Academy Philosophy:

Although this is the "Master Brewer Academy", we strongly encourage our students to define "Master Brewer" as someone who is willing to check-in & collaborate with other brewers, to be open to new ideas, and to keep up with the current trends in Brewing.

Academy Mission - Students:

The Mission of the Academy is 2-fold:

1) to instill in its "graduates" a normalcy of collaboration and self-study, and
2) to guide it's "graduates" to achieve mastery in multi-tasking & flexibility, while marrying the art and science of brewing

Academy Mission - South Florida Brewing Community:

The mission of the Academy is 3-Fold:

1) To provide South Florida breweries with a fresh supply of locally trained brewers
2) To emphasize the importance of Quality Assurance & Control, ensuring consistency and quality in Brewing.
3) To assist in building the South Florida Community of Brewers

MBA Course Overview

Content Area I: The Science of Brewing
- Topic 1: Wort Chemistry (Malt)
- Topic 2: Wort Chemistry (Hops)
- Topic 3: Wort to Beer (Water Chemistry / Intro to Fermentation)
- Topic 4: Fermentation

Content Area II: Brewing Technology & Equipment
- Topic 5: Brewing technology
- Topic 6: Sanitizing technology
- Topic 7: Packaging technology

Internship:
- 3 week - Internship

Content Area III: The “Craft” of Brewing - Advanced Topics
- Topic 8: Recipe Formulation
- Topic 9: Advanced Cellaring
- Topic 10: The Business of Brewing
- Topic 11: QA / QC

MBA Course Overview – Nights & Weekends:

Although to get the most out of this program, we recommend attending all of the topics in order, as they build on each other, it is possible to "drop in" on individual topics (dates & prices below).

Dates & Pricing for 2023 (subject to change):

Topic	Dates	Nights & Weekends
I Malt	Jan 5-21	$925
II Water	Feb 2 - 11	$550
III Hops	Feb 23-Mar 9	$825
IV Yeast	Mar 30 - April 25	$1,125
V Brew Tech	May 11 - 25	$825
VI Sanitization	June 8 - 22	$825
VII Packaging	July 6 - 20	$825
Internship	July 24- Sept 1	Included (***if in-full*)
VIII Adv.-Recipe	Sept 7 - 16	$550
IX Adv.-Cellar	Sept 28 - Oct 7	$550
X Adv.-Business	Oct 19 - 28	$550
XI Adv.-QA/QC	Nov 9 - 18	$550
Total Price		**$7,950**
Paid In full		**$6,750**
		(~15% off)

** Weekend of Easter off (no class Sat. April 8).*
***The internship is included if you've completed all classes to that point.*

Topic 1	Intro			Take Notes!! (Keeping clear / accurate records); Safety; Sensory Evaluations
	I. The Science of Brewing			
	1) Chemistry Wort	Malt	Malting	Barley anatomy and physiology / Genetics; Steeping, Germination, Kilning; organic chemistry (carbs, proteins / enzymes, lipids)
			Milling	Purpose, Procedure; grist fraction analysis; handling & safety.
			Mashing I	Enzymes - effect of temp, pH & time on activity; Calculations – brewhouse performance; Times and temps for best starch conversion; Adjuncts (basic) – types & method of use
			Boiling I	Purpose – sterilization, enzyme stability, evaporation, trub formation, flavor development; Liquid adjuncts;
			Wort Separation I	Devices; assessment of clarity; Grain bed; spent grains
Topic 2		Hops	Botany	Hops taxonomy, plant anatomy / physiology, genetics
			Hops Chemistry	Aroma & bitterness (IBU), isomerization; calculations
			Boiling II	Bitterness / aroma effected by supplemental additions; calculations – bitterness & utilization.
			Wort Separation II	Trub constituents; fining; removal methods; cooling & oxygenation.
Topic 3	2) Micro-Biology Fermentation	Water	Chemistry	Polarity (solubility), pH, hardness, mineral content
			The 3 Needs	Product, Process, Service - specifications for each.
			Sources & Treatment	Basics – filtration, sterilization, softening (influence of hardness on mash water), de-aeration. Sustainability.
			Effluent	Nature & characteristics of; components – SS, BOD, pH, temp
		Yeast	Mycology	Anatomy & Physiology, Natural selection, yeast varieties – lager vs. ale; microscopic analysis
Topic 4			Respiration / Fermentation	Main phases & events; nutritional needs; aerobic / anaerobic; factors effecting phase & speed.
			Pitching	The lab – cell counts; selection – health, viability, vitality; acid washing; Calculations – pitching rate
			Propagation	The lab – "grow your own"; Basic procedures; Removal of yeast from completed fermentation; monitoring growth; storage
			ABV	
II. 3) Equipment & Technology				
*Ongoing Project: Selection, design & layout of Brewery				
Topic 5	a) Brewing	Wort	The Mill	Operating principles & diagrammatic representation of mills and malt prep equipment
			Mash tun	Operating principles & diagrammatic representation of mash conversion systems
			Boiling kettle	Operating principles & diagrammatic representation of wort boiling systems
			Fluid Transfers	Mill to Mash; Mash to Kettle; Kettle to Fermenter; Yeast
			Heat transfer	Steam boiler, Operating principles & diagrammatic representation of a type of wort cooler
		Beer	MicroBio lab	Yeast cell counts, vitality & viability measurement equipment
			Fermenter	Operating principles & diagrammatic representation of fermentation vessels.
			Refrigeration	Procedures for the temperature control of fermentation

			Conditioning	BBT; principles of wort oxygenation systems.
Topic 6	b) Sanitizing / Spoilage		Purpose	Types of spoilage – oxidation, anaerobic growth, spoilage organisms;
			Safety	Monitoring for safe environment; exposure limits; cleaning / sterilizing hazards; chem storage; PPE; Safety procedures – in case; Safe handling / storage of compressed gas cylinders.
			Methods	DO meter; Designs for cleaning systems - CIP, Detergents, sterilants & heat sterilization
			Lab	Microbiological testing; sampling points; how to "combat"
			Different needs	Kettle to Fermenter; Yeast handling; Fermenter to packaging
Topic 7	c) Transport / Storage / Packaging		Gas laws / Fluid Flow	Process gases - Compressed air, O2, CO2 & N; Physics 101
			Transport	Pumps & Hoses; warm maturation & cold storage
			Types (basic)	Keg / draught (CO2/Nitrogen), bottles / cans; casks; bottle conditioning
			Filtration	Purposes & principles;
			Carbonation	
			Refrigeration	Operating principles & diagrammatic representation of a beer chiller
III. 4) Advanced Topics – The "Craft" of Brewing				
Topic 8	Wort to Beer	Ingredients	All-Together-Now	Represent brewing process as a flow diagram; Variable nature of ingredients - the influence of each beer ingredient on one another.
			Recipe Formulation	Understanding beer styles; Calculations needed to "predict" beer flavor, color, aroma, ABV, etc
			Adjuncts (other)	Types and methods
Topic 9			Wild-Yeast	Belgian
			Specialty Yeast	High ABV
	Packaging		Types	Cask conditioned; Bottle conditioned; warm maturation; cold storage; filtration
Topic 11	Quality Control		Process control	Monitoring & Adjusting; Tolerance values; Beer type specifications; Evaluating - flavor wheel; panel testing; common faults; Lab
IV. 5) The Business of Brewing				
Topic 10	Costs	Brewing	Raw materials	Purchasing – barley, hops, yeast, water treatment solutions
			QC / Legal	Features of a "quality" system; Control of product safety; Regulations – (OSHA, DERM, etc)
		Utilities		
		Marketing & Distribution		
		HR		
V. Internship				

Week 1	Focus: Brewing Science and Equipment - Basics
Week 2	Focus: Brewing Science and Equipment - Advanced
Week 3	Focus: Business

* Although the layout and design of the syllabus was created by the MBA, most of the topics are in-line with those of the Institute of Brewing and Distilling (IBD), preparing students to take the IBD "General Certificate in Brewing" exam with confidence!

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Topical Case Studies and Research: As part of the MBA mission of encouraging collaboration and self-study, at the beginning of each topic you will be broken into small collaborative groups, where you will be given a case study and an area of research in which to gather more information. All case studies and areas of research are in-line with the topics of focus for the topic. This is a great opportunity to take your learning as a Master Brewer to as deep a level as you are willing to achieve. Your group will be expected to report your findings to the other group(s) by the end of the topic.

Internship: During your 3-week internship, you will be expected to delve deeper into the topics discussed throughout the Academy while getting hands-on practical experience. As you work closely with the Brewers, seeing the day-to-day routine, you will be given major focus topics each week to research, record, and at the end of each week, share with your cohort.

Week 1: Brewing Science & Equipment: Observe and discuss the choice of raw materials and layout of the brewery throughout the week. Think of the flow from malt to packaged product…

a) Where does the brewery get its raw materials? How are they stored, handled and disposed of? How do they evaluate brewery efficiency?
b) What considerations were made in layout and design? What aspects work well? What would they do differently if they could start from scratch? What forethought (if any) was put into expansion?
c) How is technology / automation used? Plans for upgrading?
d) Was there anything else you learned this week related to Brewing Science or Equipment?

Week 2: Advanced Topics: Observe and discuss ways the Brewery makes more than just beer, and find out…

a) What does the Brewery use for chemical analysis, microbiology testing, yeast counts / propagation? How is their quality control managed?
b) What type of "special releases" do they make - cask conditioned, barrel fermented, meads, barley wine, seasonal? What are the special considerations involved in these extra processes?
c) Was there anything else you learned this week related to advanced Brewing topics?

Week 3: The business of Brewing: Observe and discuss how the Brewery functions as a business, and find out…

a) What is the hierarchy of positions within the Brewery?
b) What is the Breweries method for
   I. Ordering raw materials
   II. Short term scheduling (vessel turn-around, product age, yeast management)
   III. Marketing / Distribution
   IV. Regulations (Environmental permits, taxation, health & safety, employment)

Portfolio / Self-Evaluation: Throughout the Full Program, you will be completing several assignments that will be compiled into a final "Portfolio" which will represent your growth and overall learning over the 11 month course. You are expected to complete the chart below and include the "evidence" of each of these in your binder.

Task	Score	Date
Malt Quiz		
Water Quiz		
Hop Quiz		
Yeast Quiz / Mid-Term		
BrewTech Quiz		
Sani Quiz		
Package Quiz		
Brewery Design Project	(No score); Presented: Y / N	
Internship Focus Questions	(No score); Evaluated: Y / N	
Internship Focus Questions	(No score); Evaluated: Y / N	
Internship Focus Questions	(No score); Evaluated: Y / N	
Final Exam		
Business Plan		