Diploma in Distilling

Module 2 Syllabus

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1	Diploma in Distilling Module 2 Syllabus	Syllabus Portfolio Manager	Chair of Board of Examiners	10/06/2025

UNIT 1: DISTILLATION THEORY

Candidates are required to have an in-depth understanding of the following:

Pre-Distillation Effects on Spirit Quality

1. Describe the impact of pre-distillation influences on spirit quality.
2. Explain how to change the impact of pre-distillation influences.

Distillation Theory

1. Understand the vapour–liquid equilibrium.
2. Examine the impact of relative volatility.
3. Describe the concept of theoretical plates.

Effects of Copper

1. Describe the role of copper in a still.
2. Examine how copper is used in the design of stills

UNIT 2: BATCH DISTILLATION

Candidates are required to have an in-depth understanding of the following:

Design and Operation of Pot Stills

1. Describe and sketch the key components of a pot still and associated plant and equipment.
2. Explain the key controls on the operation of the pot still.
3. Describe the value of double and triple distillation.
4. Describe the duration of a distillation and the key measurements taken.

Alcohol and Congener Profiles in Batch Distillation

1. Sketch an alcohol profile of a wash and spirit distillation.
2. Describe the key stages in optimising alcohol recovery.
3. Describe how the principal congeners behave during spirit distillation.
4. Describe the flavour impact of the principal spirit congeners.
5. Explain how congeners can be removed from the distillation process.

UNIT 3: CONTINUOUS DISTILLATION

Candidates are required to have an in-depth understanding of the following:

Continuous Still design and Operation

1. Sketch a continuous still design.
2. Identify and describe the key elements of a continuous still design.
3. Explain the key controls on the operation of continuous stills.
4. Describe the value of re-distillation.
5. Understand the duration of a distillation; identify and describe the key measurements taken during this time.

Alcohol and Congener Profiles in Batch Distillation

1. Sketch an alcohol profile of a wash and spirit distillation.
2. Describe the key stages in optimising alcohol recovery.
3. Describe how the principal congeners behave during spirit distillation.
4. Describe the flavour impact of the principal spirit congeners.
5. Explain how congeners can be removed from the distillation process.

UNIT 4: NON-MATURED SPIRITS

Candidates are required to have an in-depth understanding of the following:

Vodka

1. Understand the legal and regulatory definitions of vodka.
2. Examine the considerations needed in production to reduce flavour and aroma formation.
3. Describe the differences between neutral spirit and vodka.
4. Understand the importance of additional distillation and filtration processes in the production of vodka.

Gin Botanicals

1. Describe the source and flavour impact of the main gin botanicals.
2. Explain how essential oils are preserved.

Gin Distillation

1. Describe how a typical gin still operates.
2. Explain how feints are recovered.
3. Describe the key quality standards needed in the raw materials for gin.

Other Botanical Spirits

1. Describe the various other botanical-based spirits.
2. Describe the primary ingredients used in the production of other botanical spirits.
3. Describe the key quality standards needed in the raw materials for other botanical spirits.

UNIT 5: MATURATION

Candidates are required to have an in-depth understanding of the following:

Maturation Theory

1. Describe the differences between a new and a matured spirit.
2. Identify and describe the immature characteristics that are removed in maturation.

Casks

1. Understand the impact of geography and species on oak composition.
2. Examine the physical and chemical properties of oak.
3. Identify and describe the compounds that are produced through thermal degradation.

Maturation Control

1. Describe the key variables in maturation.
2. Describe the impact of oxygen on maturing spirit
3. Evaluate the variables that control flavour in maturation.

UNIT 6: PRE-PACKAGE

Candidates are required to have an in-depth understanding of the following:

Blending

1. Explain the legislation concerning spirit blending.
2. Describe how to attain blend consistency.
3. Understand the management of age of stock for blending.
4. Describe the skills and qualities required by the blenders.
5. Describe the processes used in preparing spirits and flavoured spirit products for packaging.

Haze and Filtration

1. Explain the purpose of filtration.
2. Describe what types of particles are removed during filtration.
3. Explain different types of haze and its formation.
4. Compare the most common filtration system technologies.
5. Identify and explain the appropriate filtration system required for the product type.

UNIT 7: QUALITY

Candidates are required to have an in-depth understanding of the following:

Quality Management

1. Apply the concepts of quality control and quality assurance.
2. Describe the key elements of a quality management system.
3. Explain why these elements are necessary.
4. Apply the theory of a food safety system to your operation.

Laboratory Analysis

1. Describe the key analytical parameters within the spirits business.
2. Demonstrate your knowledge of how these analyses are carried out.
3. Explain the potential options for large and small spirits businesses to measure these parameters.
4. Discuss the analytical requirements within your own business.

Sensory Analysis

1. Demonstrate an understanding of the role of sensory analysis in the quality assurance process.
2. Describe best practice for controlling the factors that can influence the results of a sensory test.
3. Explain the main sensory tests used in the spirits industry, which test to select for particular applications, and how to run and interpret these tests.
4. Demonstrate an understanding of how to monitor panel performance and optimise data quality.

Hygiene

1. Explain the key spoilage organisms in distillation.
2. Describe the cleaning regimes needed for a hygienic plant.
3. Review methods for detecting microbial infection.