



Unit 32: Maintenance of Sports and Amenity Turf

Delivery guidance

Approaching the unit

'Unit 32: Maintenance of Sports and Amenity Turf' is an optional unit for the 'Level 3 Extended Diploma in Horticulture', which is assessed internally. The focus of this unit is on the maintenance of turf in both sports and amenity settings.

During the taught theory lessons, learners will investigate different areas of sports and amenity turf, from football pitches, golf courses, bowling greens and athletics tracks to parks, gardens and recreational areas. Learners would benefit from visiting a wide range of different areas, where they can be taught about the different maintenance requirements and the need for repair and renovation to meet quality standards of the area in question.

Learners should be encouraged to carry out independent research using a range of different sources, including textbooks, the internet, tutors, employers, subject matter experts, colleagues, catalogues and magazines.

During practical lessons, learners will be provided with an area of turf to plan its maintenance and consider the effects of the seasonal impacts. Learners will have access to a wide range of example planning documents so they can ensure that key features are included in their own plan. Planning documents could include electronic spreadsheets, shared calendar entries or paper-based diaries, planning documents or wall charts.

This unit contains a wide range of tools and equipment to be introduced to learners during theory sessions, although these can be linked to other units as appropriate. Robust links to health and safety considerations will be required so that tools and equipment are used appropriately, with risks and hazards identified before use.

Learners are to carry out practical maintenance tasks on their allocated area, following their own plans and using an appropriate range of tools, machinery and equipment. When the practical tasks are completed, learners are to review the outcomes to assess how they met performance quality standards.

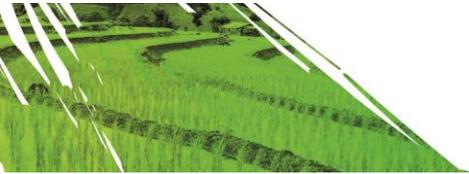
Delivering the learning aims

Due to the impact that weather conditions may have on turf maintenance, there needs to be flexibility in the method of delivery and the timing of this unit. The unit requires suitable sports and amenity turf areas to be available, which will be linked to the learner's area of interest, as some learners may wish to pursue a career in the sports turf sector, while others may prefer an amenity setting of parkland or an estate garden.

Learning aims may be combined so that the theory is taught alongside practical tasks, which would put the unit into context for learners. Other units could be linked where appropriate, for example, you could teach health and safety in relation to the use of tools, equipment and machinery, or link to work experience placements where learners will work directly with turf.

Learning aim A

For learning aim A, learners should access a range of turf areas in sports and amenity settings either on- or off-site. This would enable them to investigate the range of maintenance requirements for the different areas and the tools, equipment and machinery associated with maintenance tasks.



Accessing local sports grounds, parks and gardens could prove useful in the delivery of this learning aim, with expert guest speakers (such as greenkeepers or groundsman) to provide talks on the maintenance and health of their turf areas.

The health of turf is an important part of this learning aim, and the learners need to be able to identify a range of threats to health from the unit content, using real examples where possible. Assessment of damage will then lead to learners being able to select the most suitable repair or renovation method required for the area being maintained.

Learning aims B and C

For learning aims B and C, learners should be introduced to performance quality standards that ensure the turf meets requirements. Following this, learners will be equipped to plan the maintenance requirements of a given area of turf to meet these standards. It is possible that learners will need to be split between sports and amenity turf, depending on their area of interest. Class sizes should also be considered, i.e. some learners may need to be grouped together, although it is essential that all learners produce their own individual evidence.

Once areas have been allocated, learners are to produce maintenance plans. These can be created in a range of formats, as long as the key information is included from the unit content, and that they are based on the allocated area of turf.

Demonstrations will be used to show how maintenance tasks are to be completed effectively. Consider learners' previous experience in this area, as it could be used to demonstrate some tasks where appropriate to other learners. Ensure that learners work independently on their maintenance tasks to show their developing skills. Awareness of safe working practices and use of correct personal protective equipment (PPE) should be demonstrated by staff and learners throughout the unit.

Following practical tasks, learners will review their work against the quality performance standards that were introduced at the beginning of these learning aims. Peer assessment methods should also be encouraged here to assess each other's tasks against standards, with constructive feedback given.



Assessment model (in internally assessed units)

Learning aim	Key content areas	Recommended assessment approach
A Investigate the maintenance requirements of sports and amenity turf	A1 Maintenance operations of sports and amenity turf A2 Factors that affect maintenance operations A3 Repair and renovation requirements of sports and amenity turf	A report exploring the maintenance requirements of sports and amenity turf and the impact on the quality of turf
B Plan a schedule for a given area of turf to support its maintenance	B1 Planning sports and amenity turf maintenance B2 Seasonal impacts on maintenance planning for sports and amenity turf B3 Key features of a turf maintenance plan	Evidence includes: <ul style="list-style-type: none"> • a maintenance plan for a given area of turf • photographic evidence of maintenance tasks carried out • a report on the effect of maintenance on the quality of turf
C Carry out maintenance for a given area of turf to enhance turf quality	C1 Preparing to undertake sports and amenity turf maintenance C2 Completing maintenance tasks C3 Review of outcomes of maintenance tasks	

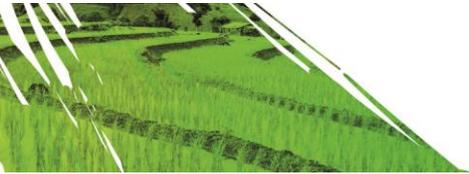
Assessment guidance

This unit is internally assessed, with two summative assignments that will examine learners' knowledge through written tasks and their competency skills through practical application.

For learning aim A, learners are to write a report explaining the maintenance requirements of sports and amenity turf and the impact on the quality of turf. Learners will investigate maintenance through a range of different sources for a broad range of turf areas and report on these. This may require some field trips and off-site visits for learners to see different areas. This will also give them the opportunity to meet subject-matter experts and question them on their maintenance of turf, as well as how they meet quality performance standards for their reports.

Within their reports, learners should clearly outline the links between different turf areas and their maintenance requirements, as well as detail the factors that can affect turf maintenance. Using researched information, learners will make clear links to the health of turf and be able to identify damage. They will then be able to recommend repair and renovation methods for those listed in the unit content, including any others that have been identified on turf they have investigated throughout their reports. Learners may choose to include video entries and photographic and voice-recorded evidence on their investigations for their assessment.

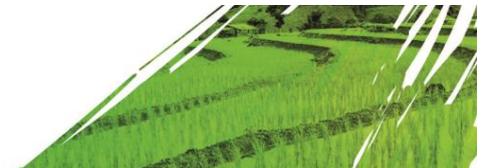
The second assignment is divided into three parts, with learners tasked to create a portfolio of evidence. The first part of the assignment is a maintenance plan that is designed around a



given area of turf. This should fit with the learner's own area of interest where possible. The plan can then be developed either electronically or on paper, and will link to their investigations in the first assignment. The plan will show weekly maintenance tasks to be completed on their turf areas that match site conditions accurately. Plans will contain all key areas listed in the unit content. Learners are to present their plans to their tutor and justify the decisions that they made when planning the maintenance for the area that they have been allocated.

The second part of the assignment will be presented as a series of annotated photographic evidence sheets and observation pro formas that show tasks being completed. Learners will explain the task and why it is being carried out, showing evidence of safe working practices throughout. Tutor observation pro formas will be included in the portfolio that evidences the tasks being carried out to the required standard, demonstrating the efficient maintenance of a given area of turf, including the selection of correct tools, equipment and machinery and clear consideration being shown of the environment and working to site conditions effectively.

For the third part of the assignment, learners are to analyse the impact of their own maintenance plan on the quality of turf. This could be achieved via a video recording where learners must provide a narration demonstrating where quality performance standards have been met after maintenance has been completed and make recommendations for future maintenance. Learners should carry out at least three different maintenance tasks following their own plan. They must also clearly outline the links to performance quality standards when assessing their turf and maintenance plan.



Getting started

This provides you with a starting place for one way of delivering the unit, based around the recommended assessment approach in the specification.

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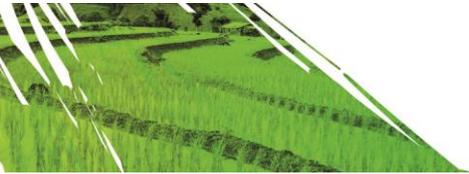
Introduction

At the start of this unit, tutors should determine where learner's main interests lie in turf maintenance and consider grouping learners according to their interests. For example, some learners may be interested in recreational turf, while others may focus on greenkeeping on a golf course.

There are excellent opportunities to develop strong links with local employers, which will enable learners to visit golf clubs, sports grounds, parks and estate gardens to gain knowledge on the maintenance requirements of different turf areas. It will also be a chance to see a different range of turf maintenance tools, machinery and equipment while also adhering to health and safety considerations.

Learning aim A – Investigate the maintenance requirements of sports and amenity turf

- Tutors can deliver a classroom-based introduction to the unit to identify a range of sports and amenity turf areas and investigations on how maintenance will vary from turf that needs intensive regular maintenance to the one that requires much less attention.
- Tutors can arrange for off-site visits to see local employers, focusing on the requirements of different sports grounds and amenity areas, with talks from head greenkeepers, groundsmen and gardeners where possible.
- For learning aim A1, learners can be given instructions to investigate different maintenance tasks and frequency required while on visits, including mowing, scarifying, verticutting, grooming, aeration, rolling, switching/brushing, feeding, irrigation and edging. Visits can be arranged throughout the delivery of the unit and should include turf areas that are not available at the centre.
- Learners to investigate the importance of correct nutrition and irrigation requirements of turf, assessing areas given either on- or off-site, as well as the health of their turf. Where turf areas are not available to assess, learners can be given case studies to support the importance of feeding and irrigation and application methods of both.
- The first practical session in the workshop should be an introduction to the tools, equipment and machinery related to maintenance tasks. Learners are to form into small groups and the tutor to provide them with maintenance task scenarios. They are to select the correct tools equipment and machinery to be used for these tasks. Each group will then justify their choices made to each other. Learners will be asked to consider health and safety when using the items and then correctly identify the personal protective equipment (PPE) to be worn for each task.
- Tutors are to demonstrate the essential maintenance of their tools, equipment and machinery before their use with pre-start/use checks. Learners will then be given time to use and become familiar with the tools, equipment and machinery before a demonstration of correct post-maintenance checks are shown.
- For learning aim A2, tutors can arrange for learners to identify common weeds and moss in turf either on- or off-site, outlining how best to control them.
- Following this, tutors can discuss about other threats on turf health, where they are found, and what their identifiable features and control methods are. Where possible, real-life examples of turf health problems are to be shown and identification tests are to be set up throughout the unit. Learners should be able to positively identify all threats listed in identification tests,

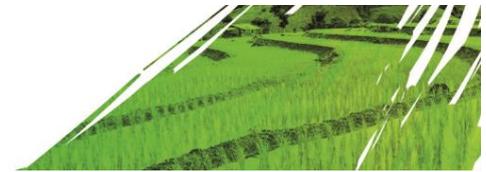


including pests (e.g. chafer grubs, worm casts, leatherjackets, moles, rabbits and birds), diseases (e.g. fusarium, anthracnose, red thread, dollar spot, rust and fairy rings) and disorders (e.g. dry patch, black layer, chemical damage, thatch, compaction, water logging, machinery damage and man-made damage). Learners should see examples of each issue, although where these are not present, video evidence or pictures that tutors have taken can be used with damage caused, and any others threats that may be present locally should also be introduced. Learners to be taught different control methods using physical, chemical, biological and cultural methods, analysing their use for all threats to turf health identified.

- For learning aim A3, tutors to provide a presentation or discussion about assessing turf damage, as well as the types of repair and renovation methods used following any damage to turf.
- Learners are to assess real areas or case studies given. They are to then recommend the appropriate repair or renovation method suited to that area. Learners must show that they have taken into account the factors that may affect operations, including the soil type, soil condition, timings, methods used and weather conditions. Individual presentations will then justify methods used to repair or renovate the turf. Learners should be encouraged to present these as a range of ways, which could include using a presentation tool (e.g. PowerPoint, an online presentation tool, and Prezi, a video diary or a blog).

Learning aim B – Plan a schedule for a given area of turf to support its maintenance

- Tutors to introduce the learning aim through a classroom-based activity, identifying the sports and amenity turf areas to be planned for maintenance.
- For learning aims B1 and B2, learners are to carry out an inspection on their allocated sites for characteristics, e.g. soil, aspect and topography, and any seasonal impacts, e.g. forecast and temperature. Learners are to consider what they hope to achieve, and plan their aims and objectives for their sites. This information will be useful when learners produce their own maintenance plan. They should present their aims and objectives verbally to the tutor.
- For learning aim B1, learners to conduct independent research on meeting performance quality standards (PQS) and the requirements of governing organisations and professional bodies involved in sports and amenity turf areas. They are to be guided by tutors with this research, e.g. Institute of Groundsmanship (IOG), British and International Golf Greenkeepers Association (BIGGA), Sports Turf Research Institute (STRI), Chartered Institute for the Management of Sport and Physical Activity and British Association of Landscape Industries (BALI) and create a hand-out with standards required for their own turf areas.
- Learners to be given a range of different example planning documents to understand the key features of a maintenance plan and ways it can be presented for learners to make their own decisions for their area.
- For learning aim B3, tutors can facilitate a group discussion on the key features of a maintenance plan, including location, characteristics and limitation of the land; tools; equipment; machinery; personnel; risk assessments and staff training requirements, such as pesticide applications (PA1, PA2, PA6) and timings.
- Learners to produce their maintenance plans for an allocated area of turf using an appropriate format to suit area and tasks.
- Tutor to hold a classroom-based session on contingency planning for poor weather, staff sickness, unfavourable ground conditions, machinery unavailability and dealing with problems and issues. Case studies can be provided based on scenarios, where learner maintenance plans may need to be changed. Learners can then present their own ideas and solutions to the rest of the class.



Learning aim C – Carry out maintenance for a given area of turf to enhance turf quality

- Tutors to hold a classroom-based session for learning aim C1, with learners forming into small groups to identify hazards of their allocated assessment areas. They are to assess the risks and propose how to minimise these risks, understanding legislation relating to task and minimising public access where required. A risk assessment will be produced for the area being maintained.
- For learning aim C2, tutor to hold a classroom-based session where they discuss the methodologies of turf maintenance and the reasons for working safely, taking care of the environment around them and disposing of all waste correctly. Learners are to write a rationale for their maintenance plans and discuss them with their tutor.
- Learners are to undertake several (at least three) sessions in order to carry out different turf maintenance to suit their allocated areas and follow their planned tasks for learning aim C2. Learners are to demonstrate continuous safe working practices, select and use correct tools and equipment, use all equipment safely, minimise environmental damage while working, leave area clean and tidy after tasks and dispose of waste correctly. Tutors will complete written observation records for each task, and photographs are to be obtained throughout.
- For learning aim C3, learners are to complete a practical-based review of their area after each maintenance task using video recording equipment. They are to assess their performance against their original aims, objectives and the quality performance standards. They must explain the impact of maintenance and clearly outline their recommendations for future maintenance, based on their recordings. This can be presented in their portfolio of evidence as a written account or a summarised video recording.



Details of links to other BTEC units and qualifications, and to other relevant units/qualifications

- Unit 4: Developing a Land-based Enterprise
- Unit 5: Operational and Environmental Activities in Land-based Enterprises

Resources

In addition to the resources listed below, publishers are likely to produce Pearson- endorsed textbooks that support this unit of the BTEC Internationals in Agriculture/Horticulture/Land-based subjects.

Check the Pearson website (<http://qualifications.pearson.com/endorsed-resources>) for more information as titles achieve endorsement.

Textbooks

Brown S, *Sports Turf and Amenity Grassland Management*, The Crowood Press Ltd, 2005
ISBN 1861267908 – it is a clear and useful book about sports turf and amenity grasslands

Klug J and Tainton N, *The Cricket Pitch and Its Outfield*, University of Kwazulu- Natal Press, 2002
ISBN 9780869809846 – it is an excellent book about cricket pitch care

Journals

Horticulture Week (Haymarket Group) – it is a weekly information journal on new products available to the sector

Websites

British Association of Landscape Industries (BALI) – search the website for information about safety advice, pests and diseases, standards and qualifications.

British and International Golf Greenkeepers Association (BIGGA) – search the website for professional information on greenkeeping and professional development of greenkeepers.

Chartered Institute for the Management of Sport and Physical Activity (CIMSPA)
– search the website for information on supporting professionals working in the sport and physical activity sector

Health and Safety Executive (HSE) – search this website for information on health and safety, risks, hazards and legislation

Institute of Groundsmanship (IOG) – search the website for information on the grounds and national turf improvement programme to raise standards of sports turf surfaces

PitchCare – search the website for information on turf health

Rolawn – search the website for information on pests, diseases and disorders in relation to turf

Sports Turf Research Institute (STRI) – search the website for information on sports turf management and design

Pearson is not responsible for the content of any external internet sites. It is essential for tutors to preview each website before using it in class to ensure that the URL is still accurate, relevant and appropriate. We suggest that tutors bookmark useful websites and consider enabling learners to access them through the school/college intranet.