after this time.

Topics Include:

Overview of the Brewing Process
History of Beer
Malting, Adjuncts, and other Materials
Brewing Water
Brewer's Yeast
Introduction to Hops
Milling
Mashing and Separation (Lautering)
Boiling, Whirlpool, Cooling and Aeration
Fermentation
Maturation, Storage and Filtration
Packaging and Warehousing
Cleaning and Sanitizing
Beer Dispense and Serving
Biological control
Quality Issues
Beer Styles