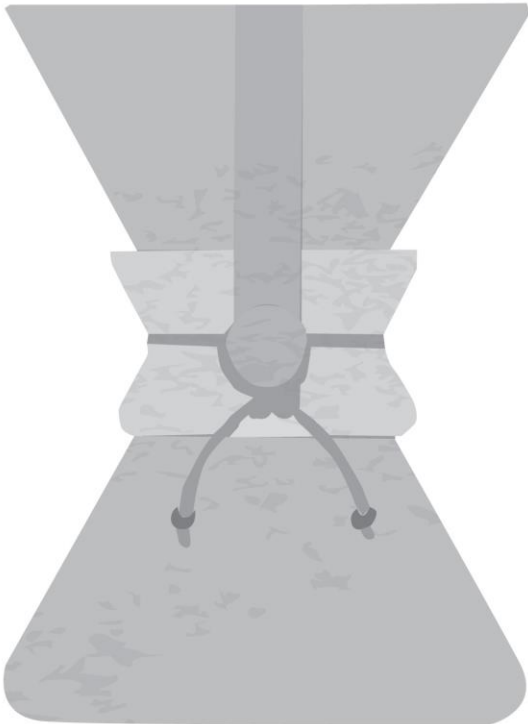


BREWING

*Brewing*





# SCAE COFFEE DIPLOMA: BREWING

OVERVIEW: DESIGNED TO INTRODUCE THE **PROFESSIONAL** INTO THE CORE SKILLS AND EQUIPMENT REQUIRED TO PRODUCE GREAT BREWED COFFEE. THE COURSE TESTS THE ABILITY TO NAVIGATE THE COFFEE BREWING CONTROL CHART AND UNDERSTAND HOW TO PLOT IN REQUIRED POINTS. YOU ALSO WILL UNDERSTAND LIPIDS IN COFFEE AND THE IMPACT OF ACIDITY. COURSES DETAILING THE INFORMATION REQUIRED TO ATTEMPT THE QUALIFICATION ARE EXPECTED TO LAST 1 & ½ DAYS

Ideally candidates should hold Introduction to Coffee Module and Brewing and Grinding Intermediate, Barista Intermediate

Recommended Reading: The Basics of Brewing Coffee, Ted Lingle

BLOOMS TAXONOMY: Remembering / Understanding.

SUB CODE	KNOWLEDGE/SKILL REQUIRED	STANDARDS	REFERENCE
<b>1.0 ROAST LEVEL</b>			
1.01.01	<b>ROAST LEVEL VS CUP</b> Roast vs brew practical test	Take the same coffee at 3 roast levels and brew all the same way and chart to see how the roast level impacts the extraction. This will be done using filter brewing. Also taste and compare tasting notes. Coffee Guidelines for a Central American washed SHB/G, roaster 15kg. All coffee's to follow the same initial roast curve with the MD and D coffees extending on in time and temperature from M until finish.	
<b>Roast Type</b>	<b>Roast Time</b>	<b>Point in Roast Cycle</b>	<b>Colour (Agtron)</b>
<b>Medium</b>	12 – 13 minutes	Just after 1 <sup>st</sup> crack	65 - 70
<b>Medium Dark</b>	13 – 14 minutes	Between 1 <sup>st</sup> & 2 <sup>nd</sup> crack	55 - 60
<b>Dark</b>	15 – 16 minutes	30 seconds + after 1 <sup>st</sup> crack	45 - 50
<b>2.0 UNDERSTANDING BY-PASS</b>			

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SUB CODE	KNOWLEDGE/SKILL REQUIRED	STANDARDS	REFERENCE
2.01.01	<b>BY-PASS</b> Understanding the importance of by-pass and how it can affect the brew	Explain what by-pass can do to your finished brew and when it is used. Use to make your cup brighter. Sometimes used to speed up the brew process when producing large volumes. Sometimes used to reduce extraction a small amount to lose a bitter edge.	
2.01.02	Brew using by-pass	Brew using by-pass with single cup methods or batch brewing, taste and compare brews	
2.01.03	Chart by-pass	Brew and chart in the box 18% to 22% extraction using by-pass. Brew 500ml using 30 grams of coffee and by-pass 10% = 50ml. Chart the coffee on the grams per litre going through the coffee = 66g per litre. When charted at 66g per litre draw a line down to the original 60g per litre line and that's your point on the graph.	Guidelines of using By-pass from the SCAA
<b>3.0 GRIND SIZE</b>			
3.01.01	<b>GRIND SIZE VS CUP TASTE</b> Comparing 2 single micron sizes vs taste and extraction FILTER BREWING	Brew using a filter brewer a brew with 300 microns and a brew with 700 microns, taste each section and chart. Use a sieve to establish each micron size. The objective is to see the difference with a single grind size and the clarity in the cup. Both micron sizes should be brewed at the same strength and extraction.	
3.01.02	Espresso grind size	Split into pairs and brew a espresso shot in the box at 18% to 22% extraction and 8 to 11 % strength.	
<b>4.0 EXTRACTION TEST</b>			
4.01.01	<b>EXTRACTION</b> Understand how extraction tastes in the cup	Brew and chart 14%, 18%, and 24% extraction at the same strength i.e. 1.3. The acceptable margin of error on each extraction is 1% and strength is 0.05. Taste and understand the difference in the cup.	



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SUB CODE	KNOWLEDGE/SKILL REQUIRED	STANDARDS	REFERENCE
4.01.02	Practical extraction test	In groups of two brew and chart 14%, 18%, and 24% extraction at the same strength i.e. 1.3. The acceptable margin of error on each extraction is 1% and strength is 0.5.	

## 5.0 STRENGTH TEST

5.01.01	<b>STRENGTH</b> Understand how strength tastes in the cup	Brew and chart 18% extraction at 1.0, 1.3 and 1.6 strength. The acceptable margin of error on each strength is 0.05 and extraction 1%. Taste and understand the difference in the cup	
5.01.02	Practical strength test	In groups of 2 brew and chart 18% extraction at 1.0, 1.3 and 1.6 strength. The acceptable margin of error on each strength is 0.05 and extraction 1%.	

## 6.0 TEMPERATURE

6.01.01	<b>IMPORTANCE OF TEMPERATURE</b> Understand the impact of temperature while brewing coffee at 85c, 92c and 98c	The same coffee, dose, grind, volume but change the brew temperature for each brew. One at 85c, 92c and 98c. Taste and chart all coffee's at the same strength and extraction. Compare the difference in taste	
6.01.02	Cold Brew	If possible brew a cold brew the day before the class and taste the same coffee as a cold brew and a hot brew. Describe the different acids that have been extracted due to temperature	

## 7.0 CHEMISTRY

7.01.01	<b>ACIDITY IN COFFEE BREWING</b> PH changes during extraction	Demonstrate and show the changes in coffee PH as a function of extraction, time and temperature	1991 Effects of some extraction conditions on brewing and stability of coffee beverage. M C NICOLI, C SEVERINI, M DALLA ROSA, C R LERICI. ASIC
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# SCAE COFFEE DIPLOMA: BREWING

SUB CODE	KNOWLEDGE/SKILL REQUIRED	STANDARDS	REFERENCE
7.01.02	Acidity changes during coffee storage	Demonstrate and show the changes in coffee PH as a function of storage, time and temperature	1991 Effects of some extraction conditions on brewing and stability of coffee beverage. M C NICOLI, C SEVERINI, M DALLA ROSA, C R LERICI. ASIC  The Basics of Brewing Coffee, Lingle, page 18
7.01.03	Lipids in Coffee	Graph the content of total lipids in coffee powder / boiled coffee / espresso and filter coffee. Explain the graph in detail	1993 Lipids in the coffee brew. N SEHAT, A MONTAG, K SPEER 1993. ASIC
7.01.04	Lipids transfer by grind particle size	Graph the influence of grind size vs lipids transfer in espresso coffee	1993 Lipids in the coffee brew. N SEHAT, A MONTAG, K SPEER 1993. ASIC
7.02.01	<b>CHLOROGENIC AND QUINIC ACIDS</b> Explain what Chlorogenic acids are and which coffee's contain more		1997 The Nature of Chlorogenic acids are they advantageous compounds in coffee
7.02.02	Explain what Quinic acids are		1997 The Nature of Chlorogenic acids are they advantageous compounds in coffee
<b>8.0 WATER AND COFFEE</b>			
8.01.01	<b>WATER IMPORTANCE</b> Understand water hardness and its impact on taste	Hard water unextracts and soft water overextracts	SCAA Water Quality Handbook, page 26/27/28
8.01.02	Understand temporary and permanent hardness	Describe both	
8.01.03	Understand water treatment options available	RO, Carbon, etc.,	SCAA Water Quality Handbook, page 45
8.01.04	Understand impact on taste and recommended levels of hardness and alkalinity for quality brews		SCAA Water Quality Handbook, page 39
8.01.05	Understand water impact on machine - limescale and corrosion risks		<a href="http://en.wikipedia.org/wiki/Hard_water">http://en.wikipedia.org/wiki/Hard_water</a>



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SUB CODE	KNOWLEDGE/SKILL REQUIRED	STANDARDS	REFERENCE
8.01.06	Understand how to measure water - strips, drops and electronic		For example: <b>strips:</b> <a href="http://www.amazon.co.uk/pH-Test-Strips-Water-50/dp/B003F6QJMO/ref=pd_sim_sbs_diy_9">http://www.amazon.co.uk/pH-Test-Strips-Water-50/dp/B003F6QJMO/ref=pd_sim_sbs_diy_9</a> OR <a href="http://www.amazon.co.uk/Waterworks-Total-Hardness-Strips-strips/dp/B005A7U9ZY">http://www.amazon.co.uk/Waterworks-Total-Hardness-Strips-strips/dp/B005A7U9ZY</a> <b>drops:</b> <a href="http://www.amazon.co.uk/Water-Hardness-Testing-Kit/dp/B004R1344M/ref=pd_bxgy_d_img_y">http://www.amazon.co.uk/Water-Hardness-Testing-Kit/dp/B004R1344M/ref=pd_bxgy_d_img_y</a>
8.01.07	Understand Langelier index and acceptable range of +0.5 to -0.5.		Langelier index: <a href="http://www.csgnetwork.com/langelierscalc.html">http://www.csgnetwork.com/langelierscalc.html</a>
8.02.01	<b>HOLDING AND SERVING</b> Understand the breakdown in coffee aroma and taste over time		The Basics of Brewing Coffee, Ted Lingle, Chapter 9
8.02.02	Understand the different ways of holding coffee		
8.02.03	Chart 3 brews, one at 1 hour old, one at 2 hours old and one at 3 hours old	Chart each coffee to see if there is an increase in strength over time	