

Brewer Apprenticeship, Level 4: End-Point Assessment Plan

Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the brewer apprenticeship standard, level 4. It is for end-point assessment organisations (EPAOs) who need to know how EPA for this apprenticeship must operate. It will also be of interest to brewer apprentices, their employers and training providers.

Full time apprentices will typically spend 18-24 months on-programme working towards the occupational standard. The apprentice must spend at least 12 months on-programme and complete the required amount of off-the-job training in line with the apprenticeship funding rules.

The EPA should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPAO.

As a gateway requirement, the apprentice must have compiled a brewer log book. In addition, the apprentice must have achieved English and mathematics qualifications in line with the apprenticeship funding rules.

The EPA must be completed within a three-month period, after the apprentice has met the EPA gateway requirements.

An approved EPAO must conduct the EPA for this apprenticeship. Employers must work with the training provider to select an approved EPAO from the apprenticeship providers and assessment register (APAR).

The EPA consists of three distinct assessment methods:

- Practical brewing assessment, underpinned by brewer log book
- Knowledge test
- Professional discussion, underpinned by brewer log book

Performance in the EPA will determine the apprenticeship grade of fail, pass or distinction.

On-programme (Typically 18-24 months)	End-point assessment gateway	End-point assessment (maximum three-months)
<p>Training to develop the brewer standard's knowledge, skills and behaviours</p> <p>Complete training towards English and mathematics qualifications in line with the apprenticeship funding rules</p> <p>Collation of brewer log book</p>	<p>Achieved English and mathematics qualifications in line with the apprenticeship funding rules</p> <p>Brewer log book</p> <p>Employer and employee is satisfied apprentice is consistently working at or above the level of the standard</p>	<p>Practical brewing assessment, underpinned by brewer log book</p> <p>Knowledge test</p> <p>Professional discussion, underpinned by brewer log book</p> <p>Graded fail, pass or distinction</p>
<p>Brewer occupational standard</p>		

Diagram 1. Typical brewer apprenticeship summary

End-point assessment gateway

The EPA should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the standard, the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPAO. Employers may wish to take advice from their apprentice's training provider(s).

Gateway requirements:

- Achieved English and mathematics qualifications in line with the apprenticeship funding rules
- Brewer log book completed and signed off by employer

Brewer log book requirements:

- Must include evidence that demonstrates the apprentice's competence in KSBs that will be assessed by the practical brewing assessment and professional discussion, which are both underpinned by the apprentice's brewer log book (note the practical brewing assessment and professional discussion are assessing different sets of KSBs)
- Evidence must relate to 'real' work completed by the apprentice; evidence from simulated activities are not allowable
- Evidence must be mapped against the knowledge, skills and behaviours (KSBs) being assessed by the practical brewing assessment and professional discussion, as shown in annex 1
- Examples of evidence can include:
 - Employer feedback reviews (maximum one review)
 - Offsite visit records e.g. ingredients suppliers, growers, farmers, malters, work placements, laboratories, day in trade.
 - Project plan including objective and outcomes
 - Market research and new product proposal
 - Basic recipe specification
 - Brewing records
 - Planning schedules
 - Yeast handling records and procedures
 - Presentations used at a promotional event and feedback
 - Social media impact report and marketing materials
 - Stock and ingredient handling records
 - Training records

- Cleaning in place (CIP) records
- Continuous improvement (CI) example
- Quality records e.g. sensory evaluations, non-conformity action log, external or internal analytical reports

This is not a definitive list; other evidence sources are per permissible

- It will typically contain up to 12 discrete pieces of evidence (*apprentices should aim for quality evidence that demonstrates a number of KSBs, not quantity*)
- Must be submitted to the apprentice's independent assessor 14 days before the practical brewing assessment and professional discussion

End-point assessment methods, timescales and location

The EPA consists of three distinct assessment methods:

- Practical brewing assessment, underpinned by brewer log book
- Knowledge test
- Professional discussion, underpinned by brewer log book

The EPA must be completed over a maximum period of three-months, after the apprentice has met the EPA gateway requirements.

The assessment methods can be completed in any particular order, allowing EPAOs flexibility in scheduling and cost-effective allocation of resources.

It is envisaged that the same independent assessor will conduct the assessment methods over a period of two days, however, this is not a requirement.

Requirements for each assessment method are detailed below.

Method 1 – Practical brewing assessment

Apprentices must complete a synoptic practical brewing assessment, in their workplace as part of their normal working hours during the EPA period. It is underpinned by the apprentice's brewer log book.

It is of greater importance than the other two EPA assessment methods (knowledge test and professional discussion), in that performance in this method alone will determine whether the apprentice is awarded a distinction.

It must assess apprentices against the standard's KSBs, as shown in annex 1.

It must consist of 3 components:

- walk-and-talk
- direct observation

- questioning, underpinned by the apprentice's brewer log book

It must take 5-hours + or - 30 minutes. There may be gaps between the walk-and-talk, observation and questioning to allow the apprentice and independent assessor to move from one location to another and for breaks.

Walk-and-talk – apprentices must conduct a tour of their brewery with their independent assessor, taking approximately 1 hour, explaining the 6 stages of the brewing process:

- Raw material handling
- Brewhouse
- Fermentation and maturation
- Beer finishing
- Packaging
- Cellar management and dispense

Direct observation - apprentices must be directly observed completing 3 out of 6 stages of the brewing process – as above, with observation of each stage taking approximately 1 hour.

Questioning – during or after the walk-and-talk and direct observation, the independent assessor must ask exactly 30 questions relating to the 6 stages. They may ask follow up questions where clarification is required. Apprentices can refer to their brewer log book in answering any questions; however, for stages not directly observed, apprentices must refer to evidence contained in their apprentice brewer log book when answering the questions.

The independent assessor must confirm the stages that will be directly observed and plan the timing with the apprentice's employer, taking account of workplace scheduling.

Direct observation may cover a new or existing product, and one or more different brews. Apprentices must be using equipment that they are familiar with, under normal working conditions.

KSBs observed and answers to questions must be documented by the independent assessor.

Independent assessors must observe apprentices on a one-to-one basis.

EPAOs must develop questions to be used in the practical brewing assessment. It is recommended that questions are developed in consultation with representative employers; where they do this they must put measures in place to ensure question security. They must develop and maintain a question bank of sufficient size to prevent predictability.

EPAOs must ensure that in the case of re-sits and re-takes a different set of questions is used.

The practical brewing assessment will be graded fail, pass or distinction.

Independent assessors must grade the practical brewing assessment components holistically using the grading criteria in annex B.

Method 2 – Knowledge test

Apprentices must complete a knowledge test during the EPA period.

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It must assess apprentices against the standard's knowledge as shown in annex 1.

It must consist of 30 multiple-choice questions.

Each multiple-choice question must present the apprentice with 4 options, from which the apprentice must select one or multiple correct options.

Each multiple-choice question answered correctly must be assigned 1 mark, any incorrect or missing answers must be assigned 0 marks.

Apprentices must have a maximum of 1 hour to complete the knowledge test with 5 minutes reading time before the start of the test.

It must be completed in closed book conditions i.e. the apprentice can't refer to reference books or materials. A calculator must be supplied by the EPAO.

It can be either electronic or a paper-based.

EPAOs must ensure that the knowledge test is conducted in a suitable controlled environment i.e. quiet room free from distraction and influence. It is anticipated that EPAOs will use the apprentice's employer's premises wherever possible to minimise costs.

Apprentices must take the knowledge test in the presence of an EPAO administrator or invigilator. The knowledge test may be conducted via an online platform. EPAOs must ensure appropriate methods to prevent misrepresentation are in place. For example, screen share and 360-degree camera function with an administrator or invigilator when taking the knowledge test online.

The maximum administrator or invigilator to apprentice ratio must be 1 to 10 if face-to-face; or 1 to 3 if remote.

Knowledge tests must be marked by EPAO independent assessors or markers following a marking guide produced by the EPAO; electronic marking is permissible.

Independent assessors and markers must award a grade using the following grading boundaries.

Grading boundaries	Fail	Pass
Marks	0 – 59%	60 – 100%
	0-17	18-30

EPAOs must develop the multiple-choice questions. It is recommended that multiple-choice questions are developed in consultation with representative employers; where they do this they must put measures in place to ensure question security. They must develop and maintain a question bank of sufficient size to prevent predictability.

EPAOs must ensure the knowledge test is available for apprentices within their three-month EPA time period.

Knowledge test questions must be set so that a pass will represent competence.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits and re-takes.

Method 3 – Professional discussion

Apprentices must complete a professional discussion during the EPA period. It is underpinned by the apprentice's brewer log book. To enable the independent assessor sufficient time to plan, apprentices must submit their log book to their EPAO at least two weeks before the scheduled professional discussion.

It must assess apprentices against the standard's KSBs as shown in annex 1.

The professional discussion will be in the format of question and answer. Apprentices must be asked 10 questions in total, 5 technically based and 5 competency based.

Questions must cover the following areas:

- Quality assurance and quality control activities
- Production planning and operation
- Industry knowledge
- Recipe design
- Promotional activities

The professional discussion must last 1 hour + or -5minutes.

The professional discussion may be conducted remotely using video-conferencing facilities.

The professional discussion will be graded fail or pass.

Independent assessors must grade the professional discussion holistically using grading criteria is in annex B.

End-point assessment and apprenticeship grading

Independent assessors and markers must individually grade each assessment method, according to the requirements set out in this plan. The practical skills test must be graded fail, pass or distinction. The knowledge test and professional discussion must be graded fail or pass.

EPAOs must combine the grades of the three assessment methods to determine the EPA grade.

To achieve an EPA and apprenticeship pass, apprentices must achieve a pass in all three assessment methods, that is a minimum of pass, pass, pass.

To achieve an EPA and apprenticeship distinction, apprentices must achieve a distinction in practical skills test and a pass in the knowledge test and professional discussion.

Independent assessors' decisions must be subject to moderation by the EPAO – see internal quality assurance section below. Decisions must not be confirmed until after moderation.

Re-sit and re-take information

Apprentices who fail one or more EPA method will be offered the opportunity to take a re-sit or re-take. Re-sits or re-takes must not be offered to apprentices wishing to move from pass to distinction. A re-sit does not require further learning, whereas a re-take does.

The apprentice's employer will need to agree that a re-sit or re-take is an appropriate course of action. Apprentices should have a supportive action plan to prepare for the re-sit or re-take.

Failed assessment methods must be re-sat or re-taken within a 6-month period from the EPA outcome notification, otherwise the entire EPA will need to be re-sat or re-taken in full.

EPAOs must ensure that apprentices complete a different knowledge test and have different question sets for the practical brewing assessment and professional discussion when taking a re-sit or re-take.

There is no cap on grades awarded for re-sits or re-takes.

End-point assessment organisations

An approved EPAO must conduct the EPA for this apprenticeship. Employers must work with the training provider to select an approved EPAO from the apprenticeship providers and assessment register (APAR). **Requirements for independent assessors, administrators, invigilators and markers**

EPAOs must appoint:

- administrators, invigilators and markers to administer and invigilate and mark the knowledge test
- independent assessors to assess and grade the practical brewing assessment and professional discussion
- quality assurance staff to undertake moderation of EPA

Independent assessors must meet the following requirements:

- be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest
- hold or be working towards an assessor qualification e.g. TAQA (Training, Assessment, Quality and Assurance) and have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading
- hold as a minimum of a diploma, Bachelor of Science or Master of Science in brewing
- hold Hazard Analysis Critical Control Points (HACCP) level 3 qualification
- hold food safety level 3 qualification

- have a minimum of 5-years' experience working in brewing industry e.g. head brewer or brewer and complete a minimum of 3-days continuing professional development (CPD) relevant to brewing industry per year; they do not necessarily still need to be employed in a brewing occupation
- undertake a minimum of two-days' EPAO standardisation training per year

EPAOs may appoint administrators, invigilators and markers to administer, invigilate and mark the knowledge test. They must have no direct connection with the apprentice, their employer or training provider i.e. there must be no conflict of interest. There are no specific qualification or experience requirements for administrators, invigilators and markers. They must be trained in the task(s) by their EPAO and operate according to their guidance.

Quality assurance staff must hold or be working towards quality assurance qualifications. They must be independent of the apprentice, their employer and training provider i.e. there must be no conflict of interest.

Internal quality assurance

Internal quality assurance refers to the requirements that EPAOs must have in place to ensure consistent, reliable, accurate and valid assessment decisions. EPAOs for this EPA must undertake the following:

- appoint independent assessors that meet the requirements as detailed in this plan – see above
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- have quality assurance systems and procedures that support fair, reliable and consistent assessment across organisation and over time
- operate regular standardisation events that enable assessors to attend a minimum of two events per year
- operate moderation of assessment activity and decisions, through examination of documentation and observation of activity, with a minimum of 20% of each independent assessors' assessments moderated

Assessment tools and materials

EPAOs must produce assessment tools and supporting materials for the EPA that follow best assessment practice, as follows:

- Knowledge test question bank
- Question bank for practical brewing assessment
- Question bank for professional discussion
- Documentation for recording assessment evidence and decisions

- Guidance for independent assessors on conducting the EPA
- Guidance for apprentices, their employers and training providers on the EPA

External quality assurance

External quality assurance arrangements will ensure that EPAOs delivering EPA for this apprenticeship operate consistently and in line with this plan.

External quality assurance for this apprenticeship standard will be undertaken by the Institute for Apprenticeships.

Implementation

Affordability

The following factors should ensure the EPA is affordable:

- All assessment methods can take place at employers' premises, reducing the need for capital investment and room hire, and minimising the time the apprentice is away from the workplace
- The practical brewing assessment includes the requirement to be observed completing real activities in the workplace, reducing down time of the apprentice
- The knowledge test and professional discussion can be completed remotely, reducing travel costs and time away from the workplace

Volumes

It is anticipated that there will be 25 starts in year one on this apprenticeship and 50 per year once established.

Annex A – Knowledge, skills and behaviours to be assessed by each assessment method

Assessment method	Key
Practical brewing assessment	PBA
Knowledge test	KT
Professional discussion	PD

Knowledge:

Brewers have the following knowledge and understanding:

Knowledge	PBA	KT	PD
1. The provenance, quality and characteristics of principle ingredients used for beer production and their combined contribution to beer style and character.		x	
2. Requirements for processing of ingredients prior to use in the brewery.		x	
3. Importance of stock control, handling and storage of ingredients for use in the brewery to preserve ingredient quality and characteristics.	x		
4. Principles of brewing, fermentation, yeast management, conditioning, maturation, stabilisation, clarification, processing and packaging, plant design, operation and the impact of processing conditions on the characteristics, quality and consistency of beer and beer style.	x	x	
5. Principles and importance of plant hygiene and maintenance on production quality, safety and efficiency.	x		
6. Transport and supply chain conditions, including beer dispense, required to ensure beer quality and consistency from brewery to glass.	x	x	
7. Brewery monitoring systems to control the quality, consistency and safety of ingredients and raw materials as well as product within the process and at final package.	x	x	
8. Drivers of brewery operation and performance, including costings, maintaining consistent, high quality and efficient output and process, responding to consumer expectations and developing market trends; financial and business pressures, meeting expectations of responsibility and sustainable production.		x	

9. Commercial awareness of brewery operation and all brewery inputs and outputs. Control of costs associated with production in response to drivers of brewery operation and performance, maintaining and upgrading brewery assets, plant and equipment as well as decisions on plant investment and improvements.			X
10. Sustainability factors and environmental considerations connected with beer production and the supply chain; management and control of waste and effluent throughout production.	X	X	
11. Regulatory compliance and responsibility associated with beer production, logistics and retail operation.	X	X	
12. Continuous Improvement (CI) processes, for example knowledge of 5 S, and Plan, Action, Review.		X	
13. The heritage and structure of the beer industry, as well as the significance of changing market trends and drivers of consumer preferences.			X

Skills	PBA	KT	PD
1. Control and safe operation of automated and/or manual plant and equipment required for brewing, fermentation, processing and packaging of beer taking appropriate personal and operational responsibility for health and safety to protect self and others at all times.	X		
2. Maintains accurate records for existing beer recipes and as part of day to day brewhouse and production requirements.	X		
3. Design and adjustment of beer recipes and specifications where necessary.			X
4. Planning to ensure production schedules are met, with adjustments made in a timely way where necessary.			X
5. Quality and safety control checks (microbiological, chemical, physical, sensory) and maintains records required for traceability.	X		X
6. Monitoring quality control and consistency of ingredients, raw materials and product within the process and at final package and to demonstrate compliance with specification and regulations.	X		
7. Implementation and monitoring of cleaning and sanitation processes intended to ensure plant and process hygiene.	X		
8. Monitoring and maintenance yeast hygiene, vitality and viability.	X		
9. Use of computer word processing and data manipulation packages.			
10. Contribution to CI activities to improve and optimise production processes and troubleshoot/problem solve operational issues.			X

11. Promotion of the brewery and attributes and characteristics of key brands and styles, when hosting or attending private and/or public events.	x		x
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Behaviours	PBA	KT	PD
1. Leads by example in behaviour and approach to working safely.	x		
2. Passion for the industry and the product; acts as a role model and ambassador for brand and brewery.			x
3. Demonstrates integrity and confidence in daily activities.			x
4. Curiosity and desire to innovate and expand knowledge and experience of brewing.			x
5. Calmly and consistently reacts to information.	x		
6. Committed to delivering and maintaining high-quality product and work place standards.	x		
7. Demonstrates responsibility, personal accountability and professionalism in all aspects of the role.			
8. Flexible and adaptable to working environment.			
9. Confidently and competently communicates relevant information to team members and others in an appropriate manner.	x		
10. Works collaboratively as part of a team.	x		

Annex B. Practical brewing assessment grading criteria

Knowledge:

- K3. Importance of stock control, handling and storage of ingredients for use in the brewery to preserve ingredient quality and characteristics.
- K4. Principles of brewing, fermentation, yeast management, conditioning, maturation, stabilisation, clarification, processing and packaging, plant design, operation and the impact of processing conditions on the characteristics, quality and consistency of beer and beer style.
- K5. Principles and importance of plant hygiene and maintenance on production quality, safety and efficiency.
- K6 Transport and supply chain conditions, including beer dispense, required to ensure beer quality and consistency from brewery to glass.
- K7. Brewery monitoring systems to control the quality, consistency and safety of ingredients and raw materials as well as product within the process and at final package.
- K10. Sustainability factors and environmental considerations connected with beer production and the supply chain; management and control of waste and effluent throughout production.
- K11. Regulatory compliance and responsibility associated with beer production, logistics and retail operation.

Skills:

- S1. Control and safe operation of automated and/or manual plant and equipment required for brewing, fermentation, processing and packaging of beer taking appropriate personal and operational responsibility for health and safety to protect self and others at all times.
- S2. Maintains accurate records for existing beer recipes and as part of day to day brewhouse and production requirements.
- S5. Quality and safety control checks (microbiological, chemical, physical, sensory) and maintains all records required for traceability.
- S6. Monitoring quality control and consistency of ingredients, raw materials and product within the process and at final package and to demonstrate compliance with specification and regulations.
- S7. Implementation and monitoring of cleaning and sanitation processes intended to ensure plant and process hygiene.
- S8. Monitoring and maintenance yeast hygiene, vitality and viability.
- S11. Promotion of the brewery and attributes and characteristics of key brands and styles, when hosting or attending private and/or public events.

Behaviours:

- B1. Leads by example in behaviour and approach to working safely.
- B5. Calmly and consistently reacts to information.
- B6. Committed to delivering and maintaining high-quality product and work place standards.
- B9. Confidently and competently communicates relevant information to team members and others in an appropriate manner.
- B10. Works collaboratively as part of a team.

Stage	Distinction criteria The apprentice demonstrates the pass criteria and in addition 20 of the distinction criteria. There must be a minimum of 2 distinction criteria achieved from each stage.	Pass criteria The apprentice demonstrates all of the following criteria.	Fail criteria The apprentice demonstrates one or more of the following criteria.
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<p>Raw material handling</p>	<ul style="list-style-type: none"> • Explains or manages raw material batch-to-batch variation and suggests actions to ensure product specification is maintained (K3) (B6) • Explains impact of process variations during raw material preparation (K3) (B6) • Can explain the importance of ingredients intake and use and how this can be recorded using other methods e.g. ERP software) (S2) • Identifies areas of improvement and explains best practice in wider industry of the storage and handling of raw materials to minimise potential for cross contamination (physical, microbiological, allergens); operates first in and first out (FIFO) stock procedures (S6) (K3) (B6) • Explains the wider impact on minimising waste (financial, health and safety, environment) and explains industry best practice (B1) • Demonstrates forward planning and adapting production to optimise efficiencies based on 	<ul style="list-style-type: none"> • Quality and accuracy checks for raw materials on delivery and entering into stock, in line with company procedures (K3) (B6) (S5) • Storage and handling of raw materials in line with company procedure, minimising potential for cross contamination (physical, microbiological, allergens); operates first in and first out (FIFO) stock procedures (S6) (K3) (B6) • Control and use of appropriate personal protective equipment (PPE) and safe working practices at all stages of raw material handling e.g. manual handling and grain dust exposure (B1) • Can demonstrate or explain traceability of ingredients intake and use (K7) (S2) • Accurate preparation of raw materials in accordance with recipe, minimising waste (S2) • Organisation and completion of work in a logical order, according to production schedules (B6) 	<ul style="list-style-type: none"> • Doesn't complete quality checks in line with company procedures (K3) (B6) (S5) • Storage and handling of raw materials isn't in line with company procedures; stock compromised (S6) (K3) (B6) • Operates in a way that compromises health and safety of self or others (B1) • Ways of working lead to wastage (s2) • Work is unorganised or not synchronised to production schedules (B6) • Incomplete or lack of traceability in raw material intake and use within the process (K7) (S2)
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	<p>market pressures and impact on brewing schedules (B6)</p> <ul style="list-style-type: none">• Explains improvements to safe working practices at all stages of raw material handling e.g. manual handling and grain dust exposure based on wider industry practice (B1)		
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<p>Brewhouse</p>	<ul style="list-style-type: none"> • Use of appropriate remedial action for common faults (S5) (B5) • Can explain alternative milling systems and how they might be used in different breweries (S1) (B6) • Can explain alternative approaches to mashing and wort separation and why they may be used in different breweries (e.g. infusion mashing, temperature stepped mashing, decoction mashing) (S1) (B6) • Explains design and approach to alternative methods of boiling in different breweries (S1) (B6) • Explains design and approach to alternative methods of wort cooling (S1) (B6) 	<ul style="list-style-type: none"> • Common faults identification e.g. stuck mash, incorrect pH or temperature (S5) (B5) (B6) (S6) • Can explain the choice and use of the mill in their brewery identifying responsibility for health and safety (S1) • Can fully explain the design and safe operation of mashing and wort separation equipment in their brewery (S1) (B1) • The design and safe operation of boiling equipment in their brewery including addition of hops (S1) (B1) • The design and safe operation of cooling equipment for boiled wort (S1) (B1) 	<ul style="list-style-type: none"> • Fails to identify common faults (S5) (B5) (B6) (S5) • Fails to identify the potential to segregate co-products from brewery waste (S6) • Cannot explain or has limited knowledge of the design and safe operation of mashing and wort separation equipment in their brewery (S1) (B1) • Cannot explain or has limited knowledge of the design and safe operation of boiling equipment in their brewery including the addition of hops (S1) (B1) • Cannot explain or has limited knowledge of the design and safe operation of cooling equipment for boiled wort (S1) (B1)
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<p>Fermentation and maturation</p>	<ul style="list-style-type: none"> • Explains the underlying principles behind yeast handling with relation to yeast quality, health and vitality (S8) • Can explain the purpose of different fermentation systems and application in other breweries (S1) • Can explain the use of different and novel yeasts e.g. lager v ale and their different strains, deliberate use of wild yeasts and bacteria) (K4) • Use of appropriate remedial actions for common faults in fermentation (K5) (B5) • Understanding and achieving differences in sanitisation and sterility (S7) (B6) • Understanding of different approaches to maturation systems and methods (S1) 	<ul style="list-style-type: none"> • Yeast management according to company procedures, handling and hygiene control e.g. FIFO, yeast counts, propagation oxygenation, control of storage temperature and times (S8) • Vessel design, safe use and planning in their brewery (S1) (B1) • Common faults identification e.g. acid washing, temperature, stuck fermentation (K5) (B5) • Requirements of plant hygiene (K5) (S7) (B6) • Explain the principles of the maturation system in their brewery (K4) (S1) 	<ul style="list-style-type: none"> • Fails to follow company procedures with regards to yeast management, handling and hygiene control (e.g FIFO, yeast counts, propagation oxygenation, control of storage temperature and times (S8) • Cannot explain or demonstrate vessel design, safe use and planning in their brewery (S1) (B1) • Fails to identify common faults (K5) (B5) • Cannot explain or demonstrate the requirements of plant hygiene (K5) (S7) (B6) • Fails to explain the principles of the maturation system in their brewery (K4) (S1)
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<p>Beer finishing</p>	<ul style="list-style-type: none"> • Demonstrates knowledge of pre-packaging processes and requirements in other breweries (S1) (K4) • Explains the application of pre-packaging processes based on final package for a beer style not produced in their brewery (S1) (K4) • Demonstrates an understanding of the impact of requirement for routine and remedial adjustments to reach product final specification (K4) (S1) 	<ul style="list-style-type: none"> • Pre-packaging processes within their brewery e.g. high gravity brewing, blending, filtration, stabilisation (S1) (K4) • Application of pre-packing processes based on final package type in their brewery e.g. clarification (S1) (K4) • Adjustment to achieve final product specification e.g. dilution, gas adjustments (K4) (S1) 	<ul style="list-style-type: none"> • Fails to demonstrate the correct processes for pre-packaging processes within their brewery e.g. high gravity brewing, blending, filtration, stabilisation (S1) (K4) • Fails to explain the application of pre-packaging processes based on the final package type in their brewery e.g. clarification (S1) (K4) • Does not recognise the need for adjustments or fails make appropriate adjustment to achieve final product specification e.g. dilution, gas adjustments (S1) (K4)
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<p>Packaging</p>	<ul style="list-style-type: none"> • Understanding of alternative options in relation to packaging tasks for different beer styles (S1) (K4) • Explains the design and merits of different package formats (K4) • Design of alternative packaging plants in other breweries (S1) (B1) • Explains importance of the appropriate handling and storage conditions for different packaging formats (K7) 	<ul style="list-style-type: none"> • Packaging tasks according to product or brand specifications (S1) • Use of different package types e.g. kegs, bottles, cask or cans, in their brewery (K4) • Design and safe operation of the packaging plant in your brewery (S1) (B1) • Handling and storage of packaged product prior to dispatch (K7) 	<ul style="list-style-type: none"> • Does not complete packaging tasks according to product or brand specifications (S1) • Cannot explain or demonstrate the use of different packaging types (K4) • Cannot explain the design and safe operations of the packaging plant in the brewery (S1) (B1) • Fails to handle and store packaged product appropriately prior to dispatch (K7)
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<p>Cellar management and dispense</p>	<ul style="list-style-type: none"> • Explains key requirements for cellar and dispense requirements for beer styles and packaging formats (K6) • Can explain the impact of different approaches to presentation on the attributes and flavour characteristics for beer styles (K6) • Can explain typical attributes and characteristics for a wide range of beers styles (S11) 	<ul style="list-style-type: none"> • Impact of cellar operation and dispense hygiene on final product quality (K6) • Demonstration of end product presentation at point of sale (K6) • Communicates attributes and style characteristics of own brand portfolio (S11) • Demonstrates safe design and operation of Cellar. (K6) 	<ul style="list-style-type: none"> • Fails to identify or demonstrate good practice that fails to recognise the impact of cellar operation and dispense hygiene on final product quality (K6) • Does not demonstrate end product presentation at point of sale (K6) • Fails to communicate attributes and style characteristics of own brand portfolio (S11)
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<p>All areas</p>	<ul style="list-style-type: none"> • Demonstrates awareness of good health and safety practice on others, and communicates this clearly (B1) • Can link food safety management procedures, record keeping and traceability to relevant legislative requirement (B1) • Can communicate effectively with colleagues at all levels (B9, B10) • Explains the principles behind the cleaning methods used across the different stages of production and by others across the industry (S7) • Explains the impact of poor maintenance on the plant operation and final product quality (K5) • Explains the commercial value and use in the supply chain of co products separate from brewery waste (K10) • Explains the basis of regulatory control on the industry e.g. weights and measures (packaged goods) 2006, food information consumer (FIC) labelling 2011, general food hygiene e.g. foreign body, HACCP (B1) 	<ul style="list-style-type: none"> • Working in line with Health and Safety legal requirements e.g. COSHH (Control of Substances Hazardous to Health), Health and safety at work act 1974, The Management of health and Safety at Work Regulations 1999, The Workplace (Health, Safety and Welfare) regulations 1992 Display Screen Equipment (DSE) Regulations 2002, industry accepted codes of practice e.g. Grain Dust – Guidance Note (EH66), Manual Handling Solutions for the Food and Drink Industries (HSG 196) and BBPA Manual Handling in the Brewing Industry Guidance, Managing and Working with Asbestos, Rider Operated Lift Trucks (L1, 17), Working at Height, and company rules e.g. risk assessment requirements (K11) (B1) • Understands health and safety impact or hazards and follows control methods in all areas of production (S1, B1) • Understands and implements food safety management procedures, 	<ul style="list-style-type: none"> • Work isn't in line with health and safety legal requirements, industry accepted codes or company rules (K11, B1) • Fails to understand health and safety impact or hazards and does not follow control methods (S1) (B1) • Fails to implement food safety procedures and keep records during observation (S5) • Does not communicate effectively with colleagues (B5, B9, B10) • Is unable to explain the relevant cleaning methods employed at different stages in their brewery (S7) • Is unable to explain relevant maintenance requirements and procedures for the brewery plant and services (K5) • Does not segregate or safely handle co-products from brewery waste e.g. spent hops, brewer's grains, dust, spent yeast, packaging (K10, B1, S6) • Fails to demonstrate knowledge of regulatory requirements e.g. weights and measures (packaged goods) 2006, food information consumer (FIC) labelling 2011,
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		<p>record keeping and traceability (S5)</p> <ul style="list-style-type: none"> • Effective communication with colleagues where necessary (B9, B5, B10) • Demonstrate or explain relevant cleaning methods employed at different stages in their brewery (S7) • Maintenance requirements and procedures for all brewery plant and services (K5) • Segregation of co-products from brewery waste; safe handling and disposal of by-products e.g. spent hops, brewer's grains, dust, spent yeast, packaging (B1, S6, K10) • Knowledge of regulatory requirements e.g. Weights and Measures (packaged goods) 2006, Food Information to the Consumer (FIC) Legislation EC 1196/2011, General Food Hygiene Regulations (EC 178/2002 including HACCP (B1) 	<p>general food hygiene e.g. foreign body, HACCP (B1)</p>
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Annex B. Professional discussion grading criteria

Knowledge:

K9. Commercial awareness of brewery operation and all brewery inputs and outputs. Control of costs associated with production in response to drivers of brewery operation and performance, maintaining and upgrading brewery assets, plant and equipment as well as decisions on plant investment and improvements.

K13. The heritage and structure of the beer industry, as well as the significance of changing market trends and drivers of consumer preferences.

Skills:

S3. Design and adjustment of beer recipes and specifications where necessary.

S4. Planning to ensure production schedules are met, with adjustments made in a timely way where necessary.

S5. Quality and safety control checks (microbiological, chemical, physical, sensory) and maintains records required for traceability

S10. Contribution to CI activities to improve and optimise production processes and troubleshoot/problem solve operational issues.

S11. Promotion of the brewery and attributes and characteristics of key brands and styles, when hosting or attending private and/or public events.

Behaviours:

B2. Passion for the industry and the product; acts as a role model and ambassador for brand and brewery.

B3. Demonstrates integrity and confidence in daily activities.

B4. Curiosity and desire to innovate and expand knowledge and experience of brewing.

Area	Pass criteria The apprentice demonstrates the following criteria.	Fail criteria The apprentice demonstrates one or more of the following criteria.
Quality assurance and quality control activities	<ul style="list-style-type: none"> • Can explain QA or QC approach in their brewery and contribution to product quality and process efficiency (S5) (S10) • Explain how QA or QC outputs can support continuous improvement activities (S5) (S10) 	<ul style="list-style-type: none"> • Cannot explain approached to QA or QC in their brewery and fails to recognise the contribution to product quality and process efficiency (S5) (S10) • Fails to explain how QA or QC outputs can support continuous improvement activities (S5) (10)
Production planning and operation	<ul style="list-style-type: none"> • Contribution to production planning and operation processes; when and how adjustments are made; considerations taken into account (S4, S10) • Management of resources to match production requirements (S4) 	<ul style="list-style-type: none"> • Cannot evidence contribution to production planning and operation processes; when and how adjustments are made; considerations taken into account (S4, S10) • Unable to demonstrate management of resources to match production requirements (S4)

Industry knowledge	<ul style="list-style-type: none"> • Their organisation’s position within the industry, their company’s distinguishing factors (B3) • How they keep up-to-date with latest brewing industry trends; how they apply knowledge in the workplace (B3, B4, K13) • Key business drivers and how they can impact on performance (K9) 	<ul style="list-style-type: none"> • Fails to demonstrate knowledge of their organisation’s position within the industry, their company’s distinguishing factors (B3) • How they keep up-to-date with latest brewing industry trends; how they apply knowledge in the workplace (B3, B4, K13) • Fails to recognise key business drivers and how they can impact on performance (K9)
Recipe design	<ul style="list-style-type: none"> • Beer recipe design principles (S3) (K13) • Personal beer design recipe, its features and qualities (S3) 	<ul style="list-style-type: none"> • Cannot demonstrate beer recipe design principles (K13, S3)
Promotional activities	<ul style="list-style-type: none"> • Participation in the promotion of product or brand, communicating unique selling points or characteristics (S11, B2) 	<ul style="list-style-type: none"> • Cannot demonstrate participation in the promotion of a product or brand, or has not communicated the promotion of the product or brand effectively describing the products USP or Characteristics (S11, B2)