



## EPA Draft Preview

# DRAFT END-POINT ASSESSMENT PLAN ST1410/V FOR THE SPORTS TURF TECHNICAL MANAGER APPRENTICESHIP

APPRENTICESHIP REFERENCE NUMBER	LEVEL OF THIS END-POINT ASSESSMENT (EPA)	INTEGRATION
ST1410	5	Mandatory qualification

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## Introduction and overview

This document explains the requirements for end-point assessment (EPA) for the sports turf technical manager apprenticeship. This apprenticeship has an integrated qualification which means both the qualification and apprenticeship need to be completed, passed and awarded during the same period.

The awarding body (AB) is accountable for the integrated assessment method. The end-point assessment organisation (EPAO) must take responsibility for all other assessment methods in the EPA. EPAOs and ABs must work collaboratively to manage the delivery of the EPA.

Sports Turf Technical Manager apprentices, their employers, training providers and other interested parties should read this document.

A full-time sports turf technical manager apprentice typically spends 36 months on-programme. 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 be completed within an EPA period lasting typically 3 months.

The apprentice must complete their training and meet the gateway requirements before starting their EPA. The EPA will assess occupational competence.

## EPA summary table

**On-programme -  
typically 36 months**

The apprentice must:

- complete training to develop the knowledge, skills and behaviours (KSBs) outlined in this apprenticeship's standard
- complete training towards English and mathematics qualifications in line with the apprenticeship funding rules
- The apprentice must have completed and passed all required elements of the FdSc Sportsturf and Applied Turfgrass Science except the integrated component
- compile a portfolio of evidence
- complete training towards the qualification listed in the sports turf technical manager apprenticeship standard

The qualification required is:

FdSc Sportsturf and Applied Turfgrass Science

<p><b>End-point assessment gateway</b></p>	<p>The apprentice’s employer must be content that the apprentice is occupationally competent.</p> <p>The apprentice must:</p> <ul style="list-style-type: none"> <li>• confirm they are ready to take the EPA</li> <li>• have achieved English and mathematics qualifications in line with the apprenticeship funding rules</li> <li>• The apprentice must have completed and passed all required elements of the FdSc Sportsturf and Applied Turfgrass Science except the integrated component</li> <li>• the apprentice must have completed and passed all required elements of the FdSc Sportsturf and Applied Turfgrass Science except the integrated component</li> </ul> <p>For the professional discussion underpinned by a portfolio of evidence, the apprentice must submit a portfolio of evidence.</p> <p>Gateway evidence must be submitted to the EPAO, along with any organisation specific policies and procedures requested by the EPAO.</p>
<p><b>End-point assessment - typically 3 months</b></p>	<p><b>The grades available for each assessment method are below</b></p> <p>Professional discussion underpinned by a portfolio of evidence:</p> <ul style="list-style-type: none"> <li>• fail</li> <li>• pass</li> <li>• distinction</li> </ul> <p>Environmental management and sustainability project and presentation:</p> <ul style="list-style-type: none"> <li>• fail</li> <li>• pass</li> <li>• distinction</li> </ul> <p><b>Overall EPA and apprenticeship can be graded:</b></p>

	<ul style="list-style-type: none"> <li>• fail</li> <li>• pass</li> <li>• merit</li> <li>• distinction</li> </ul>
<b>Re-sits and re-takes</b>	<p>The details for re-sits and re-takes are below:</p> <ul style="list-style-type: none"> <li>• re-take and re-sit grade cap: merit</li> <li>• re-sit timeframe: typically 1 months</li> <li>• re-take timeframe: typically 3 months</li> </ul>

## Duration of end-point assessment period

The EPA is taken in the EPA period. The EPA period starts when the EPAO confirms the gateway requirements have been met and is typically 3 months.

The EPAO should confirm the gateway requirements have been met and start the EPA as quickly as possible.

## EPA gateway

The apprentice's employer must be content that the apprentice is occupationally competent. That is, they are deemed to be working at or above the level set out in the apprenticeship standard and ready to undertake the EPA. The employer may take advice from the apprentice's training provider, but the employer must make the decision. The apprentice will then enter the gateway.

The apprentice must meet the gateway requirements before starting their EPA.

They must:

- confirm they are ready to take the EPA
- have achieved English and mathematics qualifications in line with the apprenticeship funding rules
- have completed and passed all required elements of the FdSc Sportsturf and Applied Turfgrass Science **except the integrated component**
- submit a portfolio of evidence for the professional discussion underpinned by a portfolio of evidence

## Portfolio of evidence requirements:

The apprentice must compile a portfolio of evidence during the on-programme period of the apprenticeship. It should only contain evidence related to the KSBs that will be assessed by the professional discussion. It will typically contain 15 discrete pieces of evidence. Evidence must be mapped against the KSBs. Evidence may be used to demonstrate more than one KSB as a qualitative rather than quantitative approach is suggested.

Evidence sources may include workplace documentation and records, for example:

- workplace policies and procedures
- witness statements
- annotated photographs
- video clips with a maximum total duration 10 minutes; the apprentice must be in view and identifiable

This is not a definitive list and other evidence sources can be included.

The portfolio of evidence should not include reflective accounts or any methods of self-assessment. Any employer contributions should focus on direct observation of performance, for example, witness statements, rather than opinions. The evidence provided must be valid and attributable to the apprentice and the portfolio of evidence should contain a statement from the employer and apprentice confirming this.

The EPAO should not assess the portfolio of evidence directly as it underpins the discussion. The independent assessor should review the portfolio of evidence to prepare questions for the discussion. They are not required to provide feedback after this review.

Gateway evidence must be submitted to the EPAO, along with any organisation specific policies and procedures requested by the EPAO.

## Order of assessment methods

The integrated assessment method must be delivered after non-integrated assessment methods have been attempted.

## Professional discussion underpinned by a portfolio of evidence

### Overview

In the professional discussion, an independent assessor and apprentice have a formal two-way conversation. It gives the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method.

### Rationale

This assessment method is being used because:

- it assesses KSBs holistically and objectively
- it allows for the assessment of KSBs that do not occur on a predictable or regular basis
- it allows for assessment of responses where there are a range of potential answers
- it can be conducted remotely, potentially reducing cost

## Delivery

The professional discussion must be structured to give the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method to the highest available grade.

An independent assessor must conduct and assess the professional discussion.

The purpose of the independent assessor's questions will be to assess the apprentice's competence against the following themes:

- Academic and vocational skills - 1 question
- Essential plant and soil science - 7 questions
- Principles and practices of turfgrass management - 4 questions
- Turfgrass growth and development - 3 questions
- Performance management of sports turf surfaces - 2 questions
- Research methods - 3 questions
- Industry project - 2 questions
- Integrated pest management - 3 questions
- Sports turf surface construction and drainage systems - 3 questions
- Environmental plant physiology - 2 questions
- Managing resources - 3 questions

The EPAO must give an apprentice at least 7 days' notice of the professional discussion.

The independent assessor must have at least 2 weeks to review the supporting documentation.

The apprentice must have access to their portfolio of evidence during the professional discussion.

The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence however, the portfolio of evidence is not directly assessed.

The professional discussion must be allocated 180 minutes. The independent assessor can increase the time of the professional discussion by up to 10%. This time is to allow the apprentice to respond to a question if necessary.

The independent assessor must explain to the apprentice the format and timescales of the professional discussion before it starts. This does not count towards the assessment time.

The independent assessor must ask at least 33 questions. The independent assessor must use the questions from the EPAO's question bank or create their own questions in line with the EPAO's training. Follow-up questions are allowed where clarification is required.

The apprentice may choose to end the assessment method early. The apprentice must be confident they have demonstrated competence against the assessment requirements for the assessment method. The independent assessor or EPAO must ensure the apprentice is fully aware of all assessment requirements. The independent assessor or EPAO cannot suggest or choose to end the assessment methods early, unless in an emergency. The EPAO is responsible for ensuring the apprentice understands the implications of ending an assessment early if they choose to do so. The independent assessor may suggest the assessment continues. The independent assessor must document the apprentice's request to end the assessment early.

The independent assessor must make the grading decision.

The independent assessor must keep accurate records of the assessment. They must record:

- the apprentice's answers to questions
- the KSBs demonstrated in answers to questions
- the grade achieved

## **Assessment location**

The professional discussion must take place in a suitable venue selected by the EPAO for example, the EPAO's or employer's premises.

The professional discussion can be conducted by video conferencing. The EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

The professional discussion should take place in a quiet room, free from distractions and influence.

## **Question and resource development**

The EPAO must develop a purpose-built assessment specification and question bank. It is recommended this is done in consultation with employers of this occupation. The EPAO must maintain the security and confidentiality of EPA materials when consulting with employers. The assessment specification and question bank must be reviewed at least once a year to ensure they remain fit-for-purpose.

The assessment specification must be relevant to the occupation and demonstrate how to assess the KSBs mapped to this assessment method. The EPAO must ensure that questions are refined and developed to a high standard. The questions must be unpredictable. A question bank of sufficient size will support this.



The EPAO must ensure that the apprentice has a different set of questions in the case of re-sits or re-takes.

The EPAO must produce the following materials to support the professional discussion underpinned by a portfolio of evidence:

- independent assessor assessment materials which include:
  - training materials
  - administration materials
  - moderation and standardisation materials
  - guidance materials
  - grading guidance
  - question bank
- EPA guidance for the apprentice and the employer

The EPAO must ensure that the EPA materials are subject to quality assurance procedures including standardisation and moderation.

## **Environmental management and sustainability project and presentation**

This is an integrated assessment method. This integrated assessment method forms part of the apprenticeship's EPA as well as being typically 20 credits towards the awarding of the qualification.

The KSBs aligned to this integrated assessment method will be assessed and graded by the awarding body and contribute to the overall outcome of the apprenticeship and the qualification.

### **Overview**

A project involves the apprentice completing a significant and defined piece of work that aligns with the requirements of the integrated qualification.

### **Rationale**

This assessment method is being used because:

- it allows for the assessment of KSBs that take place over a long period of time
- it allows for a broad set of KSBs to be evidenced during the post-gateway period
- it assesses KSBs holistically
- it can produce something that is of genuine business benefit to the apprentice's employer
- it allows the apprentice to directly demonstrate KSBs relating to communication and presentation

- it allows for the presentation of evidence and testing of responses where there are a range of potential answers
- it can be conducted remotely, potentially reducing cost
- it reduces the assessment burden on the apprentice

## Delivery

The delivery of the environmental management and sustainability project and presentation must align with the conditions set out by the AB for the integrated qualification. The apprentice must start the project after the gateway. The employer should ensure the apprentice has the time and resources, within the project period, to plan and complete their project.

The apprentice must start the project after the gateway. The employer should ensure the apprentice has the time and resources, within the project period, to plan and complete their project.

The apprentice must complete a project and presentation based on environmental management and sustainability.

The project report must typically have a word count of 2000 words. Appendices, references and diagrams are not included in this total. The apprentice must complete and submit the report and any presentation materials to the EPAO by the end of week 6 of the EPA period.

The presentation should typically last 15 minutes.

## Assessment decision

To ensure marking judgements are fair and accurate, and uphold the principles of the EPA, the marking of all integrated or parts of the integrated assessments, must be marked or graded by someone independent. This means that they must be marked by the awarding organisation, an independent person appointed by the awarding organisation, an independent assessor sourced from the EPAO or a combination of the above.

The independent assessor must keep accurate records of the assessment. They must record:

- the KSBs demonstrated in the project
- the apprentice's answers to questions
- the grade achieved

## Question and resource development

The AB must develop a purpose-built assessment specification. It is recommended this is done in consultation with employers or subject matter experts for this occupation. The AB should maintain the security and confidentiality of EPA materials when consulting with employers. The assessment specification must be reviewed to ensure they remain fit-for-purpose. The assessment specification must be relevant to the occupation and demonstrate how to assess the KSBs mapped to this assessment method. The AB must ensure that the assessment specification is refined and developed to a high standard.

The AB must produce the following materials to support this assessment method:

- administration materials
- moderation and standardisation materials
- guidance materials
- grading guidance
- assessment specification
- question bank

The AB must ensure that the materials are subject to quality assurance procedures including standardisation and moderation.

## Grading

### Professional discussion underpinned by a portfolio of evidence

Fail - does not meet pass criteria

<b>THEME KSBS</b>	<b>PASS APPRENTICES MUST DEMONSTRATE ALL OF THE PASS DESCRIPTORS</b>	<b>DISTINCTION APPRENTICES MUST DEMONSTRATE ALL OF THE PASS DESCRIPTORS AND ALL OF THE DISTINCTION DESCRIPTORS</b>
<p>Academic and vocational skills K8 S10 B1 B5</p>	<p>Appraises their own personal development, considering how best to keep up with industry developments, technology and best practice. (K8, S10, B1, B5)</p>	<p>None</p>
<p>Essential plant and soil science K1 K2 K3 K4 K5 K6 K9 K10 K11 S1 S2 S3 S4 S5 S6</p>	<p>Explains how they apply information sources and methods to research and evaluate scientific, technical developments and innovations likely to impact the turfgrass industry. (K1, S2)</p> <p>Discusses the application of agronomic principles of plant, turfgrass and soil science in the context of sports turf management. (K2, S1)</p> <p>Describes how they record and evaluate scientific test results relating to the planning, construction, establishment or maintenance of a sports turf area. (K3, S3)</p> <p>Explains how they conduct laboratory and field investigations relating to developments in sports turf science to improve current sports turf practices. (K4, S4)</p>	<p>Critically evaluates the application of agronomic principles of plant, turfgrass and soil science and the impact they have on sports turf management within the context of their role. (K2, S1)</p> <p>Justifies steps taken in laboratory and field investigations, explaining the direct correlation between their decisions and improvements in sports turf practices. (K4, S4)</p>

	<p>Analyses problems associated with sports turf areas and formulates appropriate solutions. (K5, S5)</p> <p>Describes how they use a range of equipment and technology within sports turf applications. (K5, S6)</p> <p>Discusses the essential aspects of plant and soil science including plant biochemistry and physiology, the major UK soil groups and factors determining soil formation and development and the biotic and abiotic components and processes of soil. (K9, K10, K11)</p>	
<p>Principles and practices of turfgrass management <a href="#">K12</a> <a href="#">K13</a> <a href="#">S11</a> <a href="#">S12</a> <a href="#">S13</a></p>	<p>Defines the principles of establishing natural grass surfaces for sport. (K12)</p> <p>Identifies appropriate machinery and equipment for a range of turf maintenance practices. (S11)</p> <p>Discusses how they prepare maintenance plans for identified sports turf grass surfaces, considering the impact of maintenance operations and practices on the grass plant and turfgrass sward. (K13, S12)</p> <p>Explains how they review the quality of turf grass surfaces using a range of equipment. (S13)</p>	<p>Critically evaluates maintenance plans used for sports turf grass surfaces, ensuring decisions taken in relation to maintenance operations and practices are justified and in the best interests of the grass plant and turfgrass sward. (K13, S12)</p>

<p>Turfgrass growth and development K14 S14</p>	<p>Explains plant morphology and the physiological processes within the grass plant and the effects of environmental influences on the growth and development of turfgrass, including how they review the breeding and development of new cultivars. (K14, S14)</p>	<p>None</p>
<p>Performance management of sports turf surfaces S15 S16 S17 B4</p>	<p>Explains how they review the use of benchmarking and surface testing for sports turf management and recommend improvements to sports turf management based on objective testing data. (S15, S17)</p> <p>Describes how they carry out performance testing of a sports surface and apply problem solving and data analysis to performance testing, seeking innovative solutions to problems as required. (S16, B4)</p>	<p>Critically evaluates benchmarking standards, justifying their recommendations for improving sports turf management within the context of their role. (S15, S17)</p>

<p>Research methods <a href="#">K7</a> <a href="#">K15</a> <a href="#">S7</a> <a href="#">S18</a> <a href="#">S19</a> <a href="#">S20</a></p>	<p>Explains how they investigate, analyse and evaluate sports turf management information and use the results to recommend practical options and solutions to resolve problems. (K7, S7)</p> <p>Explains how they produce a testable hypothesis or research question and design an experiment that will effectively test this in relation to sports turf management. (S18, S19)</p> <p>Describes how they select appropriate statistical tests, analyse data using appropriate software, interpret the results and draw conclusions in relation to sports turf quality, and performance. (K15, S20)</p>	<p>Justifies the decisions taken in formulating their hypothesis or research question, explaining how the design of the experiment is informed by the hypothesis or question and what they expect the likely conclusion to be. (S18, S19)</p>
<p>Industry project <a href="#">S9</a> <a href="#">S21</a></p>	<p>Describes how they propose and develop creative solutions for sports turf management research projects and evaluate project outcomes. (S21)</p> <p>Explains the importance of being able to work both independently and as a member of a team in relation to sports turf management. (S9)</p>	<p>None</p>

<p>Integrated pest management <a href="#">K16</a> <a href="#">S22</a></p>	<p>Explains how they review and apply the concepts of an Integrated Pest Management approach to turfgrass areas and diagnose common pest, disease and weed species in turfgrass surfaces, evaluating the efficacy of available control options and considering the impact on turfgrass quality and playability. (K16, S22)</p>	<p>None</p>
<p>Sports turf surface construction and drainage systems <a href="#">K20</a> <a href="#">K21</a> <a href="#">K25</a> <a href="#">S25</a></p>	<p>Defines the methods used to analyse and evaluate materials used in the drainage and construction of sport surfaces and methods used for specific sports surface construction in the UK. (K20)</p> <p>Explains how to apply mathematical formulae to evaluate and solve sports turf construction and drainage system problems. (K21, S25)</p> <p>Discusses how to evaluate drainage designs and concepts. (K25)</p>	<p>None</p>
<p>Environmental plant physiology <a href="#">K22</a> <a href="#">K23</a></p>	<p>Explains the processes involved in the assimilation of light energy, water and nutrients into a plant and how plants modify these environmental factors in relation to stressful</p>	<p>None</p>



	<p>environmental conditions, growth and development. (K22, K23)</p>	
<p>Managing resources <a href="#">K26</a> <a href="#">K27</a> <a href="#">K28</a> <a href="#">K29</a> <a href="#">K30</a> <a href="#">S26</a> <a href="#">S27</a> <a href="#">S28</a> <a href="#">B2</a> <a href="#">B3</a> <a href="#">B7</a></p>	<p>Describes how they manage their relationships with employees, contractors and suppliers including motivating and supporting staff, promoting inclusivity and techniques for effectively sourcing and negotiating with suppliers. (K28, K30, S26, B3, B7)</p> <p>Explains how they align workforce needs with organisational goals, including recruitment, retention, and skills development. (K26)</p> <p>Describes their responsibilities in relation to budgets, including using profit and loss statements to monitor financial performance, allocating resources efficiently, and setting spending priorities. (K29, S27, S28)</p>	<p>None</p>

**Environmental management and sustainability project and presentation**

Fail - does not meet pass criteria

INTEGRATED QUALIFICATIONS KSBS	A PASS FOR THIS ASSESSMENT METHOD WILL BE ACHIEVED AS DETAILED BELOW.	A DISTINCTION FOR THIS ASSESSMENT METHOD WILL BE ACHIEVED AS DETAILED BELOW.
Environmental Management and Sustainability K17 K18 K19 K24 S8 S23 S24 B6	<p>The apprentice will be assessed in line with the marking scheme produced by the Awarding Bodies. In order to pass, the apprentices must achieve the requirements of the pass criteria of the integrated qualification.</p> <p>Awarding bodies must make clear in their marking criteria which grade boundary for the integrated assessment method represents a pass grade for the EPA.</p>	<p>The apprentice will be assessed in line with the marking scheme produced by the AB. In order to be graded as a distinction, the apprentices must achieve the requirements of the distinction criteria of the integrated qualification.</p> <p>Awarding bodies must make clear in their marking criteria which grade boundary for the integrated assessment method represents a distinction grade for the EPA.</p>

## Overall EPA grading

Performance in the EPA determines the overall grade of:

- fail
- pass
- merit
- distinction

An independent assessor must individually grade the

- Professional discussion underpinned by a portfolio of evidence

The EPAO must combine the individual assessment method grades to determine the overall EPA grade.

If the apprentice fails one assessment method or more, they will be awarded an overall fail.

To achieve an overall pass, the apprentice must achieve at least a pass in all the assessment methods.

Awarding bodies should make clear in their marking criteria which grade boundary for the integrated assessment method represents a pass grade for the EPA. This pass grade must reflect demonstration of occupational competence in the KSBS.

Grades from individual assessment methods must be combined in the following way to determine the grade of the EPA overall.

<b>PROFESSIONAL DISCUSSION UNDERPINNED BY A PORTFOLIO OF EVIDENCE</b>	<b>ENVIRONMENTAL MANAGEMENT AND SUSTAINABILITY PROJECT AND PRESENTATION</b>	<b>OVERALL GRADING</b>
Any grade	Fail	Fail
Fail	Any grade	Fail
Pass	Pass	Pass
Pass	Distinction	Merit
Distinction	Pass	Merit
Distinction	Distinction	Distinction

## Re-sits and re-takes

If the apprentice fails one assessment method or more, they can take a re-sit or a re-take at their employer's discretion. The apprentice's employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, whereas a re-take does. The apprentice should have a supportive action plan to prepare for a re-sit or a re-take.

The employer and the EPAO should agree the timescale for a re-sit or re-take. A re-sit is typically taken within 1 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 3 months of the EPA outcome notification.

Non-integrated assessment methods must be attempted before the integrated assessment method is attempted. The re-sit or re-take opportunities for the integrated assessment method must fall within the typical EPA period timeframes. This is to ensure that apprentices are not disadvantaged by the assessment of qualifications being available within an assessment window occurring once a year.

If a resit or retake is needed for the Project, report and presentation with Questions, the end-point assessment organisation will determine if the apprentice will re-work their existing project, report and presentation with questions or complete a new one.

EPAOs must ensure that whichever decision is taken, any further EPA attempts remain in line with the assessment conditions already laid out in this plan. In making their decision, EPAOs may also consider the degree awarding rules and whether new learning is necessary.

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. The apprentice will get a maximum grade of a pass for any individual method that is re-sat or re-taken.

Re-sits and re-takes are not offered to an apprentice wishing to move from pass to a higher grade.

The apprentice will get a maximum overall EPA grade of merit if they need to re-sit or re-take one or more assessment methods, unless the EPAO determines there are exceptional circumstances.

## **Roles and responsibilities**

ROLES	RESPONSIBILITIES
Apprentice	<p>As a minimum, the apprentice should:</p> <ul style="list-style-type: none"> <li>• complete on-programme training to meet the KSBs as outlined in the apprenticeship standard for a minimum of 12 months</li> <li>• complete the required amount of off-the-job training specified by the apprenticeship funding rules and as arranged by the employer and training provider</li> <li>• understand the purpose and importance of EPA</li> <li>• apply for any reasonable adjustments and special considerations</li> <li>• prepare for and undertake the EPA including meeting all gateway requirements</li> <li>• ensure that all supporting evidence required at the gateway is submitted in line with this EPA plan</li> </ul>
Employer	<p>As a minimum, the apprentice's employer must:</p> <ul style="list-style-type: none"> <li>• select the training provider</li> <li>• work with the training provider to select the EPAO</li> <li>• ensure that the apprentice is enrolled on mandated qualifications in line with the occupational standard</li> <li>• work with the training provider (where applicable) to support the apprentice in the workplace and to provide the opportunities for the apprentice to develop the KSBs</li> <li>• arrange and support off-the-job training to be undertaken by the apprentice</li> <li>• decide when the apprentice is working at or above the occupational standard and is ready for EPA</li> <li>• ensure the apprentice is prepared for the EPA</li> <li>• ensure that all supporting evidence required at the gateway is submitted in line with this EPA plan</li> <li>• confirm arrangements with the EPAO for the EPA (who, when, where) in a timely manner</li> <li>• ensure that the EPA is scheduled with the EPAO for a date and time in line with EPA requirements</li> <li>• ensure that the integrated assessment method is scheduled with the AB for a date and time in line with EPA requirements</li> </ul>

	<ul style="list-style-type: none"> <li>• provide access to any employer-specific documentation as required for example, company policies</li> <li>• ensure the apprentice is given sufficient time away from regular duties to prepare for, and complete the EPA</li> <li>• ensure that any required supervision during the EPA period, as stated within this EPA plan, is in place</li> <li>• ensure the apprentice has access to the resources used to fulfil their role and carry out the EPA for workplace based assessments</li> <li>• remain independent from the delivery of the EPA</li> <li>• pass the certificate to the apprentice upon receipt from the EPAO</li> </ul>
<p>EPAO</p>	<p>As a minimum, the EPAO must:</p> <ul style="list-style-type: none"> <li>• conform to the requirements of this EPA plan and deliver its requirements in a timely manner</li> <li>• conform to the requirements of the APAR</li> <li>• conform to the requirements of the external quality assurance provider (EQAP)</li> <li>• understand the apprenticeship including the occupational standard, EPA plan and funding</li> <li>• make all necessary contractual arrangements including agreeing the price of the EPA</li> <li>• have third party arrangements in place with the AB to:             <ul style="list-style-type: none"> <li>• work collaboratively to manage the delivery of the EPA</li> <li>• ensure the EPA is arranged to meet the scheduling requirements set out in this EPA plan</li> <li>• to share the outcomes of the integrated assessment methods in a timely manner. The sharing of information is strictly related to the apprentice’s details and the outcome of their performance of the qualification. Employer and training provider details should not be shared between these organisations.</li> </ul> </li> <li>• develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material) for the non-integrated assessment methods</li> <li>• maintain and apply a policy for the declaration and management of conflict of interests and independence. This must ensure, as a minimum, there is no personal</li> </ul>

benefit or detriment for those delivering the EPA or from the result of an assessment. It must cover:

- apprentices
- employers
- independent assessors
- any other roles involved in delivery or grading of the EPA
- have quality assurance systems and procedures that ensure fair, reliable and consistent assessment and maintain records of internal quality assurance (IQA) activity for external quality assurance (EQA) purposes
- appoint independent, competent, and suitably qualified assessors in line with the requirements of this EPA plan
- appoint administrators, invigilators and any other roles where required to facilitate the EPA
- deliver induction, initial and on-going training for all their independent assessors and any other roles involved in the delivery or grading of the non-integrated assessment methods of the EPA as specified within this EPA plan. This should include how to record the rationale and evidence for grading decisions where required
- conduct standardisation with all their independent assessors before allowing them to deliver an EPA, when the EPA is updated, and at least once a year
- develop and provide assessment recording documentation to ensure a clear and auditable process is in place for providing assessment decisions and feedback to all relevant stakeholders
- maintain and apply a policy for reasonable adjustment and special considerations for apprentices
- use language in the development and delivery of the EPA that is appropriate to the level of the apprenticeship
- provide information, advice, and guidance documentation to enable apprentices, employers and training providers to prepare for the EPA
- confirm the gateway requirements have been met before they start the EPA for an apprentice
- host and facilitate the EPA or make suitable alternative arrangements
- maintain the security of the EPA including, but not limited to, verifying the identity of the apprentice, invigilation and

	<p>security of materials</p> <ul style="list-style-type: none"> <li>• arrange for the non-integrated assessment methods of the EPA to take place in a timely manner, in consultation with the employer</li> <li>• deliver the non-integrated assessment methods in line with this EPA plan</li> <li>• where the EPA plan permits assessment away from the workplace, ensure that the apprentice has access to the required resources and liaise with the employer to agree this if necessary</li> <li>• confirm the overall grade awarded including the outcomes of the integrated and non-integrated assessment methods in line with this EPA plan</li> <li>• conduct moderation of all their independent assessors' decisions once EPAs have started</li> <li>• monitor the performance of all their independent assessors and provide re-training where necessary</li> <li>• maintain and apply a policy for conducting appeals</li> <li>• arrange the certification of the apprenticeship</li> </ul>
Awarding body	<p>As a minimum, the awarding body must:</p> <ul style="list-style-type: none"> <li>• conform to the requirements of this EPA plan and deliver its requirements in a timely manner</li> <li>• conform to the requirements of any regulators for the mandated qualification</li> <li>• understand the apprenticeship including the occupational standard, EPA plan and funding</li> <li>• confirm that they agree to the conditions of integration for the integrated assessment method, as outlined in the EPA plan</li> <li>• make all necessary contractual arrangements</li> <li>• have third party arrangements in place with the EPAO to: <ul style="list-style-type: none"> <li>• work collaboratively to manage the delivery of the EPA</li> <li>• ensure the EPA is arranged to meet the scheduling requirements set out in this EPA plan</li> <li>• to share the outcomes of the integrated assessment method in a timely manner. The sharing of information is strictly related to the apprentice's details and the outcome of their performance of the</li> </ul> </li> </ul>



qualification. Employer and training provider details should not be shared between these organisations.

- develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material) for the integrated assessment method
- maintain and apply a policy for the declaration and management of conflict of interests and independence relating to the EPA of an apprentice (including by way of moderation).
- have quality assurance systems and procedures that ensure fair, reliable and consistent assessment and maintain records of internal quality assurance (IQA) activity
- source a suitably qualified and independent person who must administer all aspects of the integrated assessment method. This means that they must not:
  - be connected to the apprentice
  - have been involved in the management or training of the apprentice
  - have a vested interest in the outcome.
- Where this is not possible, by exception, a person who has delivered the assessed content may administer the assessment. This is providing they are not the sole administrator.
- source a suitably qualified and independent person who must grade all aspects of the integrated assessment method. The person making the grading judgement must not be employed by:
  - the same organisation as the apprentice
  - the apprentice's training provider.
- This means that the integrated assessment method/aspects must be marked by either:
  - the awarding body,
  - an independent person appointed by the awarding body, or an independent assessor sourced by, or from, the EPAO,
  - or a combination of the above.
- In rare circumstances, training provider staff may mark the integrated assessment method. This will only be to mark tests where there is a right or wrong answer, for example,

	<p>multiple-choice tests. Strict arrangements must be in place for monitoring, moderation and quality assurance.</p> <ul style="list-style-type: none"> <li>• develop and produce assessment materials including specifications and marking materials (for example mark schemes, practice materials, training material) for the integrated assessment methods</li> <li>• deliver induction, initial and on-going training for all their independent assessors and any other roles involved in the administration or grading of the integrated assessment method of the EPA as specified within this EPA plan. This should include how to record the rationale and evidence for grading decisions where required</li> <li>• provide information, advice, and guidance documentation to enable apprentices, employers and training providers to prepare for the integrated assessment method</li> <li>• arrange for the integrated assessment methods of the EPA to take place in a timely manner, in consultation with the employer</li> <li>• maintain the security of the integrated assessment method including, but not limited to, verifying the identity of the apprentice, invigilation and security of materials</li> <li>• must externally set and externally mark the integrated assessment method</li> <li>• maintain and apply a policy for reasonable adjustment and special considerations for apprentices</li> <li>• deliver the integrated assessment method in line with this EPA plan</li> <li>• conduct moderation of all their independent assessors' decisions for integrated assessment methods</li> <li>• monitor the performance of all their independent assessors and provide re-training where necessary</li> <li>• an auditable process is in place for providing assessment decisions and feedback to all relevant stakeholders</li> <li>• maintain and apply a policy for conducting appeals</li> <li>• continue to follow the rules and regulations applicable to the qualification, for example, those of Ofqual and industry regulators.</li> <li>• must give IfATE at least 6 months' notice of any changes to mandated qualifications</li> </ul>
Independent assessor	As a minimum, an independent assessor must:

	<ul style="list-style-type: none"> <li>• be independent, with no conflict of interest with the apprentice, their employer or training provider, specifically, they must not receive a personal benefit or detriment from the result of the assessment</li> <li>• have, maintain and be able to evidence up-to-date knowledge and expertise of the occupation</li> <li>• have the competence to assess the EPA and meet the requirements of the IQA section of this EPA plan</li> <li>• understand the apprenticeship's occupational standard and EPA plan</li> <li>• attend induction and standardisation events before they conduct an EPA for the first time, when the EPA is updated, and at least once a year</li> <li>• use language in the delivery of the EPA that is appropriate to the level of the apprenticeship</li> <li>• work with other personnel, including additional assessors where used, in the preparation and delivery of assessment methods</li> <li>• conduct the EPA to assess the apprentice against the KSBs and in line with the EPA plan</li> <li>• make final grading decisions in line with this EPA plan</li> <li>• record and report assessment outcome decisions</li> <li>• comply with the IQA requirements of the EPAO</li> <li>• comply with external quality assurance (EQA) requirements</li> </ul>
Training provider	<p>As a minimum, the training provider must:</p> <ul style="list-style-type: none"> <li>• conform to the requirements of the apprenticeship provider and assessment register (APAR)</li> <li>• ensure procedures are in place to mitigate against any conflict of interest</li> <li>• work with the employer and support the apprentice during the off-the-job training to provide the opportunities to develop the KSBs as outlined in the occupational standard</li> <li>• deliver training to the apprentice as outlined in their apprenticeship agreement</li> <li>• monitor the apprentice's progress during any training provider led on-programme learning</li> <li>• ensure the apprentice is prepared for the EPA</li> <li>• work with the employer to select the EPAO</li> </ul>

- advise the employer, upon request, on the apprentice's readiness for EPA
- ensure that all supporting evidence required at the gateway is submitted in line with this EPA plan
- not make any adaptations to aspects of the integrated assessment method
- remain independent from the delivery of the non-integrated assessment methods in EPA
- remain independent from the integrated assessment method, except with the marking of tests where there is a right or wrong answer for example multiple-choice tests
- remain independent from the administration of the integrated assessment method. This person must also be independent of the apprentice. Where this is not possible, by exception and agreed by the awarding body, a person who has delivered the assessed content may administer the assessment. This is providing they are not the sole administrator.

## Reasonable adjustments

### Reasonable adjustments

The EPAO and AB must have reasonable adjustments arrangements for the EPA.

This should include:

- how an apprentice qualifies for a reasonable adjustment
- what reasonable adjustments may be made

Adjustments must maintain the validity, reliability and integrity of the EPA as outlined in this EPA plan.

### Special considerations

The EPAO and AB must have special consideration arrangements for the EPA.

This should include:

- how an apprentice qualifies for a special consideration
- what special considerations will be given

Special considerations must maintain the validity, reliability and integrity of the EPA as outlined in this EPA plan.

## Internal quality assurance

Internal quality assurance refers to the strategies, policies and procedures that an EPAO and AB must have in place to ensure valid, consistent and reliable end-point assessment decisions.

EPAOs and ABs for this end-point assessment plan must adhere to the requirements within the roles and responsibilities table.

They must also appoint independent assessors who:

- have recent relevant experience of the occupation or sector to at least occupational level 5 gained in the last 3 years or significant experience of the occupation or sector

## Value for money

Affordability of the EPA will be aided by using at least some of the following:

- utilising digital remote platforms to conduct applicable assessment methods

## Professional recognition

This apprenticeship is not aligned to professional recognition.

## Mapping of KSBs to assessment methods

KNOWLEDGE	ASSESSMENT METHODS
<p><b>K1</b> Information sources and methods used to research and evaluate scientific, technical developments and innovations likely to impact the turfgrass industry.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K2</b> Agronomic principles, plant, turfgrass and soil science relevant to sport turf technical managers.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K3</b> Sports turf science and its impact on the planning, construction, establishment and maintenance of a sports turf area.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K4</b> Methods used to conduct scientific sports turf laboratory and field investigations, collect data and analyse results.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K5</b> Problems associated with sports turf areas and how to collect data for subsequent evaluation.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K6</b> Specialist sports turf machinery, equipment and technology and how it can be applied.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K7</b> Methods used to identify credible sports turf management information sources and how investigative study and problem solving techniques can be used when developing practical solutions.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K8</b> Methods used to evaluate and plan own personal development.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K9</b> Plant biochemistry and physiology, how they relate to how plants survive in different environments and the processes by which plants pass on their genetic information from one generation to the next.</p>	Professional discussion underpinned by a portfolio of evidence

<p><b>K10</b> The major UK soil groups and the factors which determine soil formation and development.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K11</b> The biotic and abiotic components and processes of the soil and their influence on plant growth, development and soil management.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K12</b> The principles of establishing natural grass surfaces for sport.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K13</b> Methods used to prepare maintenance schedules and the effects of maintenance operations and practices on the grass plant and turfgrass sward.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K14</b> Plant morphology and physiological processes within the grass plant and the effects of environmental influences on the growth and development of turfgrass.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K15</b> Experimental design, benchmarking and the application of statistical tests when testing a hypothesis in relation to sports turf quality, and performance.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K16</b> Common pest, disease and weed species in turfgrass surfaces and their impact on turfgrass quality and playability.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K17</b> The principles of ecology relating to sports turf facilities in the United Kingdom.</p>	Environmental management and sustainability project and presentation
<p><b>K18</b> Approaches to improving sustainability, natural habitats and biodiversity for a sports facility.</p>	Environmental management and sustainability project and presentation
<p><b>K19</b> Methods used to manage sports turf resources.</p>	Environmental management and

	sustainability project and presentation
<p><b>K20</b> Methods used to analyse and evaluate materials used in the drainage and construction of sport surfaces and methods used for specific sports surface construction in the UK.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K21</b> How mathematical formulae can be used to solve sports turf construction and drainage system problems.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K22</b> The processes involved in the assimilation of light energy, water and nutrients into a plant and how plants modify these to deal with stressful environmental conditions.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K23</b> The control of plant growth and development by environmental signals.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K24</b> Structure and content requirements when developing scientific style written reports and presenting recommendations.</p>	Environmental management and sustainability project and presentation
<p><b>K25</b> How to evaluate drainage designs and concepts.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K26</b> How to align workforce needs with organisational goals, including recruitment, retention, and skills development.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K27</b> Health and safety standards to ensure a safe working environment for all employees and contractors.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>K28</b> How to motivate staff and provide ongoing support to enhance their performance and job satisfaction.</p>	Professional discussion underpinned by a portfolio of evidence



<b>K29</b> How to prepare and interpret profit and loss statements, budget management, allocating resources efficiently and setting spending priorities.	Professional discussion underpinned by a portfolio of evidence
<b>K30</b> Techniques for effectively sourcing, negotiating, and managing supplier relationships.	Professional discussion underpinned by a portfolio of evidence

SKILL	ASSESSMENT METHODS
<p><b>S1</b> Apply agronomic principles of plant, turfgrass and soil science in the context of sports turf management.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S2</b> Evaluate and apply scientific and technical developments to sports turf industry practices.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S3</b> Record and evaluate sports turf scientific test results for use in planning, construction, establishment or maintenance of sports turf.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S4</b> Conduct laboratory and field investigations relating to developments in sports turf science to improve current sports turf practices.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S5</b> Analyse problems associated with sports turf areas and formulate appropriate solutions.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S6</b> Apply specialist sports turf technology and equipment.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S7</b> Investigate, analyse and evaluate sports turf management information and recommend practical options and solutions to resolve problems.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S8</b> Prepare written reports and present sports turf management recommendations and findings.</p>	Environmental management and sustainability project and presentation
<p><b>S9</b> Work independently and as a member of a team.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S10</b> Review, evaluate and plan own personal development.</p>	Professional discussion underpinned by a portfolio of evidence

<p><b>S11</b> Identify appropriate machinery and equipment for turf maintenance practices.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S12</b> Prepare maintenance plans for identified sports turf grass surfaces.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S13</b> Review the quality of sports turf surfaces and evaluate results from a range of equipment.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S14</b> Review the breeding and development of new grass cultivars.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S15</b> Review the use of benchmarking and surface testing for sports turf management.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S16</b> Carry out performance testing of a sports surface and apply problem solving and data analysis to performance testing.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S17</b> Recommend improvements to sports turf management based on objective testing data.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S18</b> Produce a testable hypothesis or specific research questions for sports turf management.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S19</b> Design an experiment that will effectively test a hypothesis or answer sports turf management research questions.</p>	Professional discussion underpinned by a portfolio of evidence
<p><b>S20</b> Select appropriate statistical tests, analyse data using appropriate software, interpret the results and draw conclusions.</p>	Professional discussion underpinned by a portfolio of evidence

<p><b>S21</b> Propose and develop creative solutions for sports turf management research projects and evaluate project outcomes.</p>	<p>Professional discussion underpinned by a portfolio of evidence</p>
<p><b>S22</b> Review and apply the concepts of an Integrated Pest Management approach to turfgrass areas, diagnose common pest, disease and weed species in turfgrass surfaces and evaluate the efficacy of available control options.</p>	<p>Professional discussion underpinned by a portfolio of evidence</p>
<p><b>S23</b> Appraise a range of habitats relating to a particular site in order to establish specific conservation objectives.</p>	<p>Environmental management and sustainability project and presentation</p>
<p><b>S24</b> Evaluate selected sports turf resource management approaches taking into account sustainability.</p>	<p>Environmental management and sustainability project and presentation</p>
<p><b>S25</b> Apply mathematical formulae to evaluate construction problems and perform calculations.</p>	<p>Professional discussion underpinned by a portfolio of evidence</p>
<p><b>S26</b> Manage employees, contractors and supplier relationships.</p>	<p>Professional discussion underpinned by a portfolio of evidence</p>
<p><b>S27</b> Create and manage budgets, allocating resources efficiently, and setting spending priorities.</p>	<p>Professional discussion underpinned by a portfolio of evidence</p>
<p><b>S28</b> Interpret profit and loss statements to monitor financial performance and make informed decisions.</p>	<p>Professional discussion underpinned by a portfolio of evidence</p>

BEHAVIOUR	ASSESSMENT METHODS
<b>B1</b> Embraces technological advancements within the sector.	Professional discussion underpinned by a portfolio of evidence
<b>B2</b> Committed to tailoring communication style to suit the audience.	Professional discussion underpinned by a portfolio of evidence
<b>B3</b> Acts in a way that builds and maintains positive relationships with colleagues, customers and suppliers.	Professional discussion underpinned by a portfolio of evidence
<b>B4</b> Actively seeks innovative solutions to resolve problems and demonstrates a commitment to making objective decisions.	Professional discussion underpinned by a portfolio of evidence
<b>B5</b> Committed to keeping up with industry developments, technology and best practice.	Professional discussion underpinned by a portfolio of evidence
<b>B6</b> Actively promotes sustainable initiatives.	Environmental management and sustainability project and presentation
<b>B7</b> Supports an inclusive workplace.	Professional discussion underpinned by a portfolio of evidence

## Mapping of KSBs to grade themes

### Professional discussion underpinned by a portfolio of evidence

KSBS GROUPED BY THEME	KNOWLEDGE	SKILLS	BEHAVIOUR
Academic and vocational skills K8 S10 B1 B5	Methods used to evaluate and plan own personal development. (K8)	Review, evaluate and plan own personal development. (S10)	Embraces technological advancements within the sector. (B1)  Committed to keeping up with industry developments, technology and best practice. (B5)
Essential plant and soil science K1 K2 K3 K4 K5 K6 K9 K10 K11 S1 S2 S3 S4 S5 S6	Information sources and methods used to research and evaluate scientific, technical developments and innovations likely to impact the turfgrass industry. (K1)  Agronomic principles, plant, turfgrass and soil science relevant to sport turf technical managers. (K2)  Sports turf science and its impact on the planning, construction, establishment and maintenance of a sports turf area. (K3)  Methods used to conduct scientific sports turf laboratory and field investigations,	Apply agronomic principles of plant, turfgrass and soil science in the context of sports turf management. (S1)  Evaluate and apply scientific and technical developments to sports turf industry practices. (S2)  Record and evaluate sports turf scientific test results for use in planning, construction, establishment or maintenance of sports turf. (S3)  Conduct laboratory and field investigations relating to developments in sports turf science to improve current sports turf practices. (S4)	None

	<p>collect data and analyse results. (K4)</p> <p>Problems associated with sports turf areas and how to collect data for subsequent evaluation. (K5)</p> <p>Specialist sports turf machinery, equipment and technology and how it can be applied. (K6)</p> <p>Plant biochemistry and physiology, how they relate to how plants survive in different environments and the processes by which plants pass on their genetic information from one generation to the next. (K9)</p> <p>The major UK soil groups and the factors which determine soil formation and development. (K10)</p> <p>The biotic and abiotic components and processes of the soil and their influence on plant growth, development and soil management. (K11)</p>	<p>Analyse problems associated with sports turf areas and formulate appropriate solutions. (S5)</p> <p>Apply specialist sports turf technology and equipment. (S6)</p>	
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<p>Principles and practices of turfgrass management K12 K13 S11 S12 S13</p>	<p>The principles of establishing natural grass surfaces for sport. (K12)</p> <p>Methods used to prepare maintenance schedules and the effects of maintenance operations and practices on the grass plant and turfgrass sward. (K13)</p>	<p>Identify appropriate machinery and equipment for turf maintenance practices. (S11)</p> <p>Prepare maintenance plans for identified sports turf grass surfaces. (S12)</p> <p>Review the quality of sports turf surfaces and evaluate results from a range of equipment. (S13)</p>	<p>None</p>
<p>Turfgrass growth and development K14 S14</p>	<p>Plant morphology and physiological processes within the grass plant and the effects of environmental influences on the growth and development of turfgrass. (K14)</p>	<p>Review the breeding and development of new grass cultivars. (S14)</p>	<p>None</p>
<p>Performance management of sports turf surfaces  S15 S16 S17 B4</p>	<p>None</p>	<p>Review the use of benchmarking and surface testing for sports turf management. (S15)</p> <p>Carry out performance testing of a sports surface and apply problem solving and data analysis to performance testing. (S16)</p> <p>Recommend improvements to sports turf management based</p>	<p>Actively seeks innovative solutions to resolve problems and demonstrates a commitment to making objective decisions. (B4)</p>



		on objective testing data. (S17)	
<p>Research methods K7 K15 S7 S18 S19 S20</p>	<p>Methods used to identify credible sports turf management information sources and how investigative study and problem solving techniques can be used when developing practical solutions. (K7)</p> <p>Experimental design, benchmarking and the application of statistical tests when testing a hypothesis in relation to sports turf quality, and performance. (K15)</p>	<p>Investigate, analyse and evaluate sports turf management information and recommend practical options and solutions to resolve problems. (S7)</p> <p>Produce a testable hypothesis or specific research questions for sports turf management. (S18)</p> <p>Design an experiment that will effectively test a hypothesis or answer sports turf management research questions. (S19)</p> <p>Select appropriate statistical tests, analyse data using appropriate software, interpret the results and draw conclusions. (S20)</p>	None
<p>Industry project S9 S21</p>	None	<p>Work independently and as a member of a team. (S9)</p> <p>Propose and develop creative solutions for sports turf management research projects and evaluate</p>	None

		project outcomes. (S21)	
Integrated pest management K16 S22	Common pest, disease and weed species in turfgrass surfaces and their impact on turfgrass quality and playability. (K16)	Review and apply the concepts of an Integrated Pest Management approach to turfgrass areas, diagnose common pest, disease and weed species in turfgrass surfaces and evaluate the efficacy of available control options. (S22)	None
Sports turf surface construction and drainage systems K20 K21 K25 S25	Methods used to analyse and evaluate materials used in the drainage and construction of sport surfaces and methods used for specific sports surface construction in the UK. (K20)  How mathematical formulae can be used to solve sports turf construction and drainage system problems. (K21)  How to evaluate drainage designs and concepts. (K25)	Apply mathematical formulae to evaluate construction problems and perform calculations. (S25)	None
Environmental plant physiology K22 K23	The processes involved in the assimilation of light energy, water and nutrients into a	None	None

	<p>plant and how plants modify these to deal with stressful environmental conditions. (K22)</p> <p>The control of plant growth and development by environmental signals. (K23)</p>		
<p>Managing resources K26 K27 K28 K29 K30 S26 S27 S28 B2 B3 B7</p>	<p>How to align workforce needs with organisational goals, including recruitment, retention, and skills development. (K26)</p> <p>Health and safety standards to ensure a safe working environment for all employees and contractors. (K27)</p> <p>How to motivate staff and provide ongoing support to enhance their performance and job satisfaction. (K28)</p> <p>How to prepare and interpret profit and loss statements, budget management, allocating resources efficiently and setting spending priorities. (K29)</p> <p>Techniques for effectively sourcing, negotiating, and</p>	<p>Manage employees, contractors and supplier relationships. (S26)</p> <p>Create and manage budgets, allocating resources efficiently, and setting spending priorities. (S27)</p> <p>Interpret profit and loss statements to monitor financial performance and make informed decisions. (S28)</p>	<p>Committed to tailoring communication style to suit the audience. (B2)</p> <p>Acts in a way that builds and maintains positive relationships with colleagues, customers and suppliers. (B3)</p> <p>Supports an inclusive workplace. (B7)</p>

	managing supplier relationships. (K30)		
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## Environmental management and sustainability project and presentation

KSBS GROUPED BY THEME	KNOWLEDGE	SKILLS	BEHAVIOUR
Environmental Management and Sustainability K17 K18 K19 K24 S8 S23 S24 B6	<p>The principles of ecology relating to sports turf facilities in the United Kingdom. (K17)</p> <p>Approaches to improving sustainability, natural habitats and biodiversity for a sports facility. (K18)</p> <p>Methods used to manage sports turf resources. (K19)</p> <p>Structure and content requirements when developing scientific style written reports and presenting recommendations. (K24)</p>	<p>Prepare written reports and present sports turf management recommendations and findings. (S8)</p> <p>Appraise a range of habitats relating to a particular site in order to establish specific conservation objectives. (S23)</p> <p>Evaluate selected sports turf resource management approaches taking into account sustainability. (S24)</p>	Actively promotes sustainable initiatives. (B6)

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