COFFEE SKILLS PROGRAM

Barista Skills

Foundation AST Guidebook

Specialty Coffee Association

Barista Skills Foundation
AST Guidebook V1.0 (English)

Table of Contents

Note: This guidebook replaces previous curriculum documents. This guidebook is only available to authorized trainers licensed in Barista Skills. Please do not share this document with other ASTs or learners.

1. General Information

Course Information
Course Length: Minimum 7 hours including practical exam
Prerequisites: None; Introduction to Coffee recommended

Written Exam Information:
Total Number of Questions on Online Written Exam: 20 (worth one point each)
Total Time Allowed for Online Written Exam: 22 minutes
Passing Score (Online Written Exam): 60%

Practical Exam Information:
Total Time Allowed for Practical Exam: 30 minutes
Total Number of Sections on Practical Exam: 2
Passing Score (Practical Exam): Section 1 – 66% = 12 points correct
Section 2 – 86.5% = 45 points correct

A candidate must pass all 2 sections of the exam, in order to pass the entire exam. However, if a candidate should fail a section, the candidate should be encouraged to continue with the exam. If a candidate fails a section, they need only retake the failed section.

2. Course Description and Updates

Description

The Barista Skills Foundation course focuses on the key skills required to set a grinder, make espresso and foam, and texture milk for cappuccinos. This course allows one to gain an introductory understanding of the coffee itself and set a foundation from which to build practical skills for milk technique and latte art, while implementing health and safety practices and customer service.

Curriculum Updates from Previous Version

(The previous curriculum is referred to as Version 1.0. The curriculum in this Guidebook is referred to as Version 2.0.)

Sections and Topics Added:

- Section 9 | Water: content is now in line with all other modules within SCA CSP Education.
- Section 5 | Sensory: will be utilizing the verbiage for taste as high extraction, low extraction, acceptable extraction as it pertains to the balance of (acidity/sweetness/bitterness) within the SCA espresso recommended brew parameters. This will add more objectivity to the sensory evaluation of espresso with the support of brewing parameters, ratios and utilizing tools and equipment in continuing levels.
- Section 1 | Coffee Beans, Topic 3 Influence of Roast Degree

Barista Routines and Brew Parameters added:

- A.01.01 Barista Routine: Espresso
- A.01.02 Barista Routine: Milk
- A.01.03 Barista Routine: Daily cleaning
- A.02.01 SCA Espresso Recommended Brew Parameters

Appendix A.02.01 will have volume ranges that correlate to mass if the AST would like to use volume for reference in the Foundation curriculum.

3. Written Exam Questions Distribution by Topic

The chart below sets forth key information regarding the online exam questions.
Question Pool: This is the number of questions **per topic** that are available to present to the learner during the online exam.
Questions Presented: This is the number of questions a learner will randomly receive **per topic** during the online exam. This number was determined by the creators for the purpose of ensuring that each section and topic of the course is weighted appropriately.
Section Weighting: Next to each section title is the percentage of the total exam represented by the questions in that section.

Exams Sections & Topics	Question Pool	Questions Presented	Exams Sections & Topics	Question Pool	Questions Presented
1.01 | Section | COFFEE BEANS | 15%			**1.05 | Section | Sensory | 5%**		
1Topic: Arabica and Robusta Differences	4	1	1 Topic: Extraction and Descriptors	5	1
2 Topic: Freshness (Its Importance and Maintenance)	3	1	**1.06 | Section | MILK | 15%**		
3 Topic: Influence of Roast Degree	2	1	1 Topic: Freshness	3	1
1.02 | Section | WORKSPACE MANAGEMENT AND WORKFLOW | 20%			2 Topic: Milk Foaming Techniques	3	1
1 Topic: Grinder Components	2	1	3 Topic: Temperature of Steamed Milk	2	1
2 Topic: Espresso Machine Components	1	1	**1.07 | Section | ESPRESSO BASED MENU | 5%**		
3 Topic: Safe Use of Grinder and Machine	2	1	1 Topic: Drink Components and Construction	3	1
4 Topic: Clean and Organized Workspace	2	1	**1.08 | Section | CLEANING, HEALTH AND SAFETY | 10%**		
1.03 | Section | ESPRESSO PROCESS: GRIND, DOSE, TAMP | 10%			1 Topic: Safe and Hygienic Work Practices	3	1
1 Topic: Espresso Recipes	Practical		2 Topic: Regular Cleaning of Equipment	6	1
2 Topic: Grinder Calibration and Dosing	4	1	**1.09 | Section | WATER QUALITY | 5%**		
3 Topic: Distribution and Tamping Technique	2	1	1 Topic: Impact on Brew Quality and Machine Function	3	1
1.04 | Section | EXTRACTION AND BREWING | 10%			**1.10 | Section | CUSTOMER SERVICE AND CAFÉ MANAGEMENT | 5%**		
1 Topic: What is Espresso	2	1	1 Topic: The Customer Experience	3	1
2 Topic: Barista Routine	2	1			
			Total Number of Questions	**57**	**20**

4. Course Curriculum with Corresponding Online Written Exam Questions

The course curriculum is set forth below and is divided into Sections, Topics and Objectives. In some areas of the curriculum, the creators may have revised the curriculum in order to create a more logical, level-appropriate structure. Any revisions are noted in *2. Course Description and Updates.*

All online written exam questions were developed as an assessment for a specific objective. These questions have been grouped according to topic. All questions within a topic are considered the topic "pool." From this pool, a certain number of questions will be randomly selected and presented to the learner. If a particular topic has more than one objective, there is a possibility that the learner will not be tested on all objectives in the topic. This is due to the randomization of the questions from that topic.

Also included in the curriculum are detailed notes for the ASTs that help explain the content and how to achieve the objectives.

1.01 | Section | COFFEE BEANS
3 Topics

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.01.01 Differences between Arabica and Robusta	1. Recognize differences between Arabica and Robusta	Differences to cover: • growing conditions • pest & disease resistant • caffeine levels • flavor • typical visual differences	**Question ID: 0000000006363895** How would the taste of Arabica typically be different from the taste of Robusta? **Arabica would usually have a more acidic taste.** Arabica would usually have a more bitter taste. Arabica would usually have a more earthy taste. **Question ID: 0000000006363896** How would the taste of Robusta typically be different from the taste of Arabica? **Robusta would usually have a more bitter taste.** Robusta would usually have a more acidic taste. Robusta would usually have a more sweet taste.	• Cupping standards, Fine Robusta https://finerobusta.coffee • CQI, Uganda Coffee Development Authority, Fine Robusta Standards & Protocols, 2015, https://coffeestrategies.com/wp-content/ uploads/2015/04/compiled-standardsdistribute1.1.pdf •http://www.bbc.com/future/story/20171106-the-disease-that-could-changehow-we-drink-coffee

			Question ID: 0000000006559827 How does Arabica compare to Robusta in terms of pest and disease resistance? Arabica is more pest and disease resistant than Robusta. **Arabica is less pest and disease resistant than Robusta.** They have the same pest and disease resistance. **Question ID: 0000000006559828** How does Arabica compare to Robusta in terms of caffeine content? Arabica has more caffeine than Robusta. **Arabica has less caffeine than Robusta.** They have the same amount of caffeine.	• ICO, About Coffee, Nov 2014 (secondary source, original Clifford & Wrigley) • Clifford M. N. & Willson K C (Ed.) Botany, Biochemistry and Production of Beans and Beverage, Croom Helm 1985 • Wrigley G. Coffee. Longman Scientific & Technical, 1988 • Jean Nicolas Wintgens Editor, Coffee: Growing, Processing, Sustainable Production, Wiley-Vch 2012 • Budryn G, Evaluation of sensory attributes of coffee brews from robusta coffee roasted under different conditions, Article in European Food Research and Technology, November 2006 • The Craft and Science of Coffee, Edited by Britta Folmer, Elsevier 2017 • Clarke R, Macrae R, Editors, Coffee -Volume 1 Chemistry, Elsevier Science,1989 • Illy,A & Vianni,R, Espresso coffee, Academic Press, 1995

1.01.02 Freshness (Its Importance and Maintenance)	1. Describe the importance of freshness and how to maintain it in roasted coffee	Concepts to cover: • the use of a sealed bag - storing beans away from air/ moisture/ light/ heat/ odors • keep lids on the bean hopper and doser chamber • ideally use beans within one month after roasting and within a maximum of three months • grind coffee fresh (to order) and aim to use it as soon as possible after being ground	**Question ID: 0000000006363900** Roasted coffee beans are best stored in a place that is _____. **cool** warm hot humid	• Smrke S, Sage E, Wellinger M, Yeretzian C, The Coffee Freshness Handbook, SCA, 2018 • Yeretzian C, Blank I, Wyser Y. Chapter 14. in: Britta Folmer editor, The Craft and Science of Coffee. Elsevier 2017 • What is the Shelf Life of Roasted Coffee? A Literature Review on Coffee Staling, SCA News, 15th Feb, 2012 • Foss C, Pecka K, Weller K, Effect of storage conditions on the sensory quality of ground Arabica coffee. Journal of Food Quality 29. 2006 • Mayer, F. and Grosch, W. 2001. Aroma simulation on the basis of the odourant composition of roasted coffee headspace. Flavor Fragrance J. 16, 180–190. 2001
			Question ID: 0000000006559829 Identify which of the following is NOT a key risk when storing roasted coffee. **Low temperature** Moisture Odor (taint) Strong Light **Question ID: 0000000006363899** Why are roasted beans stored in a sealed container? **To keep them away from oxygen** To keep them away from carbon dioxide To keep them away from nitrogen To keep them away from heat	

1.01.03 Influence of Roast Degree	1. Describe the flavor differences between light and dark roast coffee		**Question ID: 0000000006363903** What is the main taste that increases if coffee is very darkly roasted? **Bitterness** Acidity Sweetness	• Scott Rao, The Coffee Roasters Companion, p.32. 2014 • Schenker S, Rothgeb T. The Roast p. 292 fig 12.5 in: Britta Folmer editor, The Craft and Science of Coffee. Elsevier 2017
			Question ID: 0000000006363904 What main taste is retained if coffee is very lightly roasted? **Acidity** Bitterness Sweetness	

1.02 | Section | WORKSPACE MANAGEMENT AND WORKFLOW
4 Topics

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.02.01 Grinder Components	1. Use the correct terminology to identify parts of espresso grinder	Concepts to cover: • identification of hopper/ adjustment collar or dial/ burrs or blades/ chute/ fork/ on/off switch • on-demand grinders have a timer • doser-grinder have a dosing chamber • gravimetric grinder measures based on programmed mass	**Question ID: 0000000006363908** What is the container on the top of the grinder commonly called? **Hopper** Grinder blades/burrs Dosing chamber Grinds tray **Question ID: 0000000006363909** What is a key advantage to an on-demand grinder, compared to a traditional dosing grinder? **Freshly ground coffee** More consistent grind size Minimized heat build up	• Barista Hustle, Barista 1, Espresso Nomenclature, 2018 • Barista Hustle, Barista 1, Behind the bar, 2018 • Espresso Parts, Espresso Lingo available at https://www.espressoparts.com/resources/barista-basics/espresso-lingo • Bersten, Ian (1993). Coffee Floats Tea Sinks: Through History and Technology to a Complete Understanding • Bazzara F, Bazzara M, Espresso Coffee Production System, 2008 Cottrell C, Barista Bible, Chapter 3, 2008
1.02.02 Espresso Machine Components	1. Use the correct terminology to identify parts of espresso machine	Concepts to cover: • identification of grouphead/ shower screen/ group-seal portafilter/ filter basket/ brew activation components i.e. button/lever/paddle • identification of steam wand/ tip • identification of gauges/ hot water tap/ drip tray/ on/off switch	**Question ID: 0000000006363910** What is the name of the part of the espresso machine where you insert the portafilter/filter handle? **Group head** Drip tray Cup warmer Steam wand	• Bazzara F, Bazzara M, Espresso production system, Chapter: The Espresso Journey, 2008 • Christine Cottrell, Barista Bible 2008 Chapter 3.

1.02.03 Safe Use of Grinder and Espresso Machine	1. Understand how to safely use grinder and machine	Specifically cover: • boiler pressure is up to 1 bar before use • where the hot areas are found on the espresso machine and how to safely engage the group head(s)/ steam wand(s)/ hot water tap	**Question ID: 0000000006363939** The water pump pressure, pushing the water through the ground coffee, is usually set within which of these ranges? **7 - 11 bar** 1.1 - 1.5 bar 2.3 - 5 bar 11 - 15 bar **Question ID: 0000000006363940** The steam boiler pressure, providing the steam for the steam wands, is usually set within which of these ranges? **1 - 1.5 bar** 1.7 - 11 bar 2.3 - 5 bar 5 - 7 bar	
1.02.04 Clean and Organized Workspace	1. Describe key elements of a clean, tidy and organized workspace	Specific key elements: • the appropriate position for commonly used tools, e.g. tamp/ milk pitchers/ cleaning chemicals • stack cups on cup warmer/ saucers & spoons next to the serving area • demonstrate that cloths for steam wand/ counter/ portafilter are kept in their designated places • clean any spills in a timely manner (cleaning as you go)	**Question ID: 0000000006363941** "Cleaning as you go" (consistently keeping a clean work space) can help prevent which of the following? Poor image displayed to the customers Health and safety risks Delays in service **All of the above** **Question ID: 0000000006363942** Baristas should keep a clean and organized work space at all times in order to avoid which of the following situations? Delays in service Health and safety risks Poor image displayed to the customers **All of the above**	• Charnas D, Work Clean, Rodale Books, 2016 • Christine Cottrell, Barista Bible, Chapt 4, 2008 • Barista Hustle, Barista 1, Behind the bar

1.03 | Section | ESPRESSO PROCESS: GRIND, DOSE, TAMP
3 Topics

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.03.01 Espresso Recipes	1. Demonstrate ability to work to a set espresso recipe	Reference the following: SCA suggested brew parameters (see Appendix B) • in: single shot 7-10g/ double shot 14-20g • out: single shot 10.5-25g/ double shot 21-50g (see Appendix B for volumetric references) • shot time: 20 – 30 seconds • brew ratio: 1:1.5 – 1:2.5 Understand there are regional variations in suggested brew parameters	Tested on Practical Exam	• SCA Barista Curriculum: Appendix B 02.01
1.03.02 Grinder Calibration and Dosing	1. Understand how to calibrate the grinder to produce an espresso that falls within SCA suggested brew parameters	Purge the grinder after large adjustments have been made to grind size	**Question ID: 0000000006363943** Your grinder and machine are correctly set for the recipe: Dose: 16g coffee in. Yield: 34g of espresso out. Time: 22-28 seconds. If you reduced the 16g dose to 14g but made no other changes, what result would you expect to see? **The espresso shot time would be shorter.** The espresso shot time would be longer. The espresso shot time would remain the same. **Question ID: 0000000006363944** Your espresso takes 12 seconds to dispense. In order to produce an espresso that falls within 22-28 seconds, how would you adjust the grind size?	• SCA Barista Curriculum Appendix B 02.01 • Stephenson T, The Curious Barista's Guide to Coffee, Chapter 5, Ryland Peters & Small, 2015 • Hoffmann J. The World Atlas of Coffee, Chapter: Espresso method, Octopus Publishing, 2018 • Rao, S. Espresso Extraction, Measurement & Mastery, digital book, 2013

			Make the grind finer Make the grind coarser **Question ID: 0000000006363945** It is important to keep the dose (amount of coffee used to make an espresso) consistent. If you make the mistake of using less coffee than you normally would, how would the flow rate of your espresso be affected? **It would be faster.** It would be slower. **Question ID: 0000000006363946** Why is it important to "purge" your grinder (flush through some ground coffee) after you have made an adjustment to the grind size? **To discard coffee ground to the previous setting** To make sure the correct quantity is ground To make sure the grinder is clean To cool down the grinder	• Barista Hustle, Blog post series, Espresso Recipes, 2017 available here: https://baristahustle.com/blog/espresso-recipes-understanding-yield/ https://baristahustle.com/blog/espresso-recipes-time/ https://baristahustle.com/blog/espresso-recipes-putting-it-all-together/ • Fasman D. Defining the Ever-Changing Espresso – 25 Magazine: Issue 3, Feb 2018
	2. Demonstrate the correct dosing action to achieve correct input of ground coffee	Take appropriate action to minimize waste; under 3 grams of ground coffee per shot made	Tested on Practical Exam	
1.03.03 Distribution and Tamping Technique	1. Understand the distribution technique to minimize channeling		**Question ID: 0000000006363948** We carefully distribute the coffee in the portafilter/filter handle to reduce "channeling". What is "channeling"? **Water flowing unevenly through and around the coffee bed** Water escaping around the group seal and running down the sides of the portafilter/filter handle Water taking too long to pre-infuse into the coffee bed Coffee blocking the flow of water	• SCA Barista Curriculum Appendix B. 02.01 • Stephenson T, The Curious Barista's Guide to Coffee, Chapter 5, Ryland Peters & Small, 2015 • Hoffmann J. The World Atlas of Coffee, Chapter: Espresso method, Octopus Publishing, 2018

			Question ID: 0000000006363949 Poor distribution of ground coffee in the portafilter/filter handle can cause what to occur? **Channeling** Excessively long shot times Overheating of the coffee Coffee blocking the flow of water	• Rao, S. Espresso Extraction, Measurement & Mastery, digital book, 2013 • Barista Hustle, Blog post series, Espresso Recipes, 2017 available here: https://baristahustle.com/blog/espresso-recipes-understanding-yield/ https://baristahustle.com/blog/espresso-recipes-time/ https://baristahustle.com/blog/espresso-recipes-putting-it-all-together/ • Fasman D. Defining the Ever-Changing Espresso – 25 Magazine: Issue 3, Feb 2018 **Tamping** • Illy A, Vianni R, Espresso coffee, 8.5.7 Pressure, Academic Press, 1995 • Barista Hustle, How hard should you tamp blog post, 2017 available here https://baristahustle.com/blog/how-hard- should-you-tamp/ • Socratic Coffee, Impact of Tamping Pressure, 2015 available here http://socraticcoffee.com/2015/07/the-impact-of-tamping-pressure-on-espresso-

	2. Demonstrate the correct use of a tamper to produce a flat and even surface on the tamped cake and to reduce repetitive strain injuries		Tested on Practical Exam	

1.04 | Section | EXTRACTION AND BREWING
2 Topics

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.04.01 What is Espresso	1. Recognize the key definition of an espresso used within SCA examinations	Espresso is a method of preparation that takes finely ground coffee, compacts it into a portafilter and forces hot water through it under pressure to make a concentrated coffee beverage	**Question ID: 0000000006363950** "Espresso" is correctly defined as which of the following? **A method of coffee brewing** A style of coffee roast A standard coffee grind size A specific blend of coffees **Question ID: 0000000006363951** "Espresso" is actually considered which of the following? **A method of coffee extraction** The Italian way to make coffee A specific blend of coffees A style of coffee roast	• Illy,A & Vianni,R, Espresso coffee, 2.2 Espresso as a brewing technique, Academic Press, 1995 Barista Hustle, Barista 1, Behind the bar, 2018 • Petracco M, Beverage Preparation in Clarke R & Vitzhum OG (Editors), Coffee: Recent Developments Chapt 7 Blackwell Science, 2008
1.04.02 Barista Routine	1. Understand the correct barista routine to achieve desired espresso recipe - see Appendix A		**Question ID: 0000000006364483** What is the most efficient production sequence for a cappuccino style drink? **Dose the portafilter/filter handle & insert into group head > Start the shot > Steam the milk** Dose the portafilter/filter handle & insert into group head > Steam the milk > Start the shot Steam the milk > Dose the portafilter/filter handle & insert into group head > Start the shot Steam the milk >Start the shot > Dose the portafilter/ filter handle & insert into group head	• SCA Barista Curriculum: Appendix A:01.01

			Question ID: 0000000006364484 How should an Americano be made? **Add the appropriate amount of hot water into the cup and dispense the shot on top of hot water** Dispense the shot into the empty cup and top up with hot water from the espresso machine Dispense the shot into the empty cup and continually flow until the cup is full Dispense twice the normal amount of water through the shot and complete with hot water	

1.05 | Section | SENSORY
1 Topic

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.05.01 Extraction and Descriptors	1. Taste and describe difference between low-extracted / high-extracted / acceptably extracted espressos 2. Describe attributes of an espresso such as aroma/ flavor/ body using SCA Coffee Flavor Wheel terminology	Specifically reference: • low-extracted espresso: unbalanced flavor with high acidity, poor crema • high-extracted espresso: unbalanced flavor with high bitterness, poor crema • acceptably-extracted espresso: well balanced flavor (acidity/ sweetness/ bitterness), good visual crema which covers whole espresso (in line with coffee used)	**Question ID: 0000000006364485** What taste typically dominates under extracted coffee? **Sour** Sweet Bitter Umami **Question ID: 0000000006364486** What taste do we expect from over extracted coffee? **Bitter** Sour Sweet Umami	• Barista Hustle Blog post: coffee extraction and how to taste it, 2017 available here https://baristahustle.com/blog/coffee-extraction-and-how-to-taste-it/ • Gloess A, Schönbächler B, Klopprogge B, D`Ambrosio L, Chatelain K, Bongartz A, Strittmatter A, Rast M, Yeretzian C, Comparison of nine common coffee extraction methods: instrumental and sensory analysis 2013 available here https://link.springer.com/article/10.1007/s00217-013-1917-x • Mestdagh F, Glabasnia A, Giuliano P, Chapter 15, in The Craft and Science of Coffee, Edited by Britta Folmer, Elsevier; 2017
			Question ID: 0000000006364487 Which of the following could be used as a description of "aroma"? **Chocolate** Washed Rich Heavy **Question ID: 0000000006364488** Which of the following could be used as a description of "flavor" from the SCA flavor wheel? **Citrus fruit** Washed. Thick Thin	• WBC Rules and regulations 2019 available here: https://www.dropbox.com/s/euad37muhrlq3mz/2019%20WBC%20Rules%20and%20Regulations.pdf?dl=0 • SCA Coffee Tasters Flavor Wheel information here: https://scanews.coffee/2016/02/05/how-to- use-the-coffee-tasters-flavor-wheel-in-8- steps/

			Question ID: 0000000006475121 Which of the following is NOT a description of "body"? **Floral** Creamy Heavy Thick	

1.06 | Section | MILK
3 Topics

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.06.01 Milk Freshness	1. Recognize freshness in milk and how to maintain it	Specifically reference: • expired milk is unfit for consumption and should be discarded • the time milk is left out of the refrigerator should be minimized • stock should be rotated (first in first out) • milk pitcher should be emptied and cleaned after use • milk should not be re-steamed	**Question ID: 0000000006364492** Is the following statement true or false? It is acceptable to use expired milk since the steaming process kills all bacteria. True **False** **Question ID: 0000000006364493** Which of the following can be considered best practice by baristas? **Milk should be refrigerated at all times.** Left over milk should be re-steamed. Milk pitchers can be cleaned only once a day. Milk should be allowed to reach room temperature before steaming. **Question ID: 0000000006364494** Which of the following can be considered best practice by baristas? **Fresh milk should be used for every drink.** Milk pitchers can be cleaned only once a day. Milk should be allowed to reach room temperature before steaming. Left over milk should be re-steamed.	• Wong N.P., Jenness R, Keeney M, Marth E.M, Fundamentals of dairy chemistry, Springer 1988 • Dairy Processing Handbook, Tetra pack, 1995 • Levy M, Milk Foam Thesis The effects of composition and processing of milk on foam characteristics as measured by steam frothing, 2003 • Thom Huppert, SCA symposium lecture, 2014 available here: https://www.youtube.com/watch?v=BTi87en4qjY
1.06.02. Milk Foaming Technique	1. Demonstrates correct Barista routine to achieve desired foam quality - see Appendix A.01.02		Tested on Practical Exam	• SCA Foam Quality Guide • WBC rules and regulations • WLAC rules and regulations

				• Kamatha S, Huppertz T, Houlihan A.V, Hilton C, Deeth H.C Influence of temperature on the foaming of milk, International Dairy Journal, 2008 Vol 18, issues 10-11, • Huppertz T, Milk foam: creating texture and stability, SCA News, September 15, 2014 available here: https://scanews.coffee/2014/09/15/milk-foam-creating-texture-and-stability/
	2. Describe microfoam to have a consistently dense texture, with no visible bubbles and a shiny surface		**Question ID: 0000000006364504** What description best fits “microfoam,” the desired texture of milk for a cappuccino? **Very fine/small bubbles and a moist/shiny texture** Large bubbles and a firm, matted texture Dry matted foam made up of fine/small bubbles Mixture of large, medium and small bubbles **Question ID: 0000000006364505** What characteristics should a cappuccino foam have? **Shiny, very small bubbles, soft, smooth, correct temperature** Shiny, very small bubbles, soft, smooth, very hot temperature. Big bubbles, stiff foam, very cool temperature None of the above	

			Question ID: 0000000006364506 Is the following statement true or false? Milk with 4% fat will give a creamier texture and more moist foam than milk with 0% fat. **True** False	
	3. Produce minimal waste of under 70ml/ 2.5oz per pitcher steamed (See SCA Foam Quality Guide)		Test on Practical Exam	
1.06.03 Temperature of Steamed Milk	1. Demonstrate and identify desirable temperature of steamed milk	Refer to the following: • desirable range of milk temperature in the cup: 55-65°C/ 131-149°F • maximum temperature in the pitcher: 70°C/ 158°F	**Question ID: 0000000006364507** What is the maximum temperature milk should be heated to for drinks? **70°c (158°F)** 46°c (114°F) 84°c (183°F) 92 C (197F) **Question ID: 0000000006364509** The SCA recommended standard temperature range for milk drinks (in the cup) is **55°C (130°F)- 65°C (150°F)** 45°C (113°F) - 55°C (130°F) 65°C (150°F)- 75°C (167°F) 70°C (158°F)- 80°C (176°F)	• Kamatha S,Huppertz T, Houlihan A.V, Hilton C, Deeth H.C Influence of temperature on the foaming of milk, International Dairy Journal, 2008 Vol 18, issues 10-11, • Oetjen, K, Bilke-Krause C, Madani M, Willer T, Temperature effect on foamability, foam stability, and foam structure of milk Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014 October, Pages 280-285

1.07 | Section | ESPRESSO BASED MENU
1 Topic

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.07.01 Drink Components and Construction	1. Identify the components and construction of espresso, cappuccino & Americano	Refer to the following: • espresso: SCA recommended brew parameters (see Appendix A.02.01) • cappuccino: 150ml - 240ml free poured (i.e. milk on top of espresso base) with an espresso: milk: foam ratio of 1:3:2 • americano: 180ml including a single espresso. (larger drinks may be made by adding espresso to a similar ratio)	**Question ID: 0000000006364512** If your hot water supply dispenses water above 96°C (205°F), which technique should you use to make an Americano? **Put the hot water in the cup before adding espresso** Pre-heat the cup so that the customer gets a very hot drink Add the water directly on top of the espresso Add the water directly on top of the espresso and stir before adding cold water **Question ID: 0000000006364514** A customer asks you for a "macchiato". What should you check before making the drink? **If it is an "espresso macchiato" or a "latte macchiato"** If they normally have the drink with syrup, or without If they would like the drink extra hot Suggest they might prefer a different drink **Question ID: 0000000006364515** What is the purpose of turning an espresso into an Americano? **To produce a larger and less concentrated drink** To produce a larger and more concentrated drink To increase the acidity of the espresso taste To cool down the espresso	• SCA Barista Curriculum: Appendix A.02.01 • SCA Barista Drink Standards

1.08 | Section | CLEANING, HEALTH AND SAFETY
2 Topics

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.08.01 Safe and Hygienic Practices	1. Identifies safe and hygienic work practices	Concepts to cover: • wash hands before entering the bar and after eating/ drinking/ smoking etc. • keep body/ clothing/ apron clean and hygienic • avoid handling the lip of the cup or milk pitchers • explain dangers of hot liquids/ spillages/ slippery surfaces • use and clean machines safely – according to manufacturer's instructions • use cleaning chemicals safely – according to manufacturer's instructions	**Question ID: 0000000006364516** When preparing a customer's drink you should avoid touching which part of the customer's cup? **The rim of the cup.** The handle of the cup. The base of the cup.	
			Question ID: 0000000006364518 When is it important to wash your hands? After . . . **eating** preparing drinks steaming milk grinding coffee	
			Question ID: 0000000006364519 Which of the following are good hygienic and safe working practices when preparing and serving espresso beverages? Washing hands before preparing drinks Keeping body and clothing (including apron) clean and hygienic Using cleaning chemicals safely **All of the above**	

1.08.02 Equipment Cleaning	1. Describe how regularly cleaning the machine removes potential dirty flavors in beverages/ protects the long-term health of the equipment/ maintains a positive image to customers 2. Understands and demonstrates the daily cleaning steps as described in Appendix A.01.03		**Question ID: 0000000006364520** Why is regular cleaning of the grinder hopper important? **To avoid taints in the espresso flavor** To avoid grinder overheating To maintain consistent grind size To prevent damage to your grinder blades **Question ID: 0000000006364521** How would the flavor of an espresso be affected if you did not back flush your group heads with detergent on at least a daily basis? **You would notice a dirty/earthy flavor.** There would be no effect on flavor. You would notice a sweeter and more complex taste. You would notice increased acidity. **Question ID: 0000000006364530** What is the correct technique to clean a steam wand after each use? **Wipe the steam wand with a clean, wet cloth and then thoroughly purge** Polish the steam wand with a clean, dry cloth whilst blowing steam (purging) Neither wipe nor purge the steam wand after use. Soak the steam wand in a jug filled with hot water **Question ID: 0000000006364523** Which daily cleaning steps would have the biggest impact on the flavor of your espresso? **Backflush the group heads with detergent** Wipe down the steam wands Wash the drip tray Clean and polish the exterior of the espresso machine	SCA Barista Curriculum: Appendix A.01.03

			Question ID: 0000000006364526 How often should you backflush the group heads on your espresso machine with detergent? At least once . . . **a day** a month a week every two weeks	
			Question ID: 0000000006364528 Why is it important to completely rinse the cleaning detergent from your group head after backflushing? To prevent . . . **delivering remaining cleaning chemical into your customers drink.** over-extracting your coffee causing scale in your machine damage to the machine	

1.09 | Section | WATER QUALITY
1 Topic

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.01.09 Impact on Brew Quality and Machine Function	1. Understands about the existence of hard and soft water and limescale and its impact 2. Understands that water may have unwanted taints/ odors		**Question ID: 0000000006364539** Why is it important to find out if you have "hard" water in your area? **Hard water causes scale which can damage your espresso machine.** Hard water prolongs the life of your espresso machine. Hard water makes your coffee taste sour. Hard water contains chlorine. **Question ID: 0000000006364542** Which of the following may cause an unpleasant smell (taint) in your water? **Chlorine** Magnesium. Calcium Sodium **Question ID: 0000000006364543** What is usually the main reason a water filter is fitted to an espresso machine? **To protect the espresso machine from scale** To add flavor to the water To control water pressure from main water supply To add pressure to the steam wand	• SCA Water Quality Handbook, 2018 • Wellinger, M., Smrke S, Yeretzian C, SCAE Water Chart Report, 2016 • Wellinger, M. Water for extraction talk, BGE CoLab Antwerp 2016

1.10 | Section | CUSTOMER SERVICE AND CAFÉ MANAGEMENT
1 Topic

Topic	Objectives	AST Notes	Online Written Exam Questions	Resources
1.01.10 Customer Experience	1. Explain that to provide good customer service the barista should be customer focused and deliver the hospitality, advice and provision that each specific customer requires 2. Explain that it is important to aim to exceed the customer's expectations, offering service that is proactive rather than reactive		**Question ID: 0000000006364544** As well as preparing drinks, what is another primary role of the barista? **To advise the customer and serve their needs** To prioritize speed of service over customer service To introduce the customer to your favorite coffee To introduce the customer to your favorite music **Question ID: 0000000006559830** Good service should be assessed from whose point of view? **Customer** Manager Roaster Barista **Question ID: 0000000006364546** A busy commuter customer enters a café at a railway station and wants to buy a coffee before their train arrives. What is the customer's priority? **To be serve the drink quickly** To learn about different types of coffee varieties. To experience different brew methods To watch the barista pour latte art	

5. Essential SCA Training Documents

- SCA Barista Foam Standards
- SCA Latte Art Standards
- SCA Barista Drink Standards
- SCA Coffee Taster’s Flavor Wheel (English)
- SCA Water Chart
- SCA Protocols & Best Practices

All documents are available at the AST Portal under Curriculum and Exams/Barista_Skills

6. Required Equipment and Supplies List

Available at the AST Portal under Resources/Venue Requirements.
Any items available in the SCA US or UK store are noted and a link directly to the store is provided.

7. Appendices

Appendix A: SCA Barista Routines	
Name	**Steps**
A.01.01 Espresso	1. remove portafilter from grouphead and flush grouphead 2. knockout spent grounds and wipe basket clean and dry 3. dose desired grams of coffee 4. distribute coffee to minimize risk of channelling 5. tamp consistently, level & ergonomically 6. clean loose grounds from portafilter surfaces 7. insert portafilter into the group head and start the pump immediately, as one continuous motion 8. observe the flow and stop pump appropriately 9. if no further drinks are being made, remove the portafilter, knock out spent grounds, clean filter and return to the grouphead to maintain temperature
A.01.02 Milk	1. empty and clean pitcher before use 2. purge steam wand before foaming 3. wipe steam wand immediately after use 4. purge steam wand after wiping
A.01.03 Daily cleaning	**During the day:** 1. back flush and brush grouphead/ shower screen throughout the day 2. remove basket from portafilter and clean with hot water throughout the day **At the end of the day:** 1. empty and wipe the bean hopper 2. grind and discard the last of the coffee from the grinder and/or empty the doser- chamber and brush out all excess grounds 3. back flush grouphead with espresso machine detergent 4. brush shower screen and rinse grouphead with water until detergent is rinsed out 5. drop shower screen and soak in hot water and detergent, rinse thoroughly and reassemble 6. remove basket from portafilter and soak in hot water and detergent, rinse thoroughly and reassemble 7. clean steam wand thoroughly, checking the steam tip holes for milk residue 8. remove and clean the drip tray

Appendix B: SCA Brew Parameters		
Name	**Steps**	**Reference**
B.02.01 SCA Brew Parameters for Espresso	SCA suggested brew parameters: • in: single shot 7-10g/ double shot 14-20g • out: single shot 10.5-25g/ double shot 21-50g • shot time: 20 – 30 seconds • brew ratio: 1:1.5 – 1:2.5 Volumetric range (based on freshly roasted coffee up to 70 days after roast) • out: single shot 25-35 ml (0.35/0.5 - 0.85/1 oz)/ double shot 50-60 ml (0.68/1 - 1.75/2.25 oz)	AST - Live - Carbon dioxide degassing from coffee and impact on freshness and espresso extraction; Samo Smrke, Marco Wellinger, Tomonori Suzuki, Chahan Yeretzian