



## Qualifications

# Foundation in Brewing Syllabus

## Introduction

In advance of their examination, candidates will be expected to have full knowledge of the syllabus as examination questions can be asked from any of the topics as detailed below and in the learning materials. The examination may also include some calculation questions.

## 1 Beer and the History of Brewing

Topic	Candidates should understand:
What beer is	<ul style="list-style-type: none"><li>• What beer is</li><li>• How beer is made</li><li>• The key elements of a glass of beer including foam, colour, clarity, carbonation, aroma, and taste</li><li>• The families of beer styles</li></ul>
A history of beer	<ul style="list-style-type: none"><li>• The history of beer and brewing and some of the major beer and brewing milestones</li></ul>

## 2 Ingredients

Topic	Candidates should understand:
Cereals	<ul style="list-style-type: none"><li>• The cereals used in brewing</li><li>• Why barley is the brewer's preferred cereal</li></ul>
Malt	<ul style="list-style-type: none"><li>• What malt is</li><li>• How malt is made</li><li>• What changes take place to barley in the malting process</li><li>• The benefits of using malt</li></ul>
Water	<ul style="list-style-type: none"><li>• Why water is so important in brewing</li><li>• The effects of water on beer</li><li>• How water is supplied to and treated in breweries</li></ul>
Hops	<ul style="list-style-type: none"><li>• What hops are</li><li>• Why we use hops in brewing</li><li>• The attributes of the different types of hops</li><li>• The effects of hops on beer flavour</li><li>• How hops are grown and harvested</li><li>• What hop products are and how they are used</li></ul>

Yeast	<ul style="list-style-type: none"> <li>• What yeast is</li> <li>• The role of yeast in brewing</li> <li>• How yeast is handled in a brewery</li> </ul>
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### 3 Brewhouse

Topic	Candidates should understand:
Milling	<ul style="list-style-type: none"> <li>• How malt is transported to the brewhouse</li> <li>• Why brewers mill their malt</li> <li>• The characteristics of grist</li> <li>• The different mill types and the grists they make</li> </ul>
Mashing	<ul style="list-style-type: none"> <li>• The purpose of mashing</li> <li>• The basic requirements of mashing</li> <li>• The basics of the mashing process</li> <li>• What mash is</li> <li>• The different techniques used for mashing</li> <li>• Why these techniques are used</li> <li>• How unmalted cereals are mashed</li> </ul>
Wort separation	<ul style="list-style-type: none"> <li>• Why brewers need to separate wort from spent grains</li> <li>• The methods of separating wort</li> <li>• What wort is</li> <li>• The advantages of the different methods of wort separation</li> <li>• How spent grains are used</li> </ul>
Boiling	<ul style="list-style-type: none"> <li>• Why wort is boiled</li> <li>• What happens in wort boiling</li> <li>• How and when hops are added</li> <li>• The main changes that occur during wort boiling</li> </ul>
Wort clarification	<ul style="list-style-type: none"> <li>• Why wort is clarified</li> <li>• The common methods of wort clarification</li> <li>• What trub is</li> <li>• How trub is disposed of</li> </ul>
Wort cooling	<ul style="list-style-type: none"> <li>• Why wort has to be cooled</li> <li>• Why air or oxygen is added</li> <li>• How wort cooling is undertaken</li> <li>• How air or oxygen is added</li> </ul>

## 4 Fermentation

Topic	Candidates should understand:
Yeast management	<ul style="list-style-type: none"><li>• Why yeast must be stored carefully</li><li>• How to maintain healthy yeast</li><li>• Simple techniques for measuring yeast health</li></ul>
Yeast pitching	<ul style="list-style-type: none"><li>• The need to control how much yeast is added</li><li>• How yeast is added to cooled wort</li></ul>
Fermentation	<ul style="list-style-type: none"><li>• The main changes that occur as wort becomes beer</li><li>• The difference between the main types of fermentation vessel</li><li>• The flavour changes during fermentation</li></ul>
Yeast collection	<ul style="list-style-type: none"><li>• How yeast is collected</li><li>• When yeast is collected</li><li>• What to avoid when collecting yeast</li></ul>

## 5 Maturation and Clarification

Topic	Candidates should understand:
Warm maturation	<ul style="list-style-type: none"><li>• What warm maturation is</li><li>• Why warm maturation is necessary</li><li>• How beer is dry hopped</li><li>• How beer is transferred to cold storage</li></ul>
Cold maturation	<ul style="list-style-type: none"><li>• Why cold maturation is necessary</li><li>• The changes that occur during cold maturation</li><li>• The conditions required for cold maturation</li></ul>
Filtration	<ul style="list-style-type: none"><li>• Why beer is filtered</li><li>• Why some beers are not filtered</li><li>• The common types of filter</li><li>• How unfiltered beers are clarified</li></ul>

Beer at the end of the brewing process	<ul style="list-style-type: none"> <li>• The characteristics of a beer ready for packaging</li> <li>• The typical levels of the main beer quality parameters</li> <li>• Other changes made to beer at the end of the brewing process</li> </ul>
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## 6 Consumer Experience

Topic	Candidates should understand:
What makes a great beer	<ul style="list-style-type: none"> <li>• What a consumer expects from a beer</li> </ul>
Beer flavour	<ul style="list-style-type: none"> <li>• The main beer flavours</li> <li>• The origins of beer flavour</li> </ul>
Beer freshness	<ul style="list-style-type: none"> <li>• How beer goes stale</li> <li>• The causes of beer staling</li> <li>• Flavour changes in the package over time</li> </ul>
Beer and health	<ul style="list-style-type: none"> <li>• Beer and its effects on health</li> <li>• Sensible levels of beer consumption</li> </ul>

## 7 Packaging

Topic	Candidates should understand:
Why we package beer	<ul style="list-style-type: none"> <li>• Why beer shelf life is limited in some packages more than it is in others</li> <li>• How packaged beer is preserved</li> </ul>
Metal kegs	<ul style="list-style-type: none"> <li>• The elements of a metal keg</li> <li>• How a keg is filled</li> <li>• How keg beer is dispensed</li> <li>• The advantages and disadvantages of keg beer</li> </ul>
Other large pack containers	<ul style="list-style-type: none"> <li>• How plastic kegs work</li> <li>• The advantages and disadvantages of plastic kegs</li> <li>• How casks are filled and used</li> <li>• The main differences between casks and kegs</li> </ul>
Glass bottles	<ul style="list-style-type: none"> <li>• How bottles are filled</li> <li>• The advantages and disadvantages of glass bottles</li> <li>• The difference between returnable and non-returnable bottles</li> </ul>

Plastic (PET) bottles	<ul style="list-style-type: none"><li>• What plastic (PET) bottles are made from</li><li>• The advantages and disadvantages of PET bottles</li></ul>
Cans	<ul style="list-style-type: none"><li>• How cans are filled</li><li>• The advantages and disadvantages of cans</li></ul>