Pearson
Higher Nationals in
Animal Management

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Edexcel, BTEC and LCCI qualifications

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### Summary of changes made between previous issue and this current issue

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If you need further information on these changes or what they mean, contact us via our website at: qualifications.pearson.com/en/support/contact-us.html.
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1 Introduction

BTEC is one of the world’s most recognised applied learning brands, engaging students in practical, interpersonal and thinking skills, for more than thirty years. BTECs are work-related qualifications for students taking their first steps into employment, or for those already in employment and seeking career development opportunities. BTECs provide progression into the workplace either directly or via study at university and are also designed to meet employer’s needs. Therefore, Pearson BTEC Higher National qualifications are widely recognised by industry and higher education as the principal vocational qualification at Levels 4 and 5.

When developing the Pearson BTEC Higher National qualifications in Animal Management, we collaborated with a wide range of students, employers, higher education providers, colleges and subject experts to ensure that the new qualifications meet their needs and expectations. We also worked closely with the relevant Professional Bodies, to ensure alignment with recognised professional standards.

There is now a greater emphasis on employer engagement and work readiness. The new BTEC Higher National qualifications in Animal Management are designed to reflect this increasing need for high quality professional and technical education pathways at Levels 4 and 5, thereby providing students with a clear line of sight to employment and to progression to a degree at Level 6.

1.1 The Student Voice

Students are at the heart of what we do. That is why, from the outset, we consulted with students in the development of these qualifications. We involved them in writing groups, sought their feedback, and added their voices and views to those of other stakeholders.

The result, we believe, are qualifications that will meet the needs and expectations of students worldwide.

1.2 Why choose Pearson BTEC Higher Nationals?

Pearson BTEC Higher Nationals are designed to help students secure the knowledge skills and behaviours needed to succeed in the workplace. They represent the latest in professional standards and provide opportunities for students to develop behaviours for work, for example by undertaking a group project, or responding to a client brief. A student may even achieve exemption from professional or vendor qualifications, or student membership of selected professional bodies, to help them on their journey to professional competence.

At the same time the BTEC Higher Nationals are intended to keep doors open for future study should a student wish to progress further in their education after their level 5 study. They do this by allowing space for the development of higher education study skills, such as the ability to research. Clear alignment of level of demand with the Framework for Higher Education qualification descriptors at level 4 and 5 means that students wishing to progress to level 6 study should feel better prepared. The Pearson BTEC Higher Nationals address these various requirements by providing:
● A range of core, optional and specialist units, each with a clear purpose, so there is something to suit each student’s choice of programme and future progression plans.

● Fully revised content that is closely aligned with the needs of employers, professional bodies, vendors and higher education for a skilled future workforce.

● The opportunity to develop transferable skills useful for work and for higher education, including research skills, the ability to meet deadlines and commutation skills.

● Learning Outcomes mapped against Professional Body standards and vendor accreditation requirements, where appropriate.

● Assessments and projects chosen to help students progress to the next stage (this means some are set by the centre to meet local needs, while others are set by Pearson). Students are required to apply their knowledge to a variety of assignments and activities, with a focus on the holistic development of practical, interpersonal and higher level thinking skills.

● An approach to demand at level 4 and 5 which is aligned with the Framework for Higher Education Qualifications (FHEQ).

● Support for student and tutors including Schemes of Work and Example Assessment Briefs.

1.3 HN Global

Pearson BTEC Higher Nationals are supported by a specially designed range of digital resources, to ensure that tutors and students have the best possible experience during their course. These are available from the HN Global website (http://www.highernationals.com/).

With HN Global, tutors can access programme specifications which contain useful information on programme planning and Quality Assurance processes. Tutors can also view Schemes of Work and Example Assessment Briefs, helping them create meaningful courses and assessments. HN Global also allows tutors to create and annotate reading lists for their students and also keep up-to-date on the latest news regarding HN programmes.

1.4 Qualification Titles

**Pearson BTEC Level 4 Higher National Certificate in Animal Management**

Specialist pathways are included within brackets in the qualification title:

- Pearson BTEC Level 4 Higher National Certificate in Animal Management (Animal Science)
- Pearson BTEC Level 4 Higher National Certificate in Animal Management (Veterinary Practice Management)
- Pearson BTEC Level 4 Higher National Certificate in Animal Management (Equine Management)
- Pearson BTEC Level 4 Higher National Certificate in Animal Management (General)
Pearson BTEC Level 5 Higher National Diploma in Animal Management

Specialist pathways are included within brackets in the qualification title:

- Pearson BTEC Level 5 Higher National Diploma in Animal Management (Animal Behaviour and Welfare)
- Pearson BTEC Level 5 Higher National Diploma in Animal Management (Animal Science)
- Pearson BTEC Level 5 Higher National Diploma in Animal Management (Veterinary Practice Management)
- Pearson BTEC Level 5 Higher National Diploma in Animal Management (Equine Management)
- Pearson BTEC Level 4 Higher National Certificate in Animal Management (General)

1.5 Qualification codes

Ofqual Regulated Qualifications Framework (RQF) Qualification numbers:

Pearson BTEC Level 4 Higher National Certificate in Animal Management: 603/2796/0

Pearson BTEC Level 5 Higher National Diploma in Animal Management: 603/2794/7

1.6 Awarding institution

Pearson Education Ltd.

1.7 Key features

Pearson BTEC Higher National qualifications in Animal Management offer:

- A stimulating and challenging programme of study that will be both engaging and memorable for students.
- The essential subject knowledge that students need to progress successfully into further study or the world of work.
- A simplified structure: students undertake a substantial core of learning in the Higher National Certificate and can build on this in the Higher National Diploma, with optional units linked to their specialist area of study.
- Specialist pathways in the Level 4 Certificate and Level 5 Diploma, so there is something to suit each student’s preference of study and future progression plans.
- Refreshed content that is closely aligned with Professional Body, employer and higher education needs.
- Assessments that consider cognitive skills (what students know) along with affective and applied skills (respectively how they behave and what they can do)
- Unit-specific grading and Pearson-set assignments.
• A varied approach to assessment that supports progression to Level 6 and also allows centres to offer assessment relevant to the local economy, thereby accommodating and enhancing different learning styles.

• Quality assurance measures – as outlined in sections 6 and 7 of this Programme Specification – to ensure that all stakeholders (e.g. professional bodies, universities, colleges and students) can feel confident in the integrity and value of the qualifications.

• A qualification designed to meet the needs and expectations of students aspiring to work in an international Animal Management environment.

Qualification frameworks
Pearson BTEC Higher National qualifications are designated higher education qualifications in the UK. They are aligned to the Framework for Higher Education Qualifications (FHEQ) in England, Wales and Northern Ireland, and Quality Assurance Agency (QAA) Subject Benchmark Statements. These qualifications are part of the UK Regulated Qualifications Framework (RQF).

1.8 Collaborative development
Students completing their BTEC Higher Nationals in Animal Management will be aiming to go on to employment or progress to a final year at university. Therefore, it was essential that we developed these qualifications in close collaboration with experts from professional bodies and universities, and with the providers who will be delivering the qualifications.

We are very grateful to the university and further education tutors, employers, Professional Body representatives and other individuals who have generously shared their time and expertise to help us develop these new qualifications.

• Belfast Metropolitan College
• Chichester College
• Dudley College
• Hartpury College (Associate Faculty of the University of the West of England)
• Kirkless College
• National Farmers Union (NFU)
• National Land-based College
• North Lindsey College
• North Shropshire College
• Royal College of Veterinary Surgeons (RCVS)
• Veterinary Practice Management Association (VPMA)
2 Programming purpose and objectives

2.1 Purpose of the BTEC Higher Nationals in Animal Management

The purpose of BTEC Higher Nationals in Animal Management is to develop students as professional, self-reflecting individuals able to meet the demands of employers in the Animal Management sector and adapt to a constantly changing world. The qualifications aim to widen access to higher education and enhance the career prospects of those who undertake them.

2.2 Objectives of the BTEC Higher Nationals in Animal Management

The objectives of the BTEC Higher Nationals in Animal Management are as follows:

- To equip students with Animal Management skills, knowledge and the understanding necessary to achieve high performance in the global Animal Management environment.
- To provide education and training for a range of careers in Animal Management, including Animal Behaviour and Welfare, Animal Science, Veterinary Practice Management and Equine Management.
- To provide insight and understanding into the diversity of roles within Animal Management, recognising the importance of collaboration at all levels.
- To equip students with knowledge and understanding of culturally diverse organisations, cross-cultural issues, diversity and values.
- To provide opportunities for students to enter or progress in employment in Animal Management, or progress to higher education qualifications such as an Honours degree in Animal Behaviour and Welfare, Animal Science, Equine Science or a related area.
- To provide opportunities for students to develop the skills, techniques and personal attributes essential for successful working lives.
- To support students to understand the local, regional and global context of Animal Management and, for those students with a global outlook, to aspire to international career pathways.
- To provide students with opportunities to address contemporary issues facing the industry, and society at large; with particular emphasis on sustainability and the environment, recognising the role that Animal Management plays in addressing these issues.
- To provide opportunities for students to achieve a nationally-recognised professional qualification within their chosen area of specialisation.
- To provide opportunities for students to achieve certifications.
- To offer students the chance of career progression in their chosen field, with particular emphasis on achieving management-level positions, professional recognition and beyond.
To allow flexibility of study and to meet local or specialist needs.

To offer a balance between employability skills and the knowledge essential for students with entrepreneurial, employment or academic aspirations.

To provide students with opportunities to engage in an industry-recognised apprenticeship scheme that aligns with their employer’s needs and their own career aspirations.

To provide students with the context in which to consider professional ethics and their relation to personal, professional and statutory responsibilities within the industry.

We meet these objectives by:

- Providing a thorough grounding in Animal Management principles that leads the student to a range of specialist progression pathways relating to individual professions within the sector.

- Equipping individuals with commercial acumen, understanding and Animal Management skills for success in a range of the roles in this sector.

- Enabling progression to a university degree by supporting the development of appropriate academic study skills.

- Enabling progression to further professional qualifications in specific Animal Management areas by mapping to units in a range of professional qualifications.

Who is this qualification for?

The BTEC Higher National qualifications in Animal Management are aimed at students wanting to continue their education through applied learning. Higher Nationals provide a wide-ranging study of Animal Management and are designed for students who wish to pursue or advance their career in an aspect of Animal Management. In addition to the knowledge, understanding and skills that underpin the study of Animal Management, Pearson BTEC Higher Nationals in Animal Management give students experience of the breadth and depth of the sector that will prepare them for further study or training.

2.3 Aims of the Level 4 Higher National Certificate in Animal Management

The Level 4 Higher National Certificate in Animal Management offers students a broad introduction to the subject area via a mandatory core of learning, while allowing for the acquisition of skills and experience through the selection of specialist and optional units across a range of occupational sectors at Level 4. This effectively builds underpinning core skills while preparing the student for progression onto Level 5. Students will gain a wide range of sector knowledge tied to practical skills gained in research, self-study, directed study and workplace scenarios.
At Level 4 students develop a broad knowledge and awareness of key aspects of Animal Management through three core units, which include one unit assessed by a Pearson-set assignment. The units are:

- Animal Health and Welfare
- Business and the Business Environment
- Managing a Successful Project (Pearson-set unit).

There is a ‘general pathway’ and four ‘specialist pathways’. Depending on the ‘specialist pathway’, at Level 4, students will undertake a further three specialist units (related to their Level 4 Pathway) from:

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Specialist Units</th>
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</thead>
<tbody>
<tr>
<td>General</td>
<td>There are no specialist units identified</td>
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<tr>
<td>Animal Behaviour and Welfare</td>
<td>Animal Behaviour in Society</td>
</tr>
<tr>
<td></td>
<td>Animal Husbandry</td>
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<tr>
<td></td>
<td>Animal Anatomy and Physiology</td>
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<tr>
<td>Animal Science</td>
<td>Animal Anatomy and Physiology</td>
</tr>
<tr>
<td></td>
<td>Animal Nutrition</td>
</tr>
<tr>
<td></td>
<td>Ecological Principles</td>
</tr>
<tr>
<td>Veterinary Practice Management</td>
<td>Veterinary Practice Management</td>
</tr>
<tr>
<td></td>
<td>Animal Nursing</td>
</tr>
<tr>
<td></td>
<td>Clinic Design and Processes</td>
</tr>
<tr>
<td>Equine Management</td>
<td>Horse Husbandry</td>
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<tr>
<td></td>
<td>Management of Equine Facilities</td>
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<tr>
<td></td>
<td>Animal Anatomy and Physiology</td>
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</tbody>
</table>

If the ‘general pathway’ is chosen then five further optional units will need to be identified at Level 4. If a ‘specialist pathway’ is chosen then two further optional units at Level 4 will need to be identified from the following:

Specialist units (above) are also available as optional units.

- Management of Exotic Animal Species
- Animal Collection Management
- Human Resource Management
- Marketing Essentials
- Equitation (Riding)
- Horse and Human Relationship
- Equestrian Performance
- Management Accounting
- Teaching in a Specialist Subject
Graduates successfully completing the Higher National Certificate will be able to demonstrate a sound knowledge of the basic concepts of Animal Management. They will be able to communicate accurately and appropriately and they will have the qualities needed for employment that requires some degree of personal responsibility. They will have developed a range of transferable skills to ensure effective team working, independent initiatives, organisational competence and problem-solving strategies. They will be adaptable and flexible in their approach to Animal Management, show resilience under pressure, and meet challenging targets within a given resource.

2.4 Aims of the Level 5 Higher National Diploma in Animal Management

The Level 5 Higher National Diploma in Animal Management offers students the opportunity to continue on their chosen pathway, whether this is the ‘general pathway’ or the four ‘specialist pathways’ designed to support progression into relevant occupational areas or on to degree-level study. These pathways are linked to Professional Body standards (where appropriate) and can provide professional status and progression to direct employment.

The Level 5 Higher National Diploma continues to offer the following specialist pathways for students who wish to concentrate on a particular aspect of Animal Management:

- Animal Behaviour and Welfare
- Animal Science
- Veterinary Practice Management
- Equine Management

The non-specialist ‘General Animal Management pathway’, allows students to complete a Level 5 Higher National Diploma without committing to a particular professional specialism. This offers additional flexibility to providers and students.

Students will typically progress from Level 4 to Level 5 within the same specialist pathway. (See section 4.1 for information about units and progression). Where students may wish to change pathway, when progressing from Level 4 to Level 5, Centres may undertake a mapping of Recognised Prior Learning (RPL) to determine whether the student has sufficient knowledge and experience to be a suitable candidate for the Level 5 subject of study. (See section 8 Recognition of Prior Learning and Attainment.)

Holders of the Level 5 Higher National Diploma will have developed a sound understanding of the principles in their field of study and will have learned to apply those principles more widely. They will have learned to evaluate the appropriateness of different approaches to solving problems. They will be able to perform effectively in their chosen field and will have the qualities necessary for employment in situations requiring the exercise of personal responsibility and decision-making.

Holders of the Level 5 Higher National Diploma will have developed a sound understanding of the principles in their field of study and will have learned to apply those principles more widely. They will have learned to evaluate the appropriateness of different approaches to solving problems. They will be able to perform effectively in their chosen field and will have the qualities necessary for employment in situations requiring the exercise of personal responsibility and decision-making.
2.5 What could these qualifications lead to?

The Level 4 Higher National Certificate provides a solid grounding in Animal Management, which students can build on should they decide to continue their studies beyond the Certificate stage. The Level 5 Higher National Diploma allows students to specialise by committing to specific career paths and progression routes to degree-level study.

On successful completion of the Level 5 Higher National Diploma, students can develop their careers in the Animal Management sector through:

- Entering employment
- Continuing existing employment
- Linking with the appropriate Professional Body
- Linking with the appropriate certificates
- Committing to Continuing Professional Development (CPD)
- Progressing to university.

The Level 5 Higher National Diploma is recognised by Higher Education providers as meeting admission requirements to many relevant Animal Management-related courses, for example:

- BSc (Hons) in Animal Behaviour and Welfare
- BSc (Hons) in Animal Management
- BSc (Hons) in Applied Animal Science
- BA (Hons) in Equine Business Management
- BSc (Hons) in Equine Management

Students should always check the entry requirements for degree programmes at specific Higher Education providers. After completing a BTEC Higher National Certificate or Diploma, students can also progress directly into employment.

The skills offered as part of the Pearson BTEC Higher National Diploma can provide graduates with the opportunity to work in many different areas of the Animal Management sector. Below are some examples of job roles each qualification could lead to.
<table>
<thead>
<tr>
<th>Pathway</th>
<th>Job Roles</th>
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<tbody>
<tr>
<td>Animal Behaviour and Welfare</td>
<td>Animal Keeper</td>
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<tr>
<td></td>
<td>Animal Controls Officer</td>
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<td></td>
<td>Animal Health Officer</td>
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<td>Animal Trainer</td>
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<td></td>
<td>Wildlife Technician</td>
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<td></td>
<td>Retail Supervisor</td>
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<td></td>
<td>Animal Instructor</td>
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<td></td>
<td>Animal Behaviour Consultant</td>
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<td></td>
<td>Pet Store Manager</td>
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<td></td>
<td>Animal Rescue Centre Manager</td>
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<tr>
<td></td>
<td>Animal Lecturer</td>
</tr>
<tr>
<td>Animal Science</td>
<td>Laboratory Technician</td>
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<td></td>
<td>Research Officer</td>
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<tr>
<td></td>
<td>Veterinary Care Assistant</td>
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<tr>
<td></td>
<td>Animal Nutritionist</td>
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<td></td>
<td>Medical Sales Representative</td>
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<tr>
<td></td>
<td>Animal Science Lecturer</td>
</tr>
<tr>
<td>Veterinary Practice Management</td>
<td>Veterinary Practice Manager</td>
</tr>
<tr>
<td></td>
<td>Sales Representative</td>
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<tr>
<td></td>
<td>Animal Instructor</td>
</tr>
<tr>
<td></td>
<td>Animal Centre Manager</td>
</tr>
<tr>
<td></td>
<td>Pet Store Manager</td>
</tr>
<tr>
<td></td>
<td>Kennel and Cattery Manager</td>
</tr>
<tr>
<td>Equine Management</td>
<td>Horse Riding Instructor</td>
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<tr>
<td></td>
<td>Freelance Events Organiser</td>
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<tr>
<td></td>
<td>Horse Breeder</td>
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<td></td>
<td>Horse Trainer</td>
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<tr>
<td></td>
<td>Head Groom</td>
</tr>
<tr>
<td></td>
<td>Equine Yard Manager</td>
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<td></td>
<td>Professional Horse Rider</td>
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<tr>
<td></td>
<td>Equine Activity Centre Manager</td>
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<td></td>
<td>Equine Instructor/Lecturer</td>
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</table>
2.6 Use of Maths and English within the curriculum

Those working within the Animal Management sector cannot just rely on their technical skills and must ensure they develop all relevant employability skills to increase employment opportunities. For example, they will be required to communicate appropriately with stakeholders throughout their career, so the ability to use maths and English in a professional context is an essential employability skill that must be developed at all levels of study.

Development of essential maths and English skills are embedded throughout these qualifications in accordance with industry requirements and below are some examples of how these skills are developed in the BTEC Higher National curriculum:

- Written reports
- Formal presentations
- Informal conversations
- Use of professional, sector-specific language

Some aspects of Animal Management require high level maths skills and we strongly recommend all students complete diagnostic maths assessments preferably before beginning a Higher National course, as well as having an A* to C grade and/or 9 to 4 in GCSE Maths, prior to starting the course (see Entry requirements in section 3.2 of this specification).
2.7 How Pearson BTEC Higher Nationals in Animal Management provide both transferable employability skills and academic study skills

Students need both relevant qualifications and employability skills to enhance their career prospects and contribute to their personal development. Pearson Higher National Animal Management qualifications embed throughout the programme the development of key skills, attributes and strengths required by 21st century employers.

Where employability skills are referred to in this specification, this generally refers to skills in five main categories:

- **Cognitive and problem-solving skills**: critical thinking, approaching non-routine problems by applying expert and creative solutions, use of systems and digital technology, generating and communicating ideas creatively.
- **Intra-personal skills**: self-management, adaptability and resilience, self-monitoring and self-development, self-analysis and reflection, planning and prioritising.
- **Interpersonal skills**: effective communication and articulation of information, working collaboratively, negotiating and influencing, self-presentation.
- **Commercial skills**: sector awareness; sales; marketing/promotion; budget management/monitoring;
- **Business skills**: awareness of types of companies, company formation, invoicing, calculating fees, business management.

Pearson Example Assessment Briefs (EABs) make recommendations for a range of real or simulated assessment activities, for example, group work where appropriate, to encourage development of collaborative and interpersonal skills or a solution focused case study to provide the opportunity to develop cognitive skills. There are specific requirements for the assessment of these skills, as relevant, within the assessment grids for each unit. Example Assessment Briefs are for guidance and support only and must be customised and amended according to localised needs and requirements. All assignments must still be moderated as per the internal verification process.

Students can also benefit from opportunities for deeper learning, where they are able to make connections between units and select areas of interest for detailed study. In this way BTEC Higher Nationals provide a vocational context in which students can develop the knowledge and academic study skills required for progression to university degree courses, including:

- Active research skills
- Effective writing skills
- Analytical skills
- Critical thinking
- Creative problem-solving
- Decision-making
- Team building
- Exam preparation skills
- Digital literacy
- Competence in assessment methods used in higher education.
To support you in developing these skills in your students, we have developed a map of Higher Education relevant transferable and academic study skills, available in appendices.
3 Planning your programme

3.1 Delivering the Higher Nationals in Animal Management

You play a central role in helping your students to choose the right BTEC Higher National qualification.

Assess your students very carefully to ensure that they take the right qualification and the right pathways or optional units, to allow them to progress to the next stage. You should check the qualification structures and unit combinations carefully when advising students.

You will need to ensure that your students have access to a full range of information, advice and guidance in order to support them in making the necessary qualification and unit choices. When students are recruited, you need to give them accurate information on the title and focus of the qualification for which they are studying.

3.2 Entry requirements and admissions

Although Pearson do not specify formal entry requirements, as a centre it is your responsibility to ensure that the students you recruit have a reasonable expectation of success on the programme.

For students who have recently been in education, the entry profile is likely to include one of the following:

- A BTEC Level 3 qualification in Animal Management or Horse Management
- A GCE Advanced Level profile that demonstrates strong performance in a relevant subject or adequate performance in more than one GCE subject. This profile is likely to be supported by GCSE grades at A* to C and/or 9 to 4 (or equivalent)
- Other related Level 3 qualifications
- An Access to Higher Education Diploma awarded by an approved further education institution
- Related work experience
- An international equivalent of the above.

Centres may wish to consider applicants’ prior learning when considering their acceptance on a BTEC Higher Nationals, through Recognition of Prior Learning. (For further information please refer to section 8 of this document.)

English language requirements

Pearson’s mission is to help people make more of their lives through learning. In order for students to be successful on Pearson BTEC Higher National qualifications which are both taught and assessed in English, it is critical that they have an appropriate level of English language skills.

The following clarifies the requirements for all centres when recruiting applicants on to new Pearson BTEC Higher National qualifications.
All centres delivering the new Pearson BTEC Higher National qualifications must ensure that all students who are non-native English speakers and who have not undertaken their final two years of schooling in English, can demonstrate capability in English at a standard equivalent to the levels identified below, before being recruited to the programme **where the programme is both taught and assessed in English**:

- Common European Framework of Reference (CEFR) level B2
- **PTE 51**
- **IELTS 5.5; Reading and Writing must be at 5.5**
- or equivalent.

It is up to the centre to decide what proof will be necessary to evidence individual student proficiency.

The following clarifies the requirements for all centres when recruiting applicants on to new Pearson BTEC Higher National qualifications which are taught in a language other than English, but are assessed in English.

All centres delivering the new Pearson BTEC Higher National qualifications **wholly or partially** in a language other than English, but who are assessed in English, must ensure that all students can demonstrate capability in English at a standard equivalent to the levels identified below, on completion of the programme:

- Common European Framework of Reference (CEFR) level B2
- **PTE 51**
- **IELTS 5.5; Reading and Writing must be at 5.5**
- or equivalent.

It is up to the centre to decide what proof will be necessary to evidence individual student proficiency.

**Centre approval**

To ensure that centres are ready to assess students and that we can provide the support that is needed all centres must be approved before they can offer these qualifications. For more information about becoming a centre and seeking approval to run our qualifications please visit the support section on our website (http://qualifications.pearson.com/).

**Level of sector knowledge required**

We do not set any requirements for tutors, but we do recommend that centres assess the overall skills and knowledge of the teaching team, which should be relevant, up to date and at the appropriate level.

**Resources required**

As part of your centre approval, you will need to show that the necessary material resources and work spaces are available to deliver BTEC Higher Nationals. For some units, specific resources are required, this is clearly indicated in the unit descriptors.
HN Global support

HN Global is an online resource that supports centre planning and delivery of BTEC Higher Nationals by providing appropriate teaching and learning resources. For further information see Sections 5 and 6 of this Programme Specification.

Modes of delivery

Subject to approval by Pearson, centres are free to deliver BTEC Higher Nationals using modes of delivery that meet the needs of their students. We recommend making use of a wide variety of modes, including:

- Full-time
- Part-time
- Blended learning.

Recommendations for employer engagement

BTEC Higher Nationals are vocational qualifications and as an approved centre you are encouraged to work with employers on the design, delivery and assessment of the course. This will ensure that students enjoy a programme of study that is engaging and relevant, and which equips them for progression. There are suggestions in section 5.2 about how employers could become involved in delivery and/or assessment, but these are not intended to be exhaustive and there will be other possibilities at a local level.

Support from Pearson

We provide a range of support materials, including Schemes of Work and suggested assignments, with supporting templates. You will be allocated an External Examiner early in the planning stage, to support you with planning your assessments, and there will be training events and support from our Subject Leads.

Student employability

All BTEC Higher Nationals have been designed and developed with consideration of National Occupational Standards, where relevant.

Employability skills such as team working and entrepreneurialism as well as practical hands-on skills have been built into the design of the learning aims and content. This gives you the opportunity to use relevant contexts, scenarios and materials to enable students to develop a portfolio of evidence demonstrating the breadth of their skills and knowledge in a way that equips them for employment.

3.3 Access to study

This section focuses on the administrative requirements for delivering a BTEC Higher National qualification. It will be of value to Quality Nominees, Programme Leaders and Examinations Officers.

Our policy regarding access to our qualifications is that:

- They should be available to everyone who is capable of reaching the required standards.
- They should be free from any barriers that restrict access and progression.
There should be equal opportunities for all those wishing to access the qualifications. We refer Centres to our Pearson Equality and Diversity Policy, which can be found in the support section of our website (http://qualifications.pearson.com/).

Centres are required to recruit students to Higher National programmes with integrity. They will need to make sure that applicants have relevant information and advice about the qualification, to make sure it meets their needs. Centres should review the applicant’s prior qualifications and/or experience to consider whether this profile shows that they have the potential to achieve the qualification. For students with disabilities and specific needs, this review will need to take account of the support available to the student during the teaching and assessment of the qualification. For further guidance and advice please refer to Section 9 on reasonable adjustments.

3.4 Student registration and entry

All students should be registered for the qualification, and appropriate arrangements made for internal and external verification. For information on making registrations for the qualification, you will need to refer to the information manual available in the support section of our website (http://qualifications.pearson.com/).

Students can be formally assessed only for a qualification on which they are registered. If students’ intended qualifications change (for example, if a student decides to choose a different specialist pathway), then the centre must transfer the student to the chosen pathway appropriately. Please note that student work cannot be sampled if the student is not registered or is registered on an incorrect pathway.

3.5 Access to assessments

Assessments need to be administered carefully, to ensure that all students are treated fairly, and that results and certification are issued on time, allowing students to move on to chosen progression opportunities.

Our equality policy requires that all students should have equal opportunity to access our qualifications and assessments, and that our qualifications are awarded in a way that is fair to every student. We are committed to making sure that:

- Students with a protected characteristic (as defined in legislation) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to students who do not share that characteristic.
- All students achieve the recognition they deserve for undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Further information on access arrangements can be found on the Joint Council for Qualifications website (http://www.jcq.org.uk/).
3.6 Administrative arrangements for internal assessment

Records
You are required to retain records of assessment for each student. Records should include assessments taken, decisions reached and any adjustments or appeals. Further information on quality and assessment can be found in our UK and international guides available in the support section on our website (http://qualifications.pearson.com/). We may ask to audit your records, so they must be retained as specified. All student work must be retained for a minimum of 12 weeks after certification has taken place.

Reasonable adjustments to assessment
A reasonable adjustment is one that is made before a student takes an assessment, to ensure that he or she has fair access to demonstrate the requirements of the assessments.

You are able to make adjustments to internal assessments to take account of the needs of individual students. In most cases this can be achieved through a defined time extension or by adjusting the format of evidence. We can advise you if you are uncertain as to whether an adjustment is fair and reasonable. You need to plan for time to make adjustments, if necessary.

Further details on how to make adjustments for students with protected characteristics are available on the support section of our website (http://qualifications.pearson.com/).

Special consideration
Special consideration is given after an assessment has taken place for students who have been affected by adverse circumstances, such as illness, and require an adjustment of grade to reflect normal level of attainment. You must operate special consideration in line with Pearson policy (see previous paragraph). You can provide special consideration related to the period of time given for evidence to be provided, or for the format of the assessment (if it is equally valid). You may not substitute alternative forms of evidence to that required in a unit, or omit the application of any assessment criteria to judge attainment. Pearson can consider applications for special consideration in line with the policy, which can be found in the document linked above.

Please note that your centre must have a policy for dealing with mitigating circumstances if students are affected by adverse circumstances, such as illness, which result in non-submission or late submission of assessment.

Appeals against assessment
Your centre must have a policy for dealing with appeals from students. These appeals may relate to assessment decisions being incorrect or assessment not being conducted fairly. The first step in such a policy could be a consideration of the evidence by a Programme Leader or other member of the programme team. The assessment plan should allow time for potential appeals after assessment decisions have been given to students. If there is an appeal by a student, you must document the appeal and its resolution. Students have a final right of appeal to Pearson, but only if the procedures that you have put in place have been followed.
Further details of our policy on enquiries and appeals is available on the support section of our website (http://qualifications.pearson.com/).

If your centre is located in England or Wales and the student is still dissatisfied with the final outcome of their appeal s/he can make a further appeal to the Office of the Independent Adjudicator (OIA) by emailing: enquiries@oiahe.org.uk. In Northern Ireland a further appeal may be lodged with the Northern Ireland Public Service Ombudsman (NIPSO) by emailing: nipso@nipso.org.uk.

### 3.7 Dealing with malpractice in assessment

‘Malpractice’ means acts that undermine the integrity and validity of assessment, the certification of qualifications, and/or that may damage the authority of those responsible for delivering the assessment and certification. Malpractice may arise, or be suspected, in relation to any unit or type of assessment within the qualification.

Pearson does not tolerate actions (or attempted actions) of malpractice by students, centre staff or centres in connection with Pearson qualifications. Pearson may impose penalties and/or sanctions on students, centre staff or centres where incidents (or attempted incidents) of malpractice have been proven.

Further details regarding malpractice and advice on preventing malpractice by students, can be found in the support section of our website (http://qualifications.pearson.com/).

In the interests of students and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice. The procedures we ask you to adopt when tackling malpractice vary between units that are internally assessed and those that are externally assessed.

#### Internally assessed units

Centres are required to take steps to prevent malpractice and to investigate instances of suspected malpractice. Students must be given information that explains what malpractice is for internal assessment and how suspected incidents will be dealt with by the centre. Full information on dealing with malpractice and the actions we expect you to take is available on the support section of our website (http://qualifications.pearson.com/).

Pearson may conduct investigations if it is believed that a centre is failing to conduct internal assessment according to Pearson policies. The above document gives further information, provides examples, and details the penalties and sanctions that may be imposed.

#### Student malpractice

Heads of centres are required to report incidents of any suspected student malpractice that occur during Pearson external assessments. We ask that centres do so by completing **JCQ Form M1** from the Joint Council for Qualifications website (http://www.jcq.org.uk/) and emailing it, along with any accompanying documents, (signed statements from the student, invigilator, copies of evidence, etc.), to the Investigations Team at pqsmalpractice@pearson.com. The responsibility for determining appropriate sanctions or penalties to be imposed on students lies with Pearson.
Students must be informed at the earliest opportunity of the specific allegation and the centre’s malpractice policy, including the right of appeal. Students found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

**Tutor/centre malpractice**

Heads of centres are required to inform Pearson’s Investigations Team of any incident of suspected malpractice by centre staff, before any investigation is undertaken. Heads of centres are requested to inform the Investigations Team by submitting a *JCQ Form M2b* from the Joint Council for Qualifications website ([http://www.jcq.org.uk/](http://www.jcq.org.uk/)) with supporting documentation to pqsmalpractice@pearson.com. Where Pearson receives allegations of malpractice from other sources (for example, Pearson staff or anonymous informants), the Investigations Team will conduct the investigation directly or may ask the head of centre to assist.

Incidents of maladministration (accidental errors in the delivery of Pearson qualifications that may affect the assessment of students) should also be reported to the Investigations Team, using the same method.

Heads of centres/Principals/Chief Executive Officers or their nominees are required to inform students and centre staff suspected of malpractice of their responsibilities and rights; see 6.15 of *JCQ Suspected Malpractice in Examinations and Assessments Policies and Procedures* ([www.jcq.org.uk](http://www.jcq.org.uk)).

Pearson reserves the right in cases of suspected malpractice to withhold the issue of results and/or certificates while an investigation is in progress. Depending on the outcome of the investigation, results and/or certificates may be released or withheld. We reserve the right to withhold certification when undertaking investigations, audits and quality assurances processes. You will be notified within a reasonable period of time if this occurs.

**Sanctions and appeals**

Wherever malpractice is proven, we may impose sanctions or penalties. Where student malpractice is evidenced, penalties may be imposed such as:

- Disqualification from the qualification
- Being barred from registration for Pearson qualifications for a specified period of time.

If we are concerned about your centre’s quality procedures, we may impose sanctions such as:

- Working with you to create an improvement action plan
- Requiring staff members to receive further training
- Placing temporary blocks on your certificates
- Placing temporary blocks on registrations of students
- Debarring staff members or the centre from delivering Pearson qualifications
- Suspending or withdrawing centre approval status.

Your centre will be notified if any of these apply.
Pearson has established procedures for centres that are considering appeals against penalties and sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from heads of centres (on behalf of students and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in our Enquiries and Appeals Policy available in the support section on our website (http://qualifications.pearson.com/).

In the initial stage of any aspect of malpractice, please notify the Investigations Team by email (pqsmalpractice@pearson.com), who will inform you of the next steps.
4 Programme structure

4.1 Units, credits, Total Qualification Time (TQT) and Guided Learning (GL)

The Higher National Certificate (HNC) is a Level 4 qualification made up of 120 credits. It is usually studied full-time over one year, or part-time over two years.

The Higher National Diploma (HND) is a Level 4 and Level 5 qualification made up of 240 credits. It is usually studied full-time over two years, or part-time over four years.

Pearson would expect that an HND student would have achieved at least 90 credits at Level 4 before progressing to Level 5 units. This allows for the students to submit the remaining 30 credits at Level 4 while undertaking their Level 5 study.

Students undertaking an HND who fail to successfully complete the full qualification may be awarded an HNC, if their credit achievement permits.

BTEC Higher Nationals consist of core units, specialist units and optional units:

- Core units are mandatory
- Specialist units are designed to provide a specific occupational focus to the qualification and are aligned to Professional Body standards
- Required combinations of optional units are clearly set out in the tables below.

All units are usually 15 credits in value, or a multiple thereof. These units have been designed from a learning time perspective, and are expressed in terms of Total Qualification Time (TQT). TQT is an estimate of the total amount of time that could reasonably be expected to be required for a student to achieve and demonstrate the achievement of the level of attainment necessary for the award of a qualification. TQT includes undertaking each of the activities of Guided Learning, Directed Learning and Invigilated Assessment. Each 15-credit unit approximates to a Total Unit Time of 150 hours and 60 hours of Guided Learning.

**Total Qualification Time (TQT)**

*Higher National Certificate (HNC) = 1,200 hours*

*Higher National Diploma (HND) = 2,400 hours*

Examples of activities which can contribute to Total Qualification Time include:

- Guided Learning
- Independent and unsupervised research/learning
- Unsupervised compilation of a portfolio of work experience
- Unsupervised e-learning
- Unsupervised e-assessment
- Unsupervised coursework
- Watching a pre-recorded podcast or webinar
- Unsupervised work-based learning.
Guided Learning (GL) is defined as the time when a tutor is present to give specific guidance towards the learning aim being studied on a programme. This definition includes lectures, tutorials and supervised study in, for example, open learning centres and learning workshops. Guided Learning includes any supervised assessment activity; this includes invigilated examination and observed assessment and observed work-based practice.

Total Guided Learning (GL) Higher National Certificate (HNC) = 480 hours

Total Guided Learning (GL) Higher National Diploma (HND) = 960 hours

Some examples of activities which can contribute to Guided Learning include:
- Classroom-based learning supervised by a tutor
- Work-based learning supervised by a tutor
- Live webinar or telephone tutorial with a tutor in real time
- E-learning supervised by a tutor in real time

All forms of assessment which take place under the immediate guidance or supervision of a tutor or other appropriate provider of education or training, including where the assessment is competence-based and may be turned into a learning opportunity.

4.2 Programme structures

The programme structures specify:
- The total credit value of the qualification
- The minimum credit to be achieved at the level of the qualification
- The core units
- The specialist units
- The optional units
- The maximum credit value in units that can be centre commissioned.

When combining units for a Pearson Higher National qualification, it is the centre’s responsibility to make sure that the correct combinations are followed.

Pearson BTEC Level 4 Higher National Certificate in Animal Management
- Qualification credit value: a minimum of 120 credits. This is made up of eight units, each with a value of 15 credits.
- Total Qualification Time (TQT) Higher National Certificate (HNC) = 1,200 hours
- Total Guided Learning (GL) Higher National Certificate (HNC) = 480 hours
- There is a required mix of Core, Specialist and Optional units totalling 120 credits. All units are at Level 4.
- In some cases a maximum of 30 credits from a Higher National qualification may be from units designed by the centre and approved by Pearson. Core units may not be substituted and are mandatory. For more information please refer to Higher National Commissioned Qualifications.
- Please note that some Specialist units are available as Optional units and some Optional units are available as Specialist units.
<table>
<thead>
<tr>
<th>Pearson BTEC Level 4 Higher National Certificate in Animal Management (General)</th>
<th>Unit credit</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Unit 1 Animal Health and Welfare</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Core Unit 2 Business and the Business Environment</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Core Unit 3 Managing a Successful Project (Pearson-set)</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Optional Unit Plus one Optional Level 4 unit (see below) or a Specialist Unit from another pathway</td>
<td>15</td>
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<tr>
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<td>4</td>
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</table>

Note: The selection of Specialist Units must not exceed two units from the same pathway.

<table>
<thead>
<tr>
<th>Pearson BTEC Level 4 Higher National Certificate in Animal Management (Animal Behaviour and Welfare)</th>
<th>Unit credit</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Unit 1 Animal Health and Welfare</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Core Unit 2 Business and the Business Environment</td>
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<td>4</td>
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<tr>
<td>Core Unit 3 Managing a Successful Project (Pearson-set)</td>
<td>15</td>
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</tr>
<tr>
<td>Specialist Unit 4 *Animal Behaviour in Society</td>
<td>15</td>
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<tr>
<td>Specialist Unit 5 *Animal Husbandry</td>
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<td>4</td>
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<tr>
<td>Specialist Unit 6 *Animal Anatomy and Physiology</td>
<td>15</td>
<td>4</td>
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<tr>
<td>Optional unit Plus one Optional Level 4 unit (see below) or a Specialist Unit from another pathway</td>
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<tr>
<td>Optional unit Plus one Optional Level 4 unit (see below) or a Specialist Unit from another pathway</td>
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<tr>
<td>Pearson BTEC Level 4 Higher National Certificate in Animal Management (Animal Science)</td>
<td>Unit credit</td>
<td>Level</td>
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<tr>
<td><strong>Level 4 Units:</strong></td>
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<tr>
<td>Core Unit 1 Animal Health and Welfare</td>
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<td>4</td>
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<td>Core Unit 2 Business and the Business Environment</td>
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<tr>
<td>Core Unit 3 Managing a Successful Project (Pearson-set)</td>
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<tr>
<td>Specialist Unit 6 *Animal Anatomy and Physiology</td>
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<tr>
<td>Specialist Unit 7 *Animal Nutrition</td>
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<td>Specialist Unit 8 *Ecological Principles</td>
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<tr>
<th>Pearson BTEC Level 4 Higher National Certificate in Animal Management (Veterinary Practice Management)</th>
<th>Unit credit</th>
<th>Level</th>
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</thead>
<tbody>
<tr>
<td><strong>Core Unit 1 Animal Health and Welfare</strong></td>
<td>15</td>
<td>4</td>
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<tr>
<td>Core Unit 2 Business and the Business Environment</td>
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<tr>
<td>Core Unit 3 Managing a Successful Project (Pearson-set)</td>
<td>15</td>
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<tr>
<td>Specialist Unit 9 *Veterinary Practice Management</td>
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<td>Specialist Unit 10 *Animal Nursing</td>
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<td>Specialist Unit 11 *Clinic Design and Processes</td>
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<tr>
<td>Pearson BTEC Level 4 Higher National Certificate in Animal Management (Equine Management)</td>
<td>Unit credit</td>
<td>Level</td>
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<tr>
<td>Core Unit</td>
<td>1 Animal Health and Welfare</td>
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<tr>
<td>Core Unit</td>
<td>2 Business and the Business Environment</td>
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<tr>
<td>Core Unit</td>
<td>3 Managing a Successful Project (Pearson-set)</td>
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<tr>
<td>Specialist Unit</td>
<td>12 *Horse Husbandry</td>
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<tr>
<td>Specialist Unit</td>
<td>13 *Management of Equine Facilities</td>
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<tr>
<td>Specialist Unit</td>
<td>6 *Animal Anatomy and Physiology</td>
<td>15</td>
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<tr>
<td>Optional unit</td>
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*Specialist units also available as an Optional unit

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<tr>
<th>Optional unit bank</th>
<th>Unit credit</th>
<th>Level</th>
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<tbody>
<tr>
<td>Optional Level 4 units:</td>
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<tr>
<td>Optional unit</td>
<td>4 *Animal Behaviour in Society</td>
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<tr>
<td>Optional unit</td>
<td>5 *Animal Husbandry</td>
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<td>Optional unit</td>
<td>6 *Animal Anatomy and Physiology</td>
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<td>Optional unit</td>
<td>7 *Animal Nutrition</td>
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<tr>
<td>Optional unit</td>
<td>8 *Ecological Principles</td>
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<tr>
<td>Optional unit</td>
<td>9 *Veterinary Practice Management</td>
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<td>Optional unit</td>
<td>10 *Animal Nursing</td>
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<tr>
<td>Optional unit</td>
<td>12 *Horse Husbandry</td>
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<tr>
<td>Optional unit</td>
<td>13 *Management of Equine Facilities</td>
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<tr>
<td>Optional unit</td>
<td>14 Management of Exotic Animal Species</td>
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<td>16 Human Resource Management</td>
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<td>17 Marketing Essentials</td>
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<tr>
<td>Optional unit</td>
<td>18 Equitation (Riding)</td>
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<tr>
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<td></td>
<td>19 Horse and Human Relationship</td>
<td>15</td>
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<td>20 Equestrian Performance</td>
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<td>21 Management Accounting</td>
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<td></td>
<td>22 Teaching in a Specialist Subject</td>
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</table>
Pearson BTEC Level 5 Higher National Diploma in Animal Management

The Level 5 Higher National Diploma consists of the appropriate Level 4 Higher National Certificate (above) plus an additional 120 credits at Level 5 delivered via the following pathways:

- Animal Management (General)
- Animal Behaviour and Welfare
- Animal Science
- Veterinary Practice Management
- Equine Management

Students will typically progress within the pathways. Where a Centre may allow students to change pathways, from Level 4 to Level 5, they must undertake a suitable mapping of recognition of prior learning (RPL) in support of any potential review by an External Examiner.

Qualification credit value: a minimum of 240 credits, of which 120 credits are at Level 5, and 120 credits are at Level 4 and usually attained via the HNC.

There is a required mix of core, specialist and optional units totalling 240 credits. The Core units required for each Level 5 specialist pathway (in addition to the specialist units) are Biological Principles, which is weighted at 15 credits, and Research Project (Pearson-set), weighted at 30 credits.

The requirements of the Higher National Certificate (or equivalent) have to be met. In some cases a maximum of 60 credits can be imported from another RQF Pearson BTEC Higher National qualification and/or from units designed by the Centre and approved by Pearson. Core units and specialist units may not be substituted.
<table>
<thead>
<tr>
<th>Pearson BTEC Level 5 Higher National Diploma in Animal Management (General)</th>
<th>Unit credit</th>
<th>Level</th>
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<tbody>
<tr>
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<td>10 Animal Nursing</td>
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<td>Core Unit</td>
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<td>Specialist Unit</td>
<td>29 *Advanced Patient Care</td>
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<td>Specialist Unit</td>
<td>30 *Advanced Management Accounting</td>
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Note: The selection of Specialist Units must not exceed two units from the same pathway
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<th>Pearson BTEC Level 5 Higher National Diploma in Animal Management (Equine Management)</th>
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<td>Core Unit</td>
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<td>13 *Management of Equine Facilities</td>
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<td>Specialist Unit</td>
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Note: The selection of Specialist Units must not exceed two units from the same pathway.
*Specialist unit also available as an Optional unit

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<td>30 *Advanced Management Accounting</td>
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**Meeting local needs and centre devised units**

Centres should note that the qualifications set out in these specifications have been developed in consultation with Centres, employers and relevant professional organisations.

The units are designed to meet the skill needs of the sector and the specialist units allow coverage of the full range of employment within the sector. Centres should make maximum use of the choice available to them within the specialist pathways to meet the needs of their students, as well as the local skills and training needs.

Where Centres identify a specific need that cannot be addressed using the units in this specification, Centres can seek approval from Pearson to use units from other BTEC Higher National qualifications on the RQF (refer to the website or your Pearson regional contact for application details). Centres will need to justify the need for importing units from other BTEC Higher National RQF specifications.

**Meeting local need applications must be made in advance of delivery by 31 January in the year of registration.**
The flexibility to import standard units from other BTEC Higher National RQF specifications is **limited to a maximum of 30 credits in a BTEC HNC qualification and a maximum of 60 credits in any BTEC HND qualification.** This is an overall maximum and Centres should check the ‘Rules of Combination’ information for the specific qualification to confirm the actual requirements. These units cannot be used at the expense of the mandatory units in any qualification nor can the qualification’s rules of combination be compromised. The Centre must ensure that approved units are used only in eligible combinations.

Alternatively, Centres can seek approval to use Centre devised units up to the advised maximum amounts for an HNC or an HND in the rules of combination to meet a specific need. The Centre must provide a clear rationale on the progression benefits to students of taking the unit(s) that they are seeking approval for. Pearson will review the application and confirm or deny the request. The Centre devised units can be authored by the Centre, subject to Pearson’s scrutiny and approval process. Alternatively the Centre may seek design and development of these units by Pearson. Applications for approval of Centre devised unit(s) must be made one year **in advance** of the first year of Centre devised unit(s) delivery. The Centre must not deliver and assess Centre devised units until they have been approved by Pearson.

For the **Pearson BTEC Higher National Certificate and Diploma in Animal Management**, the maximum number of credits that can be imported by pathway are as follows:

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<th>Pathway</th>
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<td>Animal Science</td>
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<td></td>
<td>Veterinary Practice Management</td>
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<td></td>
<td>Equine Management</td>
<td>30</td>
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</table>
### Qualification | Pathway | Import at Level 4 | Import at Level 5
--- | --- | --- | ---
HND Animal Management | Animal Management (General) | 30 | 30
| Animal Behaviour and Welfare | 30 | 30
| Animal Science | 30 | 30
| Veterinary Practice Management | 30 | 30
| Equine Management | 30 | 30

### 4.3 Pearson-set Assignments

At both Level 4 and Level 5, as part of the core units, there are Pearson-set assignments. Each year, Pearson will issue a **Theme** and (for Level 4) a set of related **Topics**. Centres will develop an assignment, to be internally assessed, to engage students in work related to the Pearson-set Theme.

At Level 4, students will select a Topic to further define their approach to the Theme and assignment. At Level 5, it is expected that students will define their own Topic, in negotiation with Tutors, based on the Pearson-set Theme.

For example, from the Higher Nationals in Business:

**Theme:** “Corporate Social Responsibility (CSR) and its importance for sustainability and competitive advantage”

**Level 4 Topics:**
- How to start up a socially responsible company
- The impact of CSR on a functional area (e.g. HR, Marketing, Finance) within an organisation to promote profitability and financial sustainability.
- Implementing CSR activities within organisations to meet sustainability objectives.

Centres can find relevant support in the Pearson-set Assignment Guide for the units, and the theme and topic release documentation which will be provided for each level.

The aim of the Pearson-set assignments is to provide a common framework for centres to develop work that will allow cross-sector benchmarking, through the standardisation of student work, and identification and sharing of ‘best practice.’ in higher education teaching and learning. Pearson will share the ‘best practice’ results with all centres. For further information about Pearson-set Assignments and assessment, see section **6.0 Assessment** of this document.
4.4 Optional Units

The Optional units available in the Higher Nationals in Animal Management are intended to provide Centres with a range of units that may be applicable to any pathway. These units have been written to provide scope for a Centre to tailor their course offer to include areas of additional content that provide a unique student experience.

As an example, at Level 4, a standard approach to Animal Behaviour and Welfare might see the following units offered:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1 Animal Health and Welfare</td>
<td>Core</td>
<td>15</td>
</tr>
<tr>
<td>Unit 2 Business and the Business Environment</td>
<td>Core</td>
<td>15</td>
</tr>
<tr>
<td>Unit 3 Managing a Successful Project (Pearson-set)</td>
<td>Core</td>
<td>15</td>
</tr>
<tr>
<td>Unit 4 Animal Behaviour in Society</td>
<td>Specialist</td>
<td>15</td>
</tr>
<tr>
<td>Unit 5 Animal Husbandry</td>
<td>Specialist</td>
<td>15</td>
</tr>
<tr>
<td>Unit 6 Animal Anatomy and Physiology</td>
<td>Specialist</td>
<td>15</td>
</tr>
<tr>
<td>Unit 14 Management of Exotic Animal Species</td>
<td>Optional</td>
<td>15</td>
</tr>
<tr>
<td>Unit 15 Animal Collection Management</td>
<td>Optional</td>
<td>15</td>
</tr>
</tbody>
</table>

However, a Centre may choose to develop a more 'specialised' programme; with greater emphasis on Equine Management and offer:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1 Animal Health and Welfare</td>
<td>Core</td>
<td>15</td>
</tr>
<tr>
<td>Unit 2 Business and the Business Environment</td>
<td>Core</td>
<td>15</td>
</tr>
<tr>
<td>Unit 3 Managing a Successful Project (Pearson-set)</td>
<td>Core</td>
<td>15</td>
</tr>
<tr>
<td>Unit 12 Horse Husbandry</td>
<td>Specialist</td>
<td>15</td>
</tr>
<tr>
<td>Unit 13 Management of Equine Facilities</td>
<td>Specialist</td>
<td>15</td>
</tr>
<tr>
<td>Unit 6 Animal Anatomy and Physiology</td>
<td>Specialist</td>
<td>15</td>
</tr>
<tr>
<td>Unit 18 Equitation (Riding)</td>
<td>Optional</td>
<td>15</td>
</tr>
<tr>
<td>Unit 20 Equestrian Performance</td>
<td>Optional</td>
<td>15</td>
</tr>
</tbody>
</table>

In each example, students would have the key skills for Animal Management (through practice-based units at Level 4 and Level 5), but will have a unique experience based on the combination of Optional units offered by the Centre.

In addition to the designated Optional units, a Centre may also choose to include one of the Specialist units from another pathway; thereby, further expanding the scope of units that may be combined to form the qualification.
4.5 **Recommended Level 4 and Level 5 Unit Combinations**

To ensure that students studying at Level 5 are enabled to engage with the learning and teaching provided within Optional Units, we recommend that careful consideration be given to the units offered at Level 4 and how these prepare the student for Level 5 Optional Units.

The following table provides guidance as to recommended Level 4 unit(s) that should be offered, in order that students are prepared for the corresponding Level 5 unit(s).

<table>
<thead>
<tr>
<th>Combination of Level 4 Units</th>
<th>Level 5 Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 4 Animal Behaviour in Society</td>
<td>Unit 26 Evolution and Adaptations</td>
</tr>
<tr>
<td>Unit 5 Animal Husbandry</td>
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<tr>
<td>Unit 6 Animal Anatomy and Physiology</td>
<td>Unit 23 Biological Principles</td>
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<td>Unit 27 Biochemistry and Medical Microbiology</td>
</tr>
<tr>
<td>Unit 10 Animal Nursing</td>
<td>Unit 29 Advanced Patient Care</td>
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<tr>
<td>Unit 9 Veterinary Practice Management</td>
<td>Unit 30 Advanced Management Accounting</td>
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<td>Unit 21 Management Accounting</td>
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<tr>
<td>Unit 8 Ecological Principles</td>
<td>Unit 35 Wildlife Conservation</td>
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<td>Unit 40 Sustainable Practices</td>
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<tr>
<td>Unit 12 Horse Husbandry</td>
<td>Unit 31 Equine Health and Disease</td>
</tr>
<tr>
<td>Unit 13 Management of Equine Facilities</td>
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</tr>
<tr>
<td>Unit 18 Equitation (Riding)</td>
<td>Unit 37 Equitation II (Riding)</td>
</tr>
</tbody>
</table>
4.6 Unit descriptor example

This is how we refer to the individual units of study that make up a Higher National qualification. Students will study and complete the units included in the programme offered at your centre.

The unit title tells your students what the unit is about - in this case “Individual Project”. At Level 4 they can expect to achieve a complete grounding in the subject and the knowledge and skills required to continue their studies in the subject at Level 5.

<table>
<thead>
<tr>
<th>Unit 1: Individual Project</th>
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</thead>
<tbody>
<tr>
<td>Unit code</td>
</tr>
<tr>
<td>Unit type</td>
</tr>
<tr>
<td>Unit level</td>
</tr>
<tr>
<td>Credit value</td>
</tr>
</tbody>
</table>

There are three unit types: Core units (which students have to complete to achieve either at the Level 4 Certificate or Level 5 Diploma; Specialist units (which students have to complete when studying one of the specialist pathways) and Optional units which can be chosen.

Some notes on the unit, giving your students an idea of what they can expect to study, and why the unit is likely to be of interest to them.

There are usually four Learning Outcomes for each unit. The Learning Outcomes are what students are able to do by the time they complete the unit.

Introduction

The activity to define, plan and undertake a project is a critical set of skills to underpin many of the processes that inform construction projects. The aim of this unit is to support students in using and applying these skills they have developed through other areas of their studies to present an individual project. In addition, the unit will provide students with study skills that will support them in further study.

Students will be able to identify, define, plan, develop and execute a project by working through a clear process. They will develop a project outline for a problem that requires a solution, as well as a project specific requirements of the which the final outcome must meet. They will undertake a feasibility study and consider a range of options using critical analysis and evaluation techniques to test, select and discus their preferred solution. Students will provide a work and time management keeping a diary of all activities, reflecting on their process and their learning throughout the project.

Learning Outcomes

At the end of this unit students will be able to:
1. Formulate a project that will provide a solution to an identified problem.
2. Manage a project within agreed timescales and specification; documenting the process throughout.
3. Evaluate potential project management solutions.
4. Produce a project report and deliver a presentation of the final project outcomes.

All Higher National Certificate Units are at Level 4. All Higher National Diploma units are at Level 5.

The credit value is related to the Total Qualification Time (TQT) and Unit Learning Hours (ULH). It is easy to calculate. 1 credit equals 10 ULH. So, 15 credits equals 150 ULH. To complete a Higher National Certificate or Diploma students are expected to achieve the appropriate number of credits.
When assignments are graded the tutor will refer to this table, which connects the unit's Learning Outcomes with the student's work. This assignment may be graded at 'Pass', 'Merit' or 'Distinction' level, depending on the quality of the student's work.

### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LO1</strong> Formulate a project that will provide a solution to an identified problem</td>
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<td></td>
</tr>
</tbody>
</table>
| **P1** Select an appropriate construction-based project, giving reasons for your choice.  
  **P2** Identify the main components of a project specification. |
| **M1** Explain why the project specification is of fundamental importance to a successful project outcome. |
| **LO1 & 2**  
  **D1** Evaluate the relationship between project identification, feasibility and project planning, with consideration of the impact of project scope on time and resources. |
| **LO2** Manage a project within agreed timescales and specification, documenting the process throughout |
| **P3** Identify potential resources, costs and timescales.  
  **P4** Describe a range of appropriate techniques for generating realistic potential solutions. |
| **M2** Prepare and update a project management plan, using standard systems of time and resource tracking. |
| **LO3 & 4**  
  **D2** Appraise your own performance in managing the project; draw conclusions and make recommendations that would further improve your performance in the future. |
| **LO3** Evaluate potential project management solutions |
| **P5** Explore project management strategies to determine suitability for a given project.  
  **P6** Justify the selection of your preferred solution, making reference to your initial project specification. |
| **M3** Compare the outcomes of your initial planned resources, timescales and costs against actual outcomes. |
| **LO4** Produce a project report and deliver a presentation of the final project outcomes |
| **P7** Produce a written report identifying each stage of the project.  
  **P8** Utilise appropriate forms of referencing and citation in the preparation of a written report.  
  **P9** Prepare a presentation of your final project outcomes, utilising industry standard software. |
| **M4** Present your final project outcomes and recommendations to a selected audience. |
Recommended Resources

Textbooks

Links
This unit links to the following related units:
Unit 1: Independent Project
Unit 5: Legal & Statutory Responsibilities in Construction
Unit 6: Construction Information (Drawing, Detailing, Specification)
Website based resources - referencing:

Some units have Website links as part of their recommended resources lists. Hyperlinking to these resources directly can be problematic as locations and addresses of resources can change over time. To combat this we have referenced Website based resources as follows:

1. A link to the main page of the website
2. The title of the site
3. The name of the section or element of the website where the resource can be found
4. The type of resource it is. This could be one of the following –
   - Research
   - General Reference
   - Tutorials
   - Training
   - E-Books
   - Report
   - Wiki
   - Article
   - Datasets
   - Development Tool
   - Discussion Forum

Some examples from Computing units have been shown below:

Websites
5 Teaching and learning

The aim of this section is to provide guidance to Centres so that they can engage students in a dynamic, interactive and reflective learning experience. This experience should effectively prepare students to successfully engage in the assessments, which will measure depth, as well as breadth, of knowledge. Teaching should stimulate academic engagement, develop challenging yet constructive discourse and encourage students to reflect on their own performance in preparation for a professional career. Additionally, Centres are encouraged to expose students to autonomous and independent learning, which will facilitate the development of their academic skills, experiences and techniques required as they progress from one level of study to the next.

Centres are encouraged to develop programmes that have a distinctive focus on entry into work, delivering a curriculum that embeds employability, has a strong commitment to ethics and diversity, and introduces students to contemporary as well as seminal research. All teaching and learning should reflect the expectations of employers and society, and be informed and guided by external benchmarks such as professional and statutory bodies. In so doing students completing a Higher National in Animal Management will have the attributes, skills, principles and behaviours that will enable them to make a valuable contribution to local, national and international commerce.

The contributions students make to their own experiences, alongside the experience of their peers, is invaluable. Student engagement and the student voice should form a significant aspect of a student's life. Centres are encouraged to gather student opinions on a range of teaching and learning matters, which would be used to inform and enhance future practice within a programme of study and within a Centre.

5.1 Delivering quality and depth

A high quality teaching and learning experience should include qualified and experienced lecturers, an interactive and engaging curriculum, motivated and inspired students, and a support system that caters for the pastoral as well as academic interests of students.

In addition to delivering a quality learning experience, Centres must also encourage students to have a deeper understanding of the subject where they are able to go beyond the fundamentals of explaining and describing. Students are expected to show they can analyse data and information, make sense of this and then reach evaluative judgements. At the higher levels of study there is an expectation that students will be able to apply a degree of criticality to their synthesis of knowledge. This criticality would come from exposure to appropriate and relevant theories, concepts and models.

One of the reasons for delivering a quality learning experience, which has depth as well as breadth, is the benchmarking of the qualification to the Framework for Higher Education Qualifications (FHEQ). It also meets requirements set by the Regulated Qualifications Framework (RQF). The first stage of a Higher National in Animal Management is the Higher National Certificate (HNC), which is aligned with Level 4 of both frameworks; with the Higher National Diploma (HND) aligned with Level 5. This means that the HNC has the same level of demand and expectations as the first year of a degree programme, with the HND having the same level of demand and expectations as the second year of a degree programme.
Centres are expected to provide a broadly similar experience for students to that which they would have if they attended a similar programme at a university. This could mean:

- Providing access to library facilities which has, as a minimum, available copies (physically and/or electronically) of all required reading material
- Access to research papers and journals
- Utilising a virtual learning environment (VLE) to support teaching
- Working with local employers (see below) to present real-life case studies
- Creating Schemes of Work that embrace a range of teaching and learning techniques
- Listening to the student voice.

Irrespective of the type of programme on which a student is enrolled, it is highly advisable that students are inducted onto their Higher National programme. This induction should include an introduction to the course programme and academic study skills that will be essential in supporting their research and studies, and, therefore, enhance the learning experience.

An induction programme should consist of the following:

- Course programme overview
- Preparing for lessons
- Effective engagement in lectures and seminars
- Making the most out of their tutor
- Assignment requirements
- Referencing and plagiarism
- Centre policies
- Academic study skills.

Pearson offer Higher National Global Study Skills to all students – an online toolkit that supports the delivery, assessment and Quality Assurance of BTECs in Centres. This is available on the HN Global website www.highernationals.com. HN Global provides a wealth of support to ensure that tutors and students have the best possible experience during their course.

In addition, there is a wide range of free-to-access websites that can be used to support students in developing their learning and academic study skills.

5.2 Engaging with employers

Just as the student voice is important, so too is the employer’s. Employers play a significant role in the design and development of all regulated qualifications, including the Higher Nationals in Animal Management. This input should extend into the learning experience, where engagement with employers will add value to students, particularly in transferring theory into practice.
Centres should consider a range of employer engagement activities. These could include:

- Field trips to local Zoos or Equestrian Centres
- Inviting members of the local RSPCA centre to present guest lectures
- Using employers to judge the quality of assessed presentations and/or products
- (For the more entrepreneurial) establishing a panel of experts who students can pitch an idea to.

While detailed guidance on assessment has been provided in this specification (see section 6), it is worth considering the involvement of employers when determining assessment strategies and the use of different assessment vehicles. This enables Centres to design assessments that are more closely related to what students would be doing in the workplace. Employers are able to comment on relevance and content, as well as the challenge presented by an assessment. Notwithstanding this, ultimately it is the Centre’s responsibility to judge the extent to which any employer contributes to teaching and learning.

5.3 Engaging with students

Students are integral to teaching and learning. As such it is important that they are involved as much as possible with most aspects of the programme on to which they are enrolled. This input could include taking into account their views on how teaching and learning will take place, their role in helping to design a curriculum, or on the assessment strategy that will test their knowledge and understanding.

There are many ways in which to capture the student voice and student feedback, both formal and informal. Formal mechanisms include the nomination of student representatives to act as the collective student voice for each student cohort, student representation at course team meetings, and an elected Higher Education representative as part of the Student Union. Student forums should also take place periodically throughout the year with minutes and action plans updated and informing the overall annual course monitoring process. Unit specific feedback can also be collated by students completing unit feedback forms, end of year course evaluations, and scheduled performance review meetings with their tutor.

However, this should not be the only time when feedback from students is sought. Discourse with students should be constant, whereby tutors adopt a ‘reflection on action’ approach to adjust teaching, so that students are presented with an environment that is most supportive of their learning styles. Just as employers could have an input into assessment design, so too could students. This will support the development of assignments that are exciting and dynamic, and fully engage students in meaningful and informative assessment.

The biggest advantage of consulting students on their teaching, learning and assessment is securing their engagement in their own learning. Students are likely to feel empowered and develop a sense of ownership of all matters related to teaching, learning and assessment, not just their own experiences. Students could also view themselves as more accountable to their lecturers, ideally seeing themselves as partners in their own learning and not just part of a process.
5.4 Planning and structuring a programme

Learning should be challenging yet exciting; teaching should be motivating and inspirational. Consequently, both teaching and learning should form part of a programme structure that is active, flexible and progressive, and has an industry focus wherever possible.

It is important for a programme structure to be effectively planned, taking into account the nature of the student cohort, the primary mode of delivery (face-to-face or distance learning) and the level of study. It is also advisable to consider the student voice (whether that voice is heard through end of programme feedback, or through on-going dialogue) when planning how and when students will be exposed to a particular subject. One other vital source of information that centres would do well to embrace is the feedback from tutors who have been and/or will be delivering learning.

It is recommended that centres establish a programme planning forum where various stakeholders are represented. This forum could consider different perspectives of teaching and learning and how these are planned into an effective programme structure. Consideration could be given to, for example, the holistic and consistent use of Virtual Learning Environments (VLEs), a programme of field trips, a strategy for engaging with employers, and how and when to assess learning.

Consideration should be given to a number of factors when planning a programme structure. These include:

- The sequencing of units
- Whether to have condensed or expanded delivery
- Teaching and learning techniques.

5.4.1 Sequencing units

The level of demand embedded within a unit is benchmarked to recognised standards. This applies to all units within a level of study, and this means that all Level 4 units have similar demands, as do all Level 5 units. However, this does not mean that units can, or should, be delivered in any order. For example, in the Higher National Diploma in Animal Management it is strongly advised that Level 4 units are delivered, and achieved, by students before progression to Level 5. However, students are able to progress to Level 5 with a minimum of 90 credits at Level 4.

Within each level it is advisable to sequence units so that those providing fundamental knowledge and understanding are scheduled early in the programme. It may also be advisable to schedule the assessment of units requiring the practice and application of more advanced skills later in the programme.

For example, at Level 4, Unit 1 Animal Health and Welfare and Unit 3 Business and the Business Environment could be the first two units that Higher National Certificate students are exposed to. The former introduces students to the fundamentals of the sector, how it is structured and the internal and external factors that influence strategy and operations. The latter provides students with an opportunity to gain an understanding of how organisations operate and how they are managed and led. At Level 5 Centres could sequence, for example, Unit 23 Biological Principles before Unit 33 Animal Breeding and Genetics. The former provides a broader understanding of the biological workings of animals, with the latter using part of this knowledge to develop a deeper understanding of animal breeding and heredity and variations in animals.
5.4.2 Condensed and expanded delivery

The next consideration is whether to deliver a unit in a condensed format alongside other units, or to deliver units over an extended period. The following tables provide examples of this, based on four units being delivered in one teaching block.

Condensed version:

<table>
<thead>
<tr>
<th>Weeks 1 to 6</th>
<th>Week 7</th>
<th>Weeks 8 to 13</th>
<th>Week 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>Assessment</td>
<td>Unit 3</td>
<td>Assessment</td>
</tr>
<tr>
<td>Unit 2</td>
<td></td>
<td>Unit 4</td>
<td></td>
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</tbody>
</table>

Expanded version:

<table>
<thead>
<tr>
<th>Weeks 1 to 12</th>
<th>Weeks 13 and 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>Assessment</td>
</tr>
<tr>
<td>Unit 2</td>
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<td>Unit 3</td>
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<td>Unit 4</td>
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</table>

Mixed version:

<table>
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<tr>
<th>Week 1</th>
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<th>Week 3</th>
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<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
<th>Week 8</th>
<th>Week 9</th>
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The decision to deliver a condensed, expanded or mixed programme would depend on a number of factors, including availability of resources, the subjects to be taught and the requirements of students. Each version has advantages: the condensed version would provide an opportunity for students to gain early success and achievement. This will enhance their self-efficacy, the sense of one’s belief in one’s ability to succeed, and self-confidence, with tutors being able to identify and respond to less able students early in the teaching and learning cycle. The advantages of the expanded version include providing a longer timescale for students to absorb new knowledge and therefore, potentially, improve success, and giving tutors an opportunity to coach and support less able students over a longer period of time. The mixed version, with some units spanning over the entire period and others lasting for shorter periods, provides opportunities for learning in some units to support development in others. This format may be particularly suited to a combination of practical and theoretical units. In all cases, the choice of which type of unit sequence must consider student opportunities as well as staff and physical resources of the Centre.

As there are pros and cons to both approaches, the use of a planning forum would help to ensure the most suitable approach is taken. For example, Centres could choose to deliver the first teaching block using the expanded version, with the subsequent teaching block being delivered through a condensed approach.

It should be noted that the above consideration would apply equally to programmes that are being delivered face-to-face or through distance learning.
5.4.3 Drawing on a wide range of delivery techniques

As part of planning the range of techniques that will be used to deliver the syllabus, centres should also consider an appropriate combination of techniques for the subject.

The table below lists some of the techniques that centres could introduce into a planned programme structure.

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<td>Lectures and seminars</td>
<td>These are the most common techniques used by tutors. They offer an opportunity to engage with a large number of students, where the focus is on sharing knowledge through the use of presentations.</td>
<td>Delivery would be through video conferencing and/or pre-recorded audio and/or visual material, available through an online platform. Synchronous discussion forums could also be used.</td>
</tr>
<tr>
<td>Workshops</td>
<td>These are used to build on knowledge shared via tutors and seminars. Teaching can be more in-depth where knowledge is applied, for example to case studies or real-life examples. Workshops could be student-led, where students present, for example, findings from independent study.</td>
<td>While more challenging to organise than for face-to-face delivery, workshops should not be dismissed. Smaller groups of three or four students could access a forum simultaneously and engage in the same type of activity as for face-to-face.</td>
</tr>
<tr>
<td>Tutorials</td>
<td>These present an opportunity for focused one-to-one support, where teaching is led by an individual student’s requirements. These can be most effective in the run up to assessment, where tutors can provide more focused direction, perhaps based on a formative assessment.</td>
<td>Other than not necessarily being in the same room as a student, tutors could still provide effective tutorials. Video conferencing tools provide the means to see a student, which makes any conversation more personal.</td>
</tr>
<tr>
<td>Virtual Learning Environments (VLEs)</td>
<td>These are invaluable to students studying on a face-to-face programme. Used effectively, VLEs not only provide a repository for taught material such as presentation slides or handouts, but could be used to set formative tasks such as quizzes. Further reading could also be located on a VLE, along with a copy of the programme documents, such as the handbook and assessment timetable.</td>
<td>A VLE is a must if students are engaged with online delivery through distance or blended learning, as this would be the primary or the key source of learning. Where distance learning is primarily delivered through hard copies of workbooks, etc., the same principle would apply as for face-to-face learning.</td>
</tr>
<tr>
<td>Technique</td>
<td>Face-to-face</td>
<td>Distance learning</td>
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<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Blended learning</td>
<td>The combination of traditional face-to-face learning and online learning. This can enable the students to gain personalised support, instruction and guidance while completing assigned activities and tasks remotely.</td>
<td>Offline learning enables students to develop autonomy and self-discipline by completing set activities and tasks with limited direction and traditional classroom-based constraints.</td>
</tr>
<tr>
<td>Work-based learning</td>
<td>Any opportunity to integrate work-based learning into a curriculum should be taken. This adds realism and provides students with an opportunity to link theory to practice in a way in which case studies do not. Many full-time students are involved in some form of employment, either paid or voluntary, which could be used, where appropriate, as part of their learning, for example when assignments require students to contextualise a response to a real organisation.</td>
<td>It is likely that the majority of distance learning students would be employed and possibly classed as mature students. Bringing theory to life through a curriculum, which requires work-based application of knowledge, would make learning for these students more relevant and meaningful. Perhaps more importantly, assessment should be grounded in a student's place of work, wherever possible.</td>
</tr>
<tr>
<td>Guest speakers</td>
<td>These could be experts from industry or visiting academics in the subject area that is being studied. They could be used to present a lecture/seminar, a workshop or to contribute to assessment. The objective is to make the most effective use of an expert's knowledge and skill by adding value to the teaching and learning experience.</td>
<td>As long as the expert has access to the same platform as the students then the value-added contribution would still be very high. Consideration would need to be given to timings and logistics, but with some innovative management this technique would still have a place in distance learning programmes.</td>
</tr>
<tr>
<td>Field trips</td>
<td>Effectively planned field trips, which have a direct relevance to the syllabus, would add value to the learning experience. Through these trips students could relate theory to practice, have an opportunity to experience organisations in action, and potentially open their minds to career routes.</td>
<td>The use of field trips could be included as part of a distance learning programme. They will add the same value and require the same planning. One additional benefit of field trips for distance learning is that they provide an opportunity for all students in a cohort to meet, which is a rare occurrence for distance learning students.</td>
</tr>
</tbody>
</table>
5.4.4 Assessment considerations

Centres should design assessment for learning. This is where an assessment strategy requires students to engage with a variety of assessment tools that are accessible, appropriately challenging, and support the development of student self-efficacy and self-confidence. To ensure that assignments are valid and reliable, Centres must implement robust Quality Assurance measures and monitor the effectiveness of their implementation (see section 7 of this Programme Specification). This includes ensuring that all students engage in assessment positively and honestly.

Assessment also provides a learning opportunity for all stakeholders of the assessment to have access to feedback that is both individual to each student and holistic to the cohort. Feedback to students should be supportive and constructive. Student self-efficacy (and therefore self-confidence) can be significantly enhanced where feedback not only focuses on areas for improvement but recognises the strengths a student has. At the cohort level, similar trends could be identified that inform future approaches to assessments and teaching. Assessment is an integral part of the overall learning process and assessment strategy must be developed to support effective, reflective, thinking practitioners for the future. Assessment can be either formative, summative or both.

5.4.5 Formative assessment

Formative assessment is primarily developmental in nature and designed to give feedback to students on their performance and progress. Assessment designed formatively should develop and consolidate knowledge, understanding, skills and competencies. It is a key part of the learning process and can enhance learning and contribute to raising standards.

Through formative assessment tutors can identify students’ differing learning needs early on in the programme and so make timely corrective interventions. Tutors can also reflect on the results of formative assessment to measure how effective the planned teaching and learning is at delivering the syllabus. Each student should receive one set of written formative feedback, otherwise some students may feel that others are being given more than their share of verbal feedback.

5.4.6 Summative assessment

Summative assessment is where students are provided with the assignment grades contributing towards the overall unit grade. For summative assessment to be effective it should also give students additional formative feedback to support ongoing development and improvement in subsequent assignments. All formative assessment feeds directly into the summative assessment for each unit and lays the foundations from which students develop the necessary knowledge and skills required for the summative assessment.
5.4.7 Assessment feedback

Effective assessment feedback is part of continuous guided learning which promotes learning and enables improvement. It also allows students to reflect on their performance and helps them understand how to make effective use of feedback. Constructive and useful feedback should enable students to understand the strengths and limitations of their performance, providing positive comments where possible as well as explicit comments on how improvements can be made. Feedback should reflect the learning outcomes and marking criteria to also help students understand how these inform the process of judging the overall grade.

The timing of the provision of feedback and of the returned assessed work also contributes to making feedback effective. Specific turnaround time for feedback should be agreed and communicated with both tutors and students. Timing should allow students the opportunity to reflect on the feedback and consider how to make use of it in forthcoming assessments, taking into account the tutor’s workload and ability to provide effective feedback.

5.4.8 Designing valid and reliable assessments

To help ensure valid and reliable assignments are designed and are consistent across all units, centres could consider a number of actions.

Use of language

The first aspect of an assignment that a centre could focus on is ensuring that language makes tasks/questions more accessible to students.

Due consideration must be given to the command verbs (i.e. the verbs used in unit assessment criteria) when considering the learning outcomes of a unit. Assignments must use appropriate command verbs that equate to the demand of the learning outcome. If the outcome requires ‘analysis’ then ‘evaluative’ requirements within the assignment must not be set when testing that outcome. This would be viewed as over-assessing. Similarly, it is possible to under-assess where analytical demands are tested using, for example, explanatory command verbs.

The following can be used as a guide to support assignment design:

- Ensure there is a holistic understanding (by tutors and students) and use of command verbs.
- Set assignment briefs that use a single command verb, focusing on the highest level of demand expected for the learning outcome(s) that is (are) being tested.
- Assignments should be supported by additional guidance that helps students to interpret the demand of the assessment criteria.
- Time-constrained assessments should utilise the full range of command verbs (or acceptable equivalents) appropriate to the academic level. Modes of time-constrained assessments include in-class tests and exams that could be both open- or closed-book. Centres should pay close consideration to ensuring tests and exams are not replicated during the course of the year.
Consistency

This relates to the consistency of presentation and structure, the consistent use of appropriate assessment language, and the consistent application of grading criteria. Where assignments are consistent, reliability is enhanced. Where validity is present in assignments this will result in assignments that are fit for purpose and provide a fair and equitable opportunity for all students to engage with the assignment requirements.

Employing a range of assessment tools

Just as variation in teaching methods used is important to the planning of a programme structure, so too is the use of a range of assessment tools appropriate to the unit and its content. Centres should consider taking a holistic view of assessment, ensuring a balanced assessment approach with consideration given to the subject being tested and what is in the best interests of students. As mentioned above, consultation with employers could add a sense of realism to an assessment strategy. (A comprehensive list of assessment tools is provided in section 6.2 Setting effective assignments).

No matter what tool is used, assignments should have a sector focus (whether this is in a workplace context or through a case study), and be explicitly clear in its instructions. In the absence of a case study a scenario should be used to provide some context. Finally, students should be clear on the purpose of the assignment and which elements of the unit it is targeting.
6 Assessment

BTEC Higher Nationals in Animal Management are assessed using a combination of internally assessed centre-devised internal assignments (which are set and marked by centres) and internally assessed Pearson-set assignments (which are set by Pearson and marked by centres). Pearson-set assignments are mandatory and target particular industry-specific skills. The number and value of these units are dependent on qualification size:

- For the HNC, one core, 15 credit, unit at Level 4 will be assessed by a mandatory Pearson-set assignment targeted at particular skills;
- For the HND, two core units: one core, 15 credit, unit at Level 4 and one core, 30 credit, unit at Level 5, will be assessed by a mandatory Pearson-set assignment targeted at particular skills;
- all other units are assessed by centre-devised internal assignments.

The purpose and rationale of having Pearson-set units on Higher Nationals is as follows:

**Standardisation of student work** – Assessing the quality of student work, that it is meeting the level and the requirements of the unit across all centres, that grade decisions and assessor feedback are justified, and that internal verification and moderation processes are picking up any discrepancies and issues. The Pearson-set units will be included in the annual sampling of units by the External Examiner.

**Sharing of good practice** – We will share good practice in relation to themes such as innovative approaches to delivery, the use of digital literacy, enhancement of student employability skills and employer engagement. These themes will align to those for QAA Higher Education Reviews.

An appointed External Examiner (EE) for the centre will ask to sample the Pearson-set assignment briefs in advance of the external examination visit. The focus will be on both standardisation of student assessed work and sharing of good practice with all EE feedback collated and presented in one External Examiner report for each of the units at the end of the year. This will support centres in developing effective assessment strategies, building on good practice and learning from one another.

We have taken great care to ensure that the assessment method chosen is appropriate to the content of the unit and in line with requirements from professional bodies, employers and higher education.

In developing an overall plan for delivery and assessment for the programme, you will need to consider the order in which you deliver units, whether delivery will take place over short or long periods of time, and when assessment can take place.

**Example Assessment Briefs**

Each unit has supporting Example Assessment Briefs that are available to download from the course materials section on our website (http://qualifications.pearson.com/). The Example Assessment Briefs are there to give you an example of what the assessment will look like in terms of the feel and level of demand of the assessment.

The Example Assessment Briefs, with the exception of the mandatory Pearson-set unit, provide tutors with suggested types of assignment and structure that can be adopted and, if so, must be adapted accordingly.
6.1 Principles of internal assessment

This section gives an overview of the key features of internal assessment and how you, as an approved centre, can offer it effectively. The full requirements and operational information are given in the Pearson Quality Assurance Handbook available in the support section of our website (http://qualifications.pearson.com/). All the assessment team will need to refer to this document.

For BTEC Higher Nationals it is important that you can meet the expectations of stakeholders and the needs of students by providing a programme that is practical and applied. Centres can tailor programmes to meet local needs and should use links with local employers and the wider business sector.

When internal assessment is operated effectively it is challenging, engaging, practical and up to date. It must also be fair to all students and meet national standards.

Assessment through assignments

For internally assessed units the format of assessment is an assignment taken after the content of the unit, or part of the unit if several assignments are used, has been fully delivered. An assignment may take a variety of forms, including practical and written types. An assignment is a distinct activity completed independently by students (either alone or in a team). An assignment is separate from teaching, practice, exploration and other activities that students complete with direction from and, formative assessment by, tutors.

An assignment is issued to students as an assignment brief with a hand-out date, a completion date and clear requirements for the evidence that students are expected to provide. There may be specific observed practical components during the assignment period. Assignments can be divided into separate parts and may require several forms of evidence. A valid assignment will enable a clear and formal assessment outcome based on the assessment criteria.

Assessment decisions through applying unit-based criteria

Assessment decisions for BTEC Higher Nationals are based on the specific criteria given in each unit and set at each grade level. The criteria for each unit have been defined according to a framework to ensure that standards are consistent in the qualification and across the suite as a whole. The way in which individual units are written provides a balance of assessment of understanding, practical skills and vocational attributes appropriate to the purpose of the qualifications.

The assessment criteria for a unit are hierarchical and holistic. For example, if an M criterion requires the student to show ‘analysis’ and the related P criterion requires the student to ‘explain’, then to satisfy the M criterion a student will need to cover both ‘explain’ and ‘analyse’. The unit assessment grid shows the relationships among the criteria so that assessors can apply all the criteria to the student’s evidence at the same time. In Appendix 3 we have set out a definition of terms that assessors need to understand.
Assessors must show how they have reached their decisions using the criteria in the assessment records. When a student has completed all the assessment for a unit then the assessment team will give a grade for the unit. This is given simply according to the highest level for which the student is judged to have met all the criteria. Therefore:

- **To achieve a Pass**, a student must have satisfied all the Pass criteria for the learning outcomes, showing coverage of the unit content and therefore attainment at Level 4 or 5 of the national framework.

- **To achieve a Merit**, a student must have satisfied all the Merit criteria (and therefore the Pass criteria) through high performance in each learning outcome.

- **To achieve a Distinction**, a student must have satisfied all the Distinction criteria (and therefore the Pass and Merit criteria), and these define outstanding performance across the unit as a whole.

The award of a Pass is a defined level of performance and cannot be given solely on the basis of a student completing assignments. Students who do not satisfy the Pass criteria should be reported as Unclassified.

**The assessment team**

It is important that there is an effective team for internal assessment. There are three key roles involved in implementing assessment processes in your centre, each with different interrelated responsibilities, and these roles are listed below. Full information is given in the Pearson Quality Assurance Handbook available in the support section of our website (http://qualifications.pearson.com/).

- **The Programme Leader** has overall responsibility for the programme, its assessment and internal verification to meet our requirements, record keeping and liaison with the External Examiner. The Programme Leader registers with Pearson annually and acts as an assessor, supports the rest of the assessment team, makes sure they have the information they need about our assessment requirements, and organises training, making use of our guidance and support materials.

- **Internal Verifiers** (IVs) oversee all assessment activity in consultation with the Programme Leader. They check that assignments and assessment decisions are valid and that they meet our requirements. IVs will be standardised by working with the Programme Leader. Normally, IVs are also assessors, but they do not verify their own assessments.

- **Assessors** set or use assignments to assess students to national standards. Before taking any assessment decisions, assessors participate in standardisation activities led by the Programme Leader. They work with the Programme Leader and IVs to ensure that the assessment is planned and carried out in line with our requirements.

- Your **External Examiner** (EE) will sample student work across assessors. Your EE will also want to see evidence of informal verification of assignments and assess decisions.
Effective organisation

Internal assessment needs to be well organised so that student progress can be tracked and so that we can monitor that assessment is being carried out in line with national standards. We support you in this through, for example, providing training materials and sample documentation. Our online HN Global service can also help support you in planning and record keeping.

It is particularly important that you manage the overall assignment programme and deadlines to make sure that all your students are able to complete assignments on time.

Student preparation

To ensure that you provide effective assessment for your students, you need to make sure that they understand their responsibilities for assessment and the centre’s arrangements. From induction onwards you will want to ensure that students are motivated to work consistently and independently to achieve the requirements of the qualifications. They need to understand how assignments are used, the importance of meeting assignment deadlines, and that all the work submitted for assessment must be their own.

You will need to give your students a guide that explains:

- How assignments are used for assessment
- How assignments relate to the teaching programme
- How students should use and reference source materials, including what would constitute plagiarism.

The guide should also set out your centre’s approach to operating assessments, such as how students must submit assignments/work and the consequences of submitting late work and the procedure for requesting extensions for mitigating circumstances.

6.2 Setting effective assessments

Setting the number and structure of assessments

In setting your assessments you need to work with the structure of assessments shown in the relevant section of a unit. This shows the learning aims and outcomes and the criteria that you are expected to follow.

Pearson provide online Example Assessment Briefs (EABs) for each unit to support you in developing and designing your own assessments.

In designing your own Assignment Briefs you should bear in mind the following points:

- The number of assignments for a unit must not exceed the number of Learning Outcomes listed in the unit descriptor. However, you may choose to combine assignments, either to cover a number of Learning Outcomes or to create a single assignment for the entire unit.

- You may also choose to combine all or parts of different units into single assignments, provided that all units and all their associated Learning Outcomes are fully addressed in the programme overall. If you choose to take this approach you need to make sure that students are fully prepared, so that they can provide all the required evidence for assessment, and that you are able to track achievement in assessment records.
• A Learning Outcome must always be assessed as a whole and must not be split into two or more elements.

• The assignment must be targeted to the Learning Outcomes but the Learning Outcomes and their associated criteria are not tasks in themselves. Criteria are expressed in terms of the outcome shown in the evidence.

You do not have to follow the order of the Learning Outcomes of a unit in setting assignments, but later Learning Outcomes often require students to apply the content of earlier Learning Outcomes, and they may require students to draw their learning together.

Assignments must be structured to allow students to demonstrate the full range of achievement at all grade levels. Students need to be treated fairly by being given the opportunity to achieve a higher grade, if they have the ability.

As assignments provide a final assessment, they will draw on the specified range of teaching content for the Learning Outcomes. The specified unit content must be taught/delivered. The evidence for assessment need not cover every aspect of the teaching content, as students will normally be given particular examples, case studies or contexts in their assignments. For example, if a student is carrying out one practical performance, or an investigation of one organisation, then they will address all the relevant range of content that applies in that instance.

Providing an Assignment Brief

A good Assignment Brief is one that, through providing challenging and authentic sector/work-related tasks, motivates students to provide appropriate evidence of what they have learnt.

An Assignment Brief should have:

• A vocational scenario: this could be a simple situation or a full, detailed set of vocational requirements that motivates the student to apply their learning through the assignment.

• Clear instructions to the student about what they are required to do, normally set out through a series of tasks.

• An audience or purpose for which the evidence is being provided.

• An explanation of how the assignment relates to the unit(s) being assessed.

Forms of evidence

BTEC Higher Nationals have always allowed for a variety of forms of assessment evidence to be used, provided they are suited to the type of Learning Outcomes being assessed. For many units, the practical demonstration of skills is necessary and, for others, students will need to carry out their own research and analysis, working independently or as part of a team.

The Example Assessment Briefs give you information on what would be suitable forms of evidence to give students the opportunity to apply a range of employability or transferable skills. Centres may choose to use different suitable forms of evidence to those proposed. Overall, students should be assessed using varied forms of evidence.
These are some of the main types of assessment:

- Written reports, essays
- In-class tests
- Examinations
- Creation of financial documents
- Creation of planning documents
- Work-based projects
- Academic posters, displays, leaflets
- PowerPoint (or similar) presentations
- Recordings of interviews/role plays
- Working logbooks, reflective journals
- Presentations with Assessor questioning
- Time-constrained assessment.

(Full definitions of different types of assessment are given in Appendix 4.)

The form(s) of evidence selected must:

- Allow the student to provide all the evidence required for the Learning Outcomes and the associated assessment criteria at all grade levels.
- Allow the student to produce evidence that is their own independent work.
- Allow a verifier to independently reassess the student to check the Assessor’s decisions.

For example, when you are using performance evidence, you need to think about how supporting evidence can be captured through recordings, photographs or task sheets.

Centres need to take particular care that students are enabled to produce independent work. For example, if students are asked to use real examples, then best practice would be to encourage them to use examples of their own or to give the group a number of examples that can be used in varied combinations.

### 6.3 Making valid assessment decisions

#### Authenticity of student work

An assessor must assess only student work that is authentic, i.e. the student’s own independent work. Students must authenticate the evidence that they provide for assessment through signing a declaration stating that it is their own work. A student declaration must state that:

- Evidence submitted for the assignment is the student’s own
- The student understands that false declaration is a form of malpractice.

Assessors must ensure that evidence is authentic to a student through setting valid assignments and supervising them during the assessment period. Assessors must also take care not to provide direct input, instructions or specific feedback that may compromise authenticity.
Centres may use Pearson templates or their own templates to document authentication.

During assessment an assessor may suspect that some or all of the evidence from a student is not authentic. The assessor must then take appropriate action using the centre’s policies for malpractice. (See section 3.7 in this Programme Specification for further information.)

**Making assessment decisions using criteria**
Assessors make judgements using the criteria. The evidence from a student can be judged using all the relevant criteria at the same time. The assessor needs to make a judgement against each criterion that evidence is present and sufficiently comprehensive. For example, the inclusion of a concluding section may be insufficient to satisfy a criterion requiring ‘evaluation’.

Assessors should use the following information and support in reaching assessment decisions:
- The explanation of key terms in Appendix 3 of this document
- Examples of moderated assessed work
- Your Programme Leader and assessment team’s collective experience.

**Dealing with late completion of assignments**
Students must have a clear understanding of the centre’s policy on completing assignments by the deadlines that you give them. Students may be given authorised extensions for legitimate reasons, such as illness, at the time of submission, in line with your centre policies (see also Section 3.6 “Administrative arrangements for internal assessment”).

For assessment to be fair, it is important that students are all assessed in the same way and that some students are not advantaged by having additional time or the opportunity to learn from others. Centres should develop and publish their own regulations on late submission; and, this should make clear the relationship between late submission and the centre’s mitigating circumstances policy.

Centres may apply a penalty to assignments that are submitted beyond the published deadline. However, if a late submission is accepted, then the assignment should be assessed normally, when it is submitted, using the relevant assessment criteria; with any penalty or cap applied after the assessment. Where the result of assessment may be capped, due to late submission of the assignment, the student should be given an indication of their uncapped mark; in order to recognise the learning that has been achieved, and assessment feedback should be provided in relation to the uncapped achievement.

As with all assessment results, both the uncapped and capped marks should be recorded and ratified by an appropriate assessment board; taking into account any mitigating circumstances that may have been submitted.
Issuing assessment decisions and feedback

Once the assessment team has completed the assessment process for an assignment, the outcome is a formal assessment decision. This is recorded formally and reported to students. The information given to the student:

- Must show the formal decision and how it has been reached, indicating how or where criteria have been met.
- May show why attainment against criteria has not been demonstrated.
- Must not provide feedback on how to improve evidence but how to improve in the future.

Resubmission opportunity

An assignment provides the final assessment for the relevant learning outcomes and is normally a final assessment decision. A student who, for the first assessment opportunity, has failed to achieve a Pass for that unit specification shall be expected to undertake a reassessment.

- Only one opportunity for reassessment of the unit will be permitted.
- Reassessment for course work, project- or portfolio-based assessments shall normally involve the reworking of the original task.
- For examinations, reassessment shall involve completion of a new task.
- A student who undertakes a reassessment will have their grade capped at a Pass for that unit.
- A student will not be entitled to be reassessed in any component of assessment for which a Pass grade or higher has already been awarded.

Repeat Units

A student who, for the first assessment opportunity and resubmission opportunity, still failed to achieve a Pass for that unit specification can:

- At Centre discretion and Assessment Board, decisions can be made to permit a repeat of a unit.
- The student must study the unit again with full attendance and payment of the unit fee.
- The overall unit grade for a successfully completed repeat unit is capped at a Pass for that unit.
- Units can only be repeated once.
Assessment Boards

Each centre is expected by Pearson to hold Assessment Boards for all of its BTEC Higher National programmes. The main purpose of an Assessment Board is to make recommendations on:

- The grades achieved by students on the individual units
- Extenuating circumstances
- Cases of cheating and plagiarism
- Progression of students on to the next stage of the programme
- The awards to be made to students
- Referrals and deferrals.

Assessment Boards may also monitor academic standards. The main boards are normally held at the end of the session, although if your centre operates on a semester system there may be (intermediate) boards at the end of the first semester. There may also be separate boards to deal with referrals.

Where a centre does not currently have such a process then the External Examiner (EE) should discuss this with the Quality Nominee and Programme Leader, stressing the requirement for Assessment Boards by both Pearson and QAA and that Assessment Board reports and minutes provide valuable evidence for QAA’s Review of College Higher Education process.

6.4 Planning and record keeping

For internal processes to be effective, an assessment team needs to be well organised and keep effective records. The centre will also work closely with us so that we can quality assure that national standards are being satisfied. This process gives stakeholders confidence in the assessment approach.

The Programme Leader must have an assessment plan, produced as a spreadsheet. When producing a plan the assessment team will wish to consider:

- The time required for training and standardisation of the assessment team.
- The time available to undertake teaching and carrying out of assessment, taking account of when students may complete external assessments and when quality assurance will take place.
- The completion dates for different assignments.
- Who is acting as Internal Verifier (IV) for each assignment and the date by which the assignment needs to be verified.
- Setting an approach to sampling assessor decisions through internal verification that covers all assignments, assessors and a range of students.
- How to manage the assessment and verification of students’ work, so that they can be given formal decisions promptly.
- How resubmission opportunities can be scheduled.
The Programme Leader will also maintain records of assessment undertaken. The key records are:

- Verification of assignment briefs
- Student authentication declarations
- Assessor decisions on assignments, with feedback given to students
- Verification of assessment decisions.

Examples of records and further information are available in the Pearson Quality Assurance Handbook available in the support section of our website (http://qualifications.pearson.com).

### 6.5 Calculation of the final qualification grade

#### Conditions for the Award

#### Conditions for the Award of the HND

To achieve a Pearson BTEC Higher National Diploma qualification a student must have:

- completed units equivalent to 120 credits at Level 5;
- achieved at least a Pass in 105 credits at Level 5;
- completed units equivalent to 120 credits at Level 4;
- achieved at least a Pass in 105 credits at Level 4.

#### Conditions for the award of the HNC

To achieve a Pearson BTEC Higher National Certificate qualification a student must have:

- completed units equivalent to 120 credits at Level 4;
- achieved at least a Pass in 105 credits at Level 4.

#### Compensation Provisions

#### Compensation Provisions for the HND

Students can still be awarded an HND if they have attempted but not achieved a minimum of a Pass in one of the 15 credit units completed at Level 4 and similarly if they have attempted but not achieved a Pass in one of the 15 credit units at Level 5. However they must complete and pass the remaining units for an HNC or HND as per the unit rules of combination of the required qualification.

#### Compensation Provisions HNC

Students can still be awarded an HNC if they have not achieved a Pass in one of the 15 credit units completed, but they have completed and passed the remaining units.
Calculation of the overall qualification grade

The calculation of the overall qualification grade is based on the student’s performance in all units. Students are awarded a Pass, Merit or Distinction qualification grade using the points gained through all 120 credits, at Level 4 for the HNC or Level 5 for the HND, based on unit achievement. The overall qualification grade is calculated in the same way for the HNC and for the HND.

All units in valid combination must be attempted for each qualification. The conditions of award and the compensation provisions will apply as outlined above.

All 120 credits count in calculating the grade (at each level, as applicable).

The overall qualification grade for the HND will be calculated based on student performance in Level 5 units only.

Units that have been attempted but not achieved, and subsequently granted compensation, will appear as ‘Unclassified’; i.e. a ‘U’ grade, on the student’s Notification of Performance, that is issued with the student certificate.

Points per credit:
Pass: 4
Merit: 6
Distinction: 8

Point boundaries

<table>
<thead>
<tr>
<th>Grade</th>
<th>Point boundaries</th>
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<tbody>
<tr>
<td>Pass</td>
<td>420 – 599</td>
</tr>
<tr>
<td>Merit</td>
<td>600 – 839</td>
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<td>Distinction</td>
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## Modelled Student Outcomes

### Level 4 Higher National Certificate

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<th></th>
<th>STUDENT 1</th>
<th>STUDENT 2</th>
<th>STUDENT 3</th>
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<td>Unit points</td>
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## Level 5 Higher National Diploma

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7 Quality assurance

Pearson’s quality assurance system for all Pearson BTEC Higher National programmes is benchmarked to Level 4 and Level 5 on the Quality Assurance Agency (QAA) Framework for Higher Education Qualifications (FHEQ). This will ensure that centres have effective quality assurance processes to review programme delivery. It will also ensure that the outcomes of assessment are to national standards.

The quality assurance process for centres offering Pearson BTEC Higher National programmes comprise five key components:

1. The approval process
2. Monitoring of internal centre systems
3. Independent assessment review
4. Annual programme monitoring report
5. Annual student survey

7.1 The approval process

Centres new to the delivery of Pearson programmes will be required to seek approval initially through the existing centre approval process and then through the programme approval process. Programme approval for new centres can be considered in one of two ways:

- Desk-based approval review
- Review and approval visit to the centre.

Prior to approval being given, centres will be required to submit evidence to demonstrate that they:

- Have the human and physical resources required for effective delivery and assessment.
- Understand the implications for independent assessment and agree to abide by these.
- Have a robust internal assessment system supported by ‘fit for purpose’ assessment documentation.
- Have a system to internally verify assessment decisions, to ensure standardised assessment decisions are made across all assessors and sites.

Applications for approval must be supported by the head of the centre (Principal or Chief Executive, etc.) and include a declaration that the centre will operate the programmes strictly, as approved and in line with Pearson requirements.

Centres seeking to renew their programme approval upon expiry of their current approval period may be eligible for the Automatic Approval process, subject to the centre meeting the eligibility criteria set out by Pearson.

Regardless of the type of centre, Pearson reserves the right to withdraw either qualification or centre approval when it deems there is an irreversible breakdown in the centre’s ability either to quality assure its programme delivery or its assessment standards.
7.2 Monitoring of internal centre systems

Centres will be required to demonstrate on-going fulfilment of the centre approval criteria over time and across all Higher National programmes. The process that assures this is external examination, which is undertaken by External Examiners. Centres will be given the opportunity to present evidence of the on-going suitability and deployment of their systems to carry out the required functions. This includes the consistent application of policies affecting student registrations, appeals, effective internal examination and standardisation processes. Where appropriate, centres may present evidence of their operation within a recognised code of practice, such as that of the Quality Assurance Agency for Higher Education. Pearson reserves the right to confirm independently that these arrangements are operating to Pearson’s standards.

Pearson will affirm, or not, the on-going effectiveness of such systems. Where system failures are identified, sanctions (appropriate to the nature of the problem) will be applied, in order to assist the centre in correcting the problem.

7.3 Independent assessment review

The internal assessment outcomes reached for all Pearson BTEC Higher National programmes benchmarked to Level 4 and Level 5 of the Quality Assurance Agency (QAA) Framework for Higher Education Qualifications (FHEQ), are subject to a visit from a Pearson appointed External Examiner. The outcomes of this process will be:

- To confirm that internal assessment is to national standards and allow certification, or
- To make recommendations to improve the quality of assessment outcomes before certification is released, or
- To make recommendations about the centre’s ability to continue to be approved for the Pearson BTEC Higher National qualifications in question.

7.4 Annual Programme Monitoring Report (APMR)

The APMR is a written annual review form that provides opportunity for centres to analyse and reflect on the most recent teaching year. By working in collaboration with centres, the information can be used by Pearson to further enhance the quality assurance of the Pearson BTEC Higher National programmes.

7.5 Annual student survey

Pearson will conduct an annual survey of Pearson BTEC Higher National students. The purpose of the survey is to enable Pearson to evaluate the student experience as part of the quality assurance process, by engaging with students studying on these programmes.
7.6 Centre and qualification approval

As part of the approval process, your centre must make sure that the resource requirements listed below are in place before offering the qualification.

Centres must have appropriate physical resources (for example equipment, IT, learning materials, teaching rooms) to support the delivery and assessment of the qualifications.

- Staff involved in the assessment process must have relevant expertise and/or occupational experience.
- There must be systems in place to ensure continuing professional development for staff delivering the qualification.
- Centres must have in place appropriate health and safety policies relating to the use of equipment by staff and students.
- Centres must deliver the qualification in accordance with current equality legislation.
- Centres should refer to the individual unit descriptors to check for any specific resources required.
- The result, we believe, are qualifications that will meet the needs and expectations of students worldwide.

7.7 Continuing quality assurance and standards verification

We produce annually the latest version of the Pearson Quality Assurance Handbook available in the support section of our website (http://qualifications.pearson.com). It contains detailed guidance on the quality processes required to underpin robust assessment and internal verification.

The key principles of quality assurance are that:

- A centre delivering Pearson BTEC Higher National programmes must be an approved centre, and must have approval for the programmes or groups of programmes that it is delivering.
- The centre agrees, as part of gaining approval, to abide by specific terms and conditions around the effective delivery and quality assurance of assessment; it must abide by these conditions throughout the period of delivery.
- Pearson makes available to approved centres a range of materials and opportunities through the assessment checking service. This is intended to exemplify the processes required for effective assessment and provide examples of effective standards. Approved centres must use the materials and services to ensure that all staff delivering BTEC qualifications keep up to date with the guidance on assessment.
- An approved centre must follow agreed protocols for standardisation of assessors and verifiers, for the planning, monitoring and recording of assessment processes, and for dealing with special circumstances, appeals and malpractice.
The approach of quality-assured assessment is through a partnership between an approved centre and Pearson. We will make sure that each centre follows best practice and employs appropriate technology to support quality-assurance processes where practicable. We work to support centres and seek to make sure that our quality-assurance processes do not place undue bureaucratic processes on centres. We monitor and support centres in the effective operation of assessment and quality assurance.

The methods we use to do this for BTEC Higher Nationals include:

- Making sure that all centres complete appropriate declarations at the time of approval
- Undertaking approval visits to centres
- Making sure that centres have effective teams of assessors and verifiers who are trained to undertake assessment
- Assessment sampling and verification through requested samples of assessments, completed assessed student work and associated documentation
- An overarching review and assessment of a centre’s strategy for assessing and quality-assuring its BTEC programmes.

An approved centre must make certification claims only when authorised by us and strictly in accordance with requirements for reporting. Centres that do not fully address and maintain rigorous approaches to quality assurance cannot seek certification for individual programmes or for all BTEC Higher National qualifications.

Centres that do not comply with remedial action plans may have their approval to deliver qualifications removed.
8 Recognition of Prior Learning and attainment

Recognition of Prior Learning (RPL) is a method of assessment (leading to the award of credit) that considers whether students can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess, and so do not need to develop through a course of learning.

Pearson encourages centres to recognise students’ previous achievements and experiences whether at work, home or at leisure, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning. RPL enables recognition of achievement from a range of activities using any valid assessment methodology. Provided that the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units or a whole qualification. Evidence of learning must be valid and reliable.

For full guidance on RPL please refer to the Recognition of Prior Learning policy document available in the support section of our website (https://qualifications.pearson.com).
9 Equality and diversity

Equality and fairness are central to our work. The design of these qualifications embeds consideration of equality and diversity as set out in the qualification regulators’ General Conditions of Recognition. Promoting equality and diversity involves treating everyone with equal dignity and worth, while also raising aspirations and supporting achievement for people with diverse requirements, entitlements and backgrounds. An inclusive environment for learning anticipates the varied requirements of students, and aims to ensure that all students have equal access to educational opportunities. Equality of opportunity involves enabling access for people who have differing individual requirements as well as eliminating arbitrary and unnecessary barriers to learning. In addition, students with and without disabilities are offered learning opportunities that are equally accessible to them, by means of inclusive qualification design.

Pearson’s equality policy requires all students to have equal opportunity to access our qualifications and assessments. It also requires our qualifications to be designed and awarded in a way that is fair to every student. We are committed to making sure that:

- Students with a protected characteristic (as defined in legislation) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to students who do not share that characteristic.
- All students achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.
- Pearson’s policy regarding access to its qualifications is that:
  - They should be available to everyone who is capable of reaching the required standards
  - They should be free from any barriers that restrict access and progression
  - There should be equal opportunities for all those wishing to access the qualifications.

Centres are required to recruit students to Higher National qualifications with integrity. This will include ensuring that applicants have appropriate information and advice about the qualifications, and that the qualification will meet their needs. Centres will need to review the entry profile of qualifications and/or experience held by applicants, considering whether this profile shows an ability to progress to a higher level qualification. Centres should take appropriate steps to assess each applicant’s potential and make a professional judgement about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the student within the centre during their programme of study and any specific support that might be necessary to allow the student to access the assessment for the qualification. Centres should consult our policy documents on students with particular requirements.
Access to qualifications for students with disabilities or specific needs

Students taking a qualification may be assessed in a recognised regional sign language, where it is permitted for the purpose of reasonable adjustments. Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational Qualifications. Details on how to make adjustments for students with protected characteristics are given in the document *Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*. See the support section of our website for both documents (http://qualifications.pearson.com/).
10 Higher Nationals Animal Management Units
Unit 1: Animal Health and Welfare

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Introduction

The animal industry is made up of wide and varied businesses, including pet shops and veterinary surgeries caring for pets such as dogs, cats and rabbits, stables and farms housing horses and livestock, and zoos and wildlife parks caring for a range of wild and exotic animals. Knowledge of how to maintain animal health and how to maximise the welfare of animals across a range of different environments is a fundamental skill which underpins a successful career in the animal, equine and veterinary sectors.

Students will learn how to recognise signs of health and disease across a range of animal species, as well as how to manage animals to promote good health and prevent disease. Key diseases and parasites will be reviewed and interpretation of health in wild animals and animals housed in collections will be undertaken. Legislation which governs animal health will also be outlined.

In addition, students will learn how to measure and influence animal welfare for companion animals, livestock, horses, wildlife and animals in zoological collections, including how to conduct an animal welfare assessment. Positive and negative welfare states will be defined and the use of enrichment to enhance welfare will be discussed in detail.
Learning Outcomes

By the end of this unit a student will be able to:

1. Define causal pathogens and factors that can influence animal health and disease
2. Discuss the concepts of animal health and disease, and methods of disease prevention
3. Assess physiological, behavioural and physical measures of animal welfare
4. Evaluate changes to animal management systems to enhance animal welfare.
Essential Content

LO1  Define causal pathogens and factors that can influence animal health and disease

A review of a range of causal pathogens and diagnosis and control measures:
Viruses, bacteria, fungi and protozoa
Endo- and ectoparasites.

Differences between infectious, contagious and zoonotic diseases

Methods of disease transmission:
Direct transmission
Indirect transmission
Role of vectors.

Factors that influence health and disease:
Environment
Housing types
Management regimes
Social interaction
Stocking density
Immunity
Vaccination.

LO2  Discuss the concepts of animal health and disease, and methods of disease prevention

Control measures for common diseases:
Viruses, bacteria, fungi and protozoa
Endo- and ectoparasites
Vaccination
Notifiable diseases.

Prevention of the spread of disease:
Monitoring health
Management
Isolation/quarantine
Euthanasia.
LO3  **Assess physiological, behavioural and physical measures of animal welfare**

*Definition of eustress, stress and distress*

*Physiological measures of welfare assessment:*
Role of the autonomic nervous system
Heart rate
Respiratory rate
Catecholamines
Hypothalamic-pituitary axis: glucocorticoid levels.

*Behavioural measures of welfare assessment:*
Changes in behaviour
Fear behaviour
Eating and drinking behaviour
Social interaction
Abnormal behaviour
Stereotypical behaviour
Preference testing.

*Physical measures of welfare assessment:*
Body condition score/weight
Productivity measures
Immune function
Disease prevalence
Mortality rates.

LO4  **Evaluate changes to animal management systems to enhance animal welfare.**

*Key reasons for assessing animal welfare:*
Ethics
Legislation
Productivity
Human-animal interaction.
Factors which can affect animal welfare:
Environment
Housing types
Management regimes
Enrichment
Social interaction
Stocking density.

Welfare assessment in a range of environments:
Companion animals/pets in home environment
Exhibited animals in animal collection and/or zoo environment
Farm animals
Laboratory animals
Wild animals.
## Learning Outcomes and Assessment Criteria

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<td><strong>LO1</strong> Define causal pathogens and factors that can influence animal health and disease</td>
<td><strong>P1</strong> Describe causal pathogens and discuss the difference between infectious and contagious diseases</td>
<td><strong>D1</strong> Evaluate environmental factors which can influence the risk of disease outbreaks in animals</td>
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<td><strong>P2</strong> Identify an infectious and contagious disease for a named animal species</td>
<td><strong>M1</strong> Discuss the impact of a named disease on animal health</td>
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<td><strong>LO2</strong> Discuss the concepts of animal health and disease, and methods of disease prevention</td>
<td><strong>P3</strong> Describe signs of health across three animal species</td>
<td><strong>D2</strong> Produce a management plan to prevent disease for a named animal species</td>
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<td><strong>P4</strong> Outline common signs of disease in animals</td>
<td><strong>M2</strong> Review three methods of disease prevention in animals</td>
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<td><strong>LO3</strong> Assess physiological, behavioural and physical measures of animal welfare</td>
<td><strong>M3</strong> Analyse the impact of external factors on animal welfare assessment</td>
<td><strong>D3</strong> Evaluate the importance of assessing animal welfare</td>
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<td><strong>P5</strong> Define physiological, behavioural and physical measures which can be used to assess animal welfare</td>
<td><strong>P6</strong> Describe how physiological, behavioural and physical measures are used within animal welfare assessment</td>
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<td><strong>LO4</strong> Evaluate changes to animal management systems to enhance animal welfare</td>
<td><strong>P7</strong> Conduct an animal welfare assessment</td>
<td><strong>D4</strong> Determine what effect the proposed changes will have on animal welfare</td>
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<td><strong>P8</strong> Produce a management plan to enhance animal welfare for a named animal/named animals</td>
<td><strong>M4</strong> Justify the improvements suggested within the animal management plan</td>
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Recommended Resources

**Textbooks**


**Web**

www.defra.gov.uk Department for Food and Rural Affairs (General reference)

www.oie.int World Organisation for Animal Health (General reference)

www.ufaw.org.uk Universities Federation for Animal Welfare (General reference)

**Links**

This unit links to the following related units:

*Unit 5: Animal Husbandry*

*Unit 10: Animal Nursing*

*Unit 12: Horse Husbandry*

*Unit 13: Management of Equine Facilities*

*Unit 15: Animal Collection Management*
## Unit 2: Business and the Business Environment

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**Introduction**

The aim of this unit is to provide students with background knowledge and understanding of land-based business, the functions of an organisation and the wider business environments in which organisations operate. Students will examine the different types of land-based organisations (including for-profit and not-for-profit), their size and scope (for instance, micro, SME, transnational and global) and how they operate.

Students will explore the relationships that land-based organisations have with their various stakeholders and how the wider external environments influence and shape business decision-making.

The knowledge, understanding and skill sets gained in this unit will help students to choose their own preferred areas of specialism in future studies and in their professional career.
Learning Outcomes

By the end of this unit a student will be able to:

1. Explain the different types, size and scope of land-based organisations
2. Demonstrate the interrelationship of the various functions within a land-based organisation and how they link to organisational structure
3. Use contemporary examples to demonstrate both the positive and negative influence/impact the macro environment has on land-based business operations
4. Determine the internal strengths and weaknesses of specific land-based businesses and explain their interrelationship with external macro factors.
Essential Content

LO1 Explain the different types, size and scope of land-based organisations

Different types of organisations:
Differences between for-profit and not-for-profit and non-government organisations (NGOs)
Micro, small and medium-sized enterprises (SMEs): different business purposes, objectives and supply of goods and services
The range of legal structures associated with different forms of business: sole traders, partnerships and private limited companies.

Size and scope of organisations:
Differences between large, medium-sized and small organisations e.g. objectives and goals, market share, profit share, growth and sustainability
Global growth and developments of transnational, international and global organisations
Differences between franchising, joint ventures and licensing
Industrial structures and competitive analysis
Market forces and economic operations e.g. scarcity and choice, supply and demand, income elasticity
Stakeholders and responsibilities of organisations to meet different stakeholder interests and expectations.

LO2 Demonstrate the interrelationship of the various functions within a land-based organisation and how they link to organisational structure

The various functions within an organisation:
The role of marketing, finance, human resource management and operations within an organisational context and the interrelationships
How functions relate to overall organisation mission and objectives.

Organisational structure:
Different structures depending upon the size and scope of the organisation e.g. bureaucratic and post-bureaucratic, parent, strategic business units (SBUs), matrix and functional levels
Organisation structures and complexities of transnational, international and global organisations.
LO3  **Use contemporary examples to demonstrate both the positive and negative influence/impact the macro environment has on land-based business operations**

*The context of the macro environment:*

The application of the PESTLE framework and how organisations need to monitor and forecast external influences

How the macro environment influences/impacts upon business activities: the impact of the digital revolution on production and consumption, the impact of social technologies, cybersecurity, emerging BRICS markets, the global shift in economic and social power and ethical and sustainable growth

How organisations go through the transformation process and overcome resistance to change in response to the changing market environment.

LO4  **Determine the internal strengths and weaknesses of specific land-based businesses and explain their interrelationship with external macro factors.**

*Frameworks for analysis:*

Introduction to SWOT and/or TOWS analysis and how they can assist in the decision-making process within organisations

Key external macro factors e.g. the competitive environment and government intervention that influences organisations and business.
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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| **LO1** Explain the different types, size and scope of land-based organisations | **M1** Analyse how the structure, size and scope of different land-based organisations link to the business objectives and products and services offered by the organisation | **LO1 LO2**
| **P1** Explain different types and purposes of land-based organisations, public, private and voluntary sectors and legal structures | **D1** Provide a critical analysis of the complexities of different types of business structures and the interrelationships of the different organisational functions |
| **P2** Explain the size and scope of a range of different types of land-based organisations | **LO1 LO2**
| **LO2** Demonstrate the interrelationship of the various functions within a land-based organisation and how they link to organisational structure | **M2** Analyse the advantages and disadvantages of interrelationships between organisational functions and the impact that can have upon organisational structure |
| **P3** Explain the relationship between different organisational functions and how they link to organisational objectives and structure | **LO3 LO4**
| **M3** Appropriately apply the PESTLE model to support a detailed analysis of the macro environment within a land-based organisation | **D2** Critically evaluate the impacts that both macro and micro factors have upon business objectives and decision-making |
| **LO3** Use contemporary examples to demonstrate both the positive and negative influence/impact the macro environment has on land-based business operations | **LO3 LO4**
| **P4** Identify the positive and negative impacts the macro environment has upon business operations, supported by specific examples | **LO3 LO4**

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**Note:** This table outlines the learning outcomes and assessment criteria for the Pearson BTEC Levels 4 and 5 Higher Nationals in Animal Management. Each outcome is categorized into Pass, Merit, and Distinction levels, with specific criteria provided for each level.
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<td>Determine the internal strengths and weaknesses of specific land-based businesses and explain their interrelationship with external macro factors</td>
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<tr>
<td><strong>P5</strong></td>
<td>Conduct internal and external analysis of specific land-based organisations in order to identify strengths and weaknesses</td>
<td><strong>M4</strong> Appropriately apply SWOT/TOWS analysis and justify how they influence decision-making</td>
</tr>
<tr>
<td><strong>P6</strong></td>
<td>Explain how strengths and weaknesses interrelate with external macro factors</td>
<td></td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Links
This unit links to the following related units:
Unit 9: Veterinary Practice Management
Unit 16: Human Resource Management
Unit 17: Marketing Essentials
Unit 21: Management Accounting
Unit 3: Managing a Successful Project (Pearson-set)

<table>
<thead>
<tr>
<th>Unit code</th>
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<tbody>
<tr>
<td>Unit type</td>
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**Introduction**

This unit is assessed by a Pearson-set assignment. The project brief will be set by the Centre, based on a theme provided by Pearson (this will change annually). The theme and chosen project within the theme will enable students to explore and examine a relevant and current topical aspect of business in the context of the land-based business environment.

The aim of this unit is to offer students an opportunity to demonstrate the skills required for managing and implementing a project. They will undertake independent research and investigation for carrying out and executing a business project which meets appropriate business aims and objectives.

On successful completion of this unit, students will have the confidence to engage in decision-making, problem-solving and research activities using project management skills. They will have the fundamental knowledge and skills to enable them to investigate and examine relevant business concepts within a work-related context, determine appropriate outcomes, decisions or solutions and present evidence to various stakeholders in an acceptable and understandable format.

Please refer to the accompanying Pearson-set Assignment Guide and the Theme Release document for further support and guidance on the delivery of the Pearson-set unit.
Learning Outcomes

By the end of this unit a student will be able to:

1. Establish project aims, objectives and timeframes based on the chosen theme.
2. Conduct small-scale research, information gathering and data collection to generate knowledge to support the project.
3. Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis.
4. Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance.
Essential Content

LO1  Establish project aims, objectives and timeframes based on the chosen theme

*Project management:*
What is project management and what does it involve?
The key stages of project management
The advantages of using project management and why it is important.

*Initiation of the project and project planning phase:*
Scoping a project: defining objectives, scope, purpose and deliverables to be produced
Steps and documentation required in the initiation phase
Developing the project plan e.g. planning for timescales and time management, cost, quality, change, risk and issues
The work breakdown structure
Use of Bar and Gantt Charts for effective planning.

LO2  Conduct small-scale research, information gathering and data collection to generate knowledge to support the project

*Project execution phase:*
Selecting appropriate methods of information gathering, data collection and material resourcing
The distinct phases which support a coherent and logical argument
Use of secondary research to inform a primary empirical study
Qualitative and quantitative research methods.

*Field work:*
Selecting a sample of the consumer market, businesses or individuals (those who meet certain characteristics relevant to the research theme) to gather data (qualitative or quantitative)
Sampling approaches and techniques e.g. probability and non-probability sampling.

*Ethics, reliability and validity:*
All research should be conducted ethically: how is this achieved and reported?
Research should also be reliable (similar results achieved from a similar sample) and valid (the research should measure what it aimed to measure).
Analysing information and data:
Using data collection tools e.g. interviews and questionnaires
Using analytical techniques e.g. trend analysis, coding or typologies.

LO3 **Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis**

Communicating outcomes:
Consider the method (e.g. written, verbal) and the medium (e.g. report, online, presentation)
Both method and medium will be influenced by the project research and its intended audience.

Convincing arguments:
All findings/outcomes should be convincing and presented logically where the assumption is that the audience has little or no knowledge of the project process
Developing evaluative conclusions.

Critical and objective analysis and evaluation:
Secondary and primary data should be critiqued and considered with an objective mindset
Objectivity results in more robust evaluations where an analysis justifies a judgement.

LO4 **Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance**

Reflection for learning and practice:
The difference between reflecting on performance and evaluating a project: the former considers the research process, information gathering and data collection, the latter the quality of the research argument and use of evidence.

The cycle of reflection:
Reflection in action and reflection on action
How to use reflection to inform future behaviour, particularly directed towards sustainable performance.

Reflective writing:
Avoiding generalisation and focusing on personal development and the research journey in a critical and objective way.
Generalisation:

Many studies result in generalised findings. Research which has its basis in a specific field e.g. human resource management (HRM) and in a specific context should avoid generalised conclusions.

Outcomes should be specific and actionable.
# Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Establish project aims, objectives and timeframes based on the chosen theme</td>
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<td>LO1 LO2</td>
</tr>
<tr>
<td><strong>P1</strong> Devise project aims and objectives for a chosen scenario</td>
<td>M1 Produce a comprehensive project management plan, milestone schedule and project schedule for monitoring and completing the aims and objectives of the project</td>
<td>D1 Critically evaluate the project management process and appropriate research methodologies applied</td>
</tr>
<tr>
<td><strong>P2</strong> Produce a project management plan that covers aspects of cost, scope, time, quality, communication, risk and resources</td>
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<tr>
<td><strong>P3</strong> Produce a work breakdown structure and a Gantt Chart to provide timeframes and stages for completion</td>
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</tr>
<tr>
<td><strong>LO2</strong> Conduct small-scale research, information gathering and data collection to generate knowledge to support the project</td>
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<tr>
<td><strong>P4</strong> Carry out small-scale research by applying qualitative and quantitative research methods appropriate for meeting project aims and objectives</td>
<td>M2 Evaluate the accuracy and reliability of different research methods applied</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis</td>
<td></td>
<td>LO3 LO4</td>
</tr>
<tr>
<td><strong>P5</strong> Analyse research and data using appropriate tools and techniques</td>
<td>M3 Evaluate the selection of appropriate tools and techniques for accuracy and authenticity to support and justify recommendations</td>
<td>D2 Critically evaluate and reflect on the project outcomes, the decision-making process and changes or developments of the initial project management plan to support justification of recommendations and learning during the project</td>
</tr>
<tr>
<td><strong>P6</strong> Communicate appropriate recommendations as a result of research and data analysis to draw valid and meaningful conclusions</td>
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<tr>
<td><strong>LO4</strong> Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance</td>
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<tr>
<td><strong>P7</strong> Reflect on the value of undertaking the research to meet stated objectives and own learning and performance</td>
<td><strong>M4</strong> Evaluate the value of the project management process and use of quality research to meet stated objectives and support own learning and performance</td>
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</tbody>
</table>

**Additional Evidence Requirements**

In addition to the above assessment criteria, students will also be required to complete a project logbook to record ideas, changes and developments as they progress and complete the project.
Recommended Resources

Textbooks

Links
This unit links to the following related units:
Unit 24: Research Project (Pearson-set)
Unit 4: Animal Behaviour in Society

<table>
<thead>
<tr>
<th>Unit code</th>
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**Introduction**

Animals are utilised in a diverse range of roles in human society and animal management practitioners undertake a similarly diverse range of roles, from managing commercial livestock, to coaching animals for sport performance, and effectively caring for companion animals.

Having an understanding of the behaviour of animals is integral to their effective management. Animals can carry out behaviours which have utility for humans and humans have the ability to modify animals’ behaviours when necessary. Monitoring and reporting animal behaviours is a crucially important method of assessing animal welfare in captivity.

Through studying this unit, students will gain insight into the scientific methodology used to observe and assess animal behaviour. Students will be able to conduct their own observations and reach conclusions about animals’ behaviour, making recommendations for modifying/managing behaviours. The unit will also cover the application of behaviour science to the management of animals in a variety of contexts.

There are many sectors of the animal industry where having skills in interpreting and managing animal behaviour will be important. Upon completion of this unit, students will possess the skills to be effective in a variety of roles including animal training, rehabilitation and welfare assessment. Competently measuring and assessing behaviour will also have value in studying and managing wild animals.
**Learning Outcomes**

By the end of this unit a student will be able to:

1. Explain different fields of study within animal behaviour science
2. Demonstrate ability in conducting animal behaviour observations and assessments
3. Apply principles of animal behaviour to the management of animals
4. Describe the roles and functions of animals in human society in terms of their behaviour.
Essential Content

**LO1** Explain different fields of study within animal behaviour science

*Ethology and the science of animal behaviour:*
- History of human study of animal behaviour
- Key proponents and theorists in behaviour science.

*Cognition:
- Memory*
- Intelligence and consciousness
- Associative learning: classical and operant conditioning
- Non-associative learning: habituation and sensitisation.

*Physiological basis of behaviour:*
- The endocrine system
- The nervous system
- Genetics and instinct
- Senses: stimulus-response.

*Behavioural ecology:*
- Evolutionary basis for behaviour
- Intra/interspecific behaviours in the wild.

**LO2** Demonstrate ability in conducting animal behaviour observations and assessments

*The scientific method:*
- Experimental design
- Hypothesis
- Report writing.

*Construction and implementation of ethograms
- Sampling techniques:*
- Continuous
- Instantaneous
- Ad libitum
- Focal studies
- Group scanning
- Zero-one sampling.
Data analysis:
Statistical and graphical analysis
Qualitative versus quantitative approaches.

Behaviour assessment:

LO3 Apply principles of animal behaviour to the management of animals

Contexts for managing animal behaviour:
Public exhibition
Rehabilitation/rehoming
Training for performance
Management of individuals
Codes of practice
Regulations.

Interactions with animals:
Handling and restraint
Codes of practice
Responding to behaviour
Identifying and modifying abnormal/undesirable behaviour. Behavioural indicators for welfare
Enrichment
Neuropsychopharmacology.

Applications of learning theories:
Conditioning
Reinforcement techniques and schedules
Training regimes.

LO4 Describe the roles and functions of animals in human society in terms of their behaviour.

Comparing wild and domestic behaviours:
Social patterns
Feeding behaviour
Activity patterns
Reproductive behaviour.
Behaviour characteristics of animals in society:
Artificial selection
Development/modification of behaviours
Sociality
Docility and aggression
Hierarchies and social structures.

Historical developments of animal roles:
Commercial production
Working roles
Supportive/therapeutic roles
Welfare implications.

Ethics:
Comparative analysis of animal roles.
# Learning Outcomes and Assessment Criteria

<table>
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<tr>
<th>Learning Outcome (LO)</th>
<th>Pass</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Explain different fields of study within animal behaviour science</td>
<td>P1 Compare different fields within animal behaviour – cognition, learning, physiology, ecology</td>
<td>M1 Analyse animal behaviour patterns using an appropriate range of different scientific approaches</td>
<td>D1 Critically analyse animal behaviour patterns using an appropriate range of different scientific approaches, drawing conclusions on the relevance of fields of study in explaining the behaviour’s origins</td>
</tr>
<tr>
<td><strong>LO2</strong> Demonstrate ability in conducting animal behaviour observations and assessments</td>
<td>P2 Perform behaviour observations, utilising appropriate sampling and recording techniques for data collection</td>
<td>M2 Evaluate the causative factors of observed behaviours</td>
<td>LO2 LO3</td>
</tr>
<tr>
<td><strong>LO3</strong> Apply principles of animal behaviour to the management of animals</td>
<td>P3 Analyse behavioural data, drawing conclusions about animals’ behaviour</td>
<td>M3 Implement a behaviour management plan, evaluating the significance of behaviour changes</td>
<td>D2 Plan and implement an appropriate behaviour modification programme for an animal, evaluating the success of observable changes in the animal’s behaviour patterns</td>
</tr>
<tr>
<td><strong>LO4</strong> Describe the roles and functions of animals in human society in terms of their behaviour</td>
<td>P4 Explain appropriate techniques for changing animals’ behaviour</td>
<td>M4 Evaluate the implication for animals’ welfare in working roles</td>
<td>D3 Critically examine the historical and contemporary human manipulation of animal behaviour</td>
</tr>
<tr>
<td><strong>LO5</strong> Describe the impact of animals’ behavioural characteristics on their roles in society</td>
<td>P5 Produce a behaviour management plan based on relevant theoretical principles</td>
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</table>

**Notes:**
- **Pass** indicates basic competence.
- **Merit** indicates a good level of performance.
- **Distinction** indicates an outstanding level of performance.
Recommended Resources

Textbooks

Web
iaabc.org International Association of Animal Behaviour Consultants
(General reference)
www.oie.int World Organisation for Animal Health
(General reference)
www.omicsonline.org OMICS Publishing
Database of open access scientific journals
(Research)

Essential requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:
Unit 1: Animal Health and Welfare
Unit 15: Animal Collection Management
Unit 25: Anthrozoology
Unit 26: Evolution and Adaptations
Unit 5: Animal Husbandry

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Introduction

The aim of this unit is to provide students with essential underpinning knowledge and practical experience in animal husbandry and management techniques. This is essential for the development of sector-specific and transferable skills.

The unit promotes keeping animals in an environment where the maintenance of mental and physical health, the prevention of ill health and good welfare practice is paramount.

Students will study core concepts of good husbandry practice, Health and Safety, animal management techniques and administration, as well as practical aspects of handling, accommodation, provision of feed, health and welfare, and legislative requirements relevant to animal husbandry. Assessment strategies will include assessed practical investigations, written reports and presentations.

Having completed this unit, students will be equipped with the practical skills and underpinning knowledge which can be applied to their choices of specialism and career progression.
Learning Outcomes

By the end of this unit a student will be able to:

1. Examine Health and Safety practice within animal husbandry
2. Demonstrate animal husbandry practices and health monitoring to industry standard
3. Demonstrate the management of animal accommodation
4. Review methods of record-keeping within animal facilities.
**Essential Content**

**LO1** Examine Health and Safety practice within animal husbandry

*Legislative considerations for Health and Safety within animal husbandry:*
- Health and Safety in the workplace
- Regulations for management and control of hazardous substances
- Reporting of injury, disease or death
- Personal protective equipment
- Manual handling activities.

*Risk assessment:*
- Why carry out risk assessment, HSE
- Methods of risk assessment.

*Factors affecting safe handling:*
- When to, and when not to handle animals
- Animal: species, size, temperament, age, physiological condition
- Handler: experience, confidence, competence
- Enclosure: access, size

**LO2** Demonstrate animal husbandry practices and health monitoring processes to industry standard

*Principles of industry standard animal husbandry practice:*
- Relationship between environment and physiological status
- Five needs.

*Animal handling and restraint:*
- Handling techniques for a range of companion, exotic and large animals, and physiological condition
- Approach methods and techniques
- Capture and restraint techniques for a range of situations
- Selection and correct use of PPE and handling equipment
- Consideration of toxic and venomous species
- Movement of animals in line with legislative guidelines
- Grooming techniques.
Animal health and monitoring:
Signs of good and ill health and interpretation of these
Assessment and reporting of health status
Prophylaxis and treatment of disease
Quarantine and PETS
Barrier nursing and isolation
Euthanasia: reasons for, methods and disposal.

LO3 Demonstrate the management of animal accommodation

Animal accommodation requirements:
Codes of practice for housing (RSPCA)
Species specificity for a range of companion, exotic and large animals: size, materials, ventilation, drainage, temperature, safety and security, substrate/bedding, furnishings, and feeding and watering equipment
Provision of food and water
Enrichment of accommodation
Legislation pertaining to animal accommodation: kennels and catteries, animal boarding establishments, riding establishments, farms.

Preparation and maintenance of accommodation:
Design, preparation and maintenance of a range of accommodation: aquaria, vivaria, aviaries, small mammal cages, kennels, catteries, stables, livestock housing, paddocks, fields
Daily, weekly and monthly cleaning and maintenance: regimes, use of PPE and Health and Safety, chemicals suitable for various species
Disposal of waste and environmental impact
Appraisal of animal facilities.

LO4 Review methods of record-keeping within animal facilities.

Legislative requirements for record-keeping:
DEFRA stock identification requirements: large and farm animals, poultry, PETS
Drugs legislation and COSHH
Data protection and privacy of electronic communications regulations.

Data management:
Identification of records and data required
Methods of data gathering and retrieval (manual, computerised).
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<tr>
<td><strong>LO1</strong> Examine Health and Safety practice within animal husbandry</td>
<td><strong>P1</strong> Describe the legislation pertaining to Health and Safety and risk assessment within animal husbandry</td>
<td><strong>M1</strong> Examine how Health and Safety considerations interact with the factors affecting safe handling within animal husbandry scenarios</td>
</tr>
<tr>
<td><strong>P2</strong> Explain the factors affecting the safe handling of animals using relevant examples across a range of species</td>
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<tr>
<td><strong>LO2</strong> Demonstrate animal husbandry practices and health monitoring to industry standard</td>
<td><strong>P3</strong> Explain how the principles of good animal husbandry practice apply to the maintenance of the physiological welfare of given species</td>
<td><strong>M2</strong> Assess the practice of animal husbandry techniques undertaken</td>
</tr>
<tr>
<td><strong>P4</strong> Demonstrate, for a range of species, varying situations and physiological conditions, the processes of health monitoring and reporting</td>
<td><strong>P5</strong> Demonstrate, for a range of species, varying situations and physiological conditions, appropriate handling and restraint techniques</td>
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<td><strong>P6</strong> Review the roles and practice of prevention and treatment of disease, as part of the monitoring of animal health</td>
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<tr>
<td><strong>LO3</strong> Demonstrate the management of animal accommodation</td>
<td><strong>P7</strong> Explain the requirements for the provision and ongoing maintenance of adequate accommodation for a range of species, ensuring that enrichment of the environment is considered</td>
<td><strong>M3</strong> Provide a justification of the planning and design of animal accommodation in terms of codes of practice and any relevant legislation</td>
</tr>
<tr>
<td><strong>P8</strong> Demonstrate the design, preparation and ongoing maintenance of a range of accommodation for a variety of species</td>
<td><strong>D3</strong> Critically analyse accommodation in two different animal facilities</td>
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<tr>
<td><strong>LO4</strong> Review methods of record-keeping within animal facilities</td>
<td><strong>P9</strong> Review the legislation relevant to record-keeping within animal facilities.</td>
<td><strong>M4</strong> Apply an appropriate data management system to an animal collection and analyse information collected</td>
</tr>
<tr>
<td><strong>P10</strong> Explain the methods used to gather, retrieve and interpret specified data within the animal care sector</td>
<td><strong>D4</strong> Provide an evaluation of a data management system used within an animal facility</td>
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</tbody>
</table>
Recommended Resources

Textbooks


Web
www.gov.uk UK Government
Department for Environment
Food & Rural Affairs
(Research/General reference)

www.hse.gov.uk Health and Safety Executive
Zoonoses
(Research/General reference)

worksmart.org.uk TUC Work Smart
Health
(General reference)

Essential requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:

*Unit 1: Animal Health and Welfare*

*Unit 14: Management of Exotic Animal Species*

*Unit 15: Animal Collection Management*
**Unit 6: Animal Anatomy and Physiology**

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**Introduction**

Animals of any species and setting require high levels of care and attention to ensure optimal health and welfare. A person holding responsibility for this should have an established knowledge of biological functioning in an aim to understand normal biological measures, what changes may occur and the influences of these changes to the overall health of an animal.

This unit develops knowledge of the biological systems of animals, with a detailed look at functioning. It will require students to analyse the interaction of systems and how environmental factors may impact an animal’s health. It is through this that students will be able to enter roles within the animal sector feeling confident to make decisions and advise others in best management practices.

The unit looks at the structure and functioning of the biological systems, and highlights the important roles they play in maintaining the life of an animal. Students will study the systems with the key themes attached: muscular and skeletal systems and how they interact with one another to create movement; lymphatic and cardiovascular systems and their involvement with the transportation of essential materials, with a detailed look at the role of blood; respiratory, digestive and urinary systems, evaluating how they interact to obtain raw materials for metabolism and excrete waste; male and female reproductive systems, reproductive stages and the management of these to influence the breeding of animal species.

On completion of the unit, students should hold sufficient knowledge on the biological systems of animals to understand how animal gait, lifestyle and management can influence animal health and normal biological functioning. They should be able to interpret information given to them by a veterinary professional, and develop improvements to how an animal is cared for in response. Students will also be able to review the management of breeding animals, and make informed choices with animal wellbeing in mind. The knowledge gained from this unit will create links between other units covering health, disease and husbandry management of animals.
Learning Outcomes

By the end of this unit a student will be able to:

1. Determine how the skeletal and muscular systems interact with one another to provide support and create movement
2. Discuss how the body transports essential materials around the body to maintain life and compensates to meet demands
3. Describe the functioning of systems which obtain raw materials for metabolism and excrete waste to highlight the effects changes in management systems may have on animal wellbeing
4. Develop material to share information on animal reproductive processes and the ways that these processes can be managed for animal owners to make informed choices.
Essential Content

**LO1** Determine how the skeletal and muscular systems interact with one another to provide support and create movement

*Support systems:*
- Types of support systems: hydroskeleton, endoskeleton and exoskeleton
- Bone types and functions, structure and composition of bone tissue
- Bone renewal and growth
- Types of joint (fibrous, cartilaginous, synovial), synarthrosis, amphiarthrosis, diarthrosis
- Joint anatomy
- Range of joint movement.

*Movement:*
- Structure and composition of muscle types: skeletal, cardiac, smooth
- Muscle contraction: sliding filament theory
- Skeletal muscle types associated to particular movements
- Tendons and ligament structure and role
- Common types and sites of injury through movement.

**LO2** Discuss how the body transports essential materials around the body to maintain life and compensates to meet demands

*Blood:*
- Composition and function of blood
- Function and morphology of blood cells: erythrocytes, leucocytes – neutrophils, eosinophils, basophils, lymphocytes, monocytes, macrophages
- Origin of blood cells
- Role of platelets and fibrinogen
- Blood plasma
- Environmental and management impact on blood composition: altitude, workload, diet.

*Cardiovascular system:*
- Structure and function of the heart, origin and conduction of heartbeat, cardiac cycle, structure and function of blood vessels, circulatory pathways (pulmonary circulation, systemic circulation, coronary circulation)
- Open and closed circulatory systems
- Circulatory physiology, response to demand (thermoregulation, exercise, fight/flight response).
Lymphatic system:
Lymphatic vessels, formation and transportation of lymph, structure and location of lymph nodes, lymphoid tissues and organs. Conditions affecting correct functioning.

LO3 Describe the functioning of systems which obtain raw materials for metabolism and excrete waste to highlight the effects changes in management systems may have on animal wellbeing

Respiratory system:
Structure and function of the respiratory tract
Ventilation of lungs, gaseous exchange
Transport of respiratory gases
Management of respiratory diseases and disorders.

Digestive system:
Structure and functions of the organs of the digestive tract (ruminant, monogastric, hindgut fermenter)
Phases of digestion and absorption, digestive enzymes, neural and hormonal control of digestion
Functions of the liver and pancreas.

Urinary system:
Structure and functions of the kidney
Urine formation
Urine movement through the system
Osmoregulation and pH regulation.

Husbandry techniques and wellbeing:
Impact of animal management systems on the respiratory, digestive and urinary systems
Bedding/substrate use, cleaning procedures, feeding and watering systems, housing, exercise.

LO4 Develop material to share information on animal reproductive processes and the ways that these processes can be managed for animal owners to make informed choices

Reproductive system:
Structure and function of the male and female reproductive systems, oestrus, hormonal control, spermatogenesis and oogenesis
Variations between species.
Reproductive stages and management:

Sexual maturity, fertilisation, implantation/egg and shell production, embryonic development, parturition

Breeding management, natural breeding, artificial insemination, embryonic transfer, surrogacy, cloning.
## Learning Outcomes and Assessment Criteria

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<tbody>
<tr>
<td><strong>LO1</strong> Determine how the skeletal and muscular systems interact with one another to provide support and create movement</td>
<td><strong>P1</strong> Explain how skeletal and muscular systems function</td>
<td><strong>D1</strong> Evaluate sites of weakness where the muscular and skeletal systems interact for a named animal species to influence management of the species</td>
</tr>
<tr>
<td><strong>P2</strong> Identify the methods of interaction between the skeletal and muscular systems to provide support and create movement</td>
<td><strong>M1</strong> Explain in detail the functioning of skeletal and muscular systems to include the differences between bone and muscle types</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Discuss how the body transports essential materials around the body to maintain life and compensates to meet demands</td>
<td><strong>P3</strong> Describe the structure and function of the cardiovascular and lymphatic systems</td>
<td><strong>LO2 LO3</strong> <strong>D2</strong> Critically review the demands placed on a named animal species through human interaction, which affects the animals’ wellbeing, and identify potential improvements to care</td>
</tr>
<tr>
<td><strong>P4</strong> Discuss the composition of blood and how it may vary to meet demands</td>
<td><strong>M2</strong> Explain the morphology of erythrocytes and leucocytes to determine cell health through blood samples</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Describe the functioning of systems which obtain raw materials for metabolism and excrete waste to highlight the effects changes in management systems may have on animal wellbeing</td>
<td><strong>P5</strong> Evaluate how the respiratory, digestive and urinary systems function effectively on a daily basis for a named species</td>
<td><strong>M3</strong> Analyse the reasoning for management systems used, which may affect animal wellbeing</td>
</tr>
<tr>
<td><strong>P6</strong> Describe two examples of management systems, which may affect the functioning of either the respiratory, digestive or urinary system in a named species</td>
<td><strong>M2</strong> Explain the morphology of erythrocytes and leucocytes to determine cell health through blood samples</td>
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<tbody>
<tr>
<td><strong>LO4</strong></td>
<td>Develop material to share information on animal reproductive processes and the ways that these processes can be managed for animal owners to make informed choices</td>
<td></td>
</tr>
<tr>
<td><strong>P7</strong></td>
<td>Create a means of communicating information to animal owners on the reproductive processes of a named animal species and describe how these can be managed for breeding purposes</td>
<td><strong>M4</strong> Explain in detail the events of oestrus in a named species and how this can affect behaviour traits</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>D3</strong> Evaluate artificial breeding interventions to provide unbiased information for the animal owner/carer</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web
www.khanacademy.org Khan academy
Human Biology
(General reference)

www.onlineveterinaryanatomy.net Online Veterinary Anatomy Museum
Whole site
(General reference/Research)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:
*Unit 1: Animal Health and Welfare*
*Unit 5: Animal Husbandry*
*Unit 7: Animal Nutrition*
*Unit 12: Horse Husbandry*
*Unit 31: Equine Health and Disease*
# Unit 7: Animal Nutrition

<table>
<thead>
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</table>

## Introduction

Understanding the nutritional requirements of animals is essential to be able to devise and plan diets to maintain animal health and production. This unit introduces students to the scientific basis of animal nutrition, supporting a range of careers within the animal management, agricultural and pet industries.

Students will define the macro and micronutrients which make up food, and evaluate how each constituent contributes to balanced animal nutrition and influences metabolism. They will also explore the importance of hydration and acid-base balance within homeostasis.

The dietary requirements for a range of different animal species and how these vary with life stage, health status, reproduction, production, live weight gain and activity levels will be analysed. Students will further learn how to calculate feed rations for a range of animal species and explore the relationship between diet and productivity, and behaviour.

In addition, students will conduct basic laboratory tests to analyse foodstuffs, providing them with practical skills they could use in the workplace.
Learning Outcomes

By the end of this unit a student will be able to:

1. Describe the role of macro and micronutrients and water within animal nutrition
2. Analyse the dietary requirements of animals during different stages of their lives
3. Formulate dietary rations that meet animals’ nutritional requirements
4. Evaluate the advantages and disadvantages of different types of diet to provide animals’ nutritional and behavioural needs.
Essential Content

LO1 Describe the role of maco and micronutrients and water within animal nutrition

Key nutrients and their roles:
Macro-nutrients: carbohydrates, lipids, proteins, fibre
Micro-nutrients: vitamins, minerals
Water.

Metabolism
Hydration
Acid-base balance
Digestion, absorption and synthesis of key nutrients
Key differences between herbivores, carnivores and omnivores

LO2 Analyse the dietary requirements of animals during different stages of their lives

Nutritional requirements of a range of animal species:
Companion animals: dog, cat, small mammals
Exotics
Birds
Horses
Livestock
Captive animals
Wildlife.

Nutritional requirements of animals – life stage:
Pregnant
Lactation
Neonate
Growth
Adult
Breeding
Geriatric.
Nutritional requirements of animals – activity:
Working
Production
Disease.

Grassland management for herbivores:
Rotation
Fertilisers
Mowing
Weed control
Stocking density.

LO3 Formulate dietary rations that meet animals’ nutritional requirements

Design ration formulation sheets:
Scientific rationing
Systems of rationing
Use of excel spreadsheets
Animal requirements.

Commercial diets:
Commercial manufacture of animal feeds
Legislation and labelling
Availability of foodstuffs
Nutrient analysis.

LO4 Evaluate the advantages and disadvantages of different types of diet to provide animals’ nutritional and behavioural needs

Animal nutritional needs:
Effects of deficiencies and excesses of core nutrients
Impact on behaviour
Impact on health
Impact on productivity/performance/function/live weight gain
Impact on longevity
Impact on reproduction
Impact of obesity.
Treatment for deficiencies and excesses:
Inclusion of additives
Restriction/removal of certain foodstuffs.

Management of obesity:
Exercise
Diet.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Describe the role of macro and micronutrients and water within animal nutrition</td>
<td><strong>P1</strong> Describe the role of macronutrients in animal nutrition</td>
<td><strong>D1</strong> Appraise the role of macro and micronutrients, and water, in maintaining homeostasis and supporting metabolism</td>
</tr>
<tr>
<td><strong>P2</strong> Explain the role of micronutrients and water in animal nutrition</td>
<td><strong>M1</strong> Assess how key nutrients are absorbed or synthesised in the animal body for two animal species</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Analyse the dietary requirements of animals during different stages of their lives</td>
<td><strong>P3</strong> Define the key dietary requirements for named animals to support adult health</td>
<td><strong>D2</strong> Interpret how nutritional requirements of animals vary between species and at different stages of their lives</td>
</tr>
<tr>
<td><strong>P4</strong> Recognise how nutritional requirements differ between the growing and geriatric animal</td>
<td><strong>M2</strong> Evaluate how nutritional requirements vary within gestation, reproduction and during lactation</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Formulate dietary rations that meet animals’ nutritional requirements</td>
<td><strong>P5</strong> Design a ration formulation spreadsheet</td>
<td><strong>D3</strong> Justify how the ration proposed meets the nutrient and energy requirements of the selected animal</td>
</tr>
<tr>
<td><strong>P6</strong> Calculate an appropriate daily ration for a named animal</td>
<td><strong>M3</strong> Choose suitable feedstuffs to deliver the formulated ration</td>
<td></td>
</tr>
<tr>
<td><strong>LO4</strong> Evaluate the advantages and disadvantages of different types of diet to provide animals’ nutritional and behavioural needs</td>
<td><strong>P7</strong> Describe how diet can influence animal behaviour</td>
<td><strong>D4</strong> Examine the impact of dietary deficiencies and excesses on animal health, production and function, and how these can be rectified</td>
</tr>
<tr>
<td><strong>P8</strong> Outline advantages and disadvantages of two different diets for a named animal</td>
<td><strong>M4</strong> Assess the relationship between feeding, diet and animal behaviour and production</td>
<td></td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.
Links

This unit links to the following related units:

*Unit 1: Animal Health and Welfare*

*Unit 5: Animal Husbandry*

*Unit 10: Animal Nursing*

*Unit 12: Horse Husbandry*

*Unit 15: Animal Collection Management*
Unit 8: Ecological Principles

<table>
<thead>
<tr>
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</table>

Introduction

This unit provides a broad introduction to the key principles of ecological processes. Ecology is a growing area of the animal management industry, with increased awareness of human impacts on the health of flora and fauna globally. Key principles of ecology form the basis for further study across the animal management industry.

The unit aims to provide a holistic approach to covering the expansive subject of ecology. Initially, fundamental mechanisms of evolution are explored, with a key focus on individual response to a range of factors. The interrelationship between species is investigated with specific populations identified. Finally, population dynamics are studied within a given context.

The nature of this unit promotes scientific and academic skill development. Upon completion of this unit, students will have the ability to analyse ecological mechanisms and apply strategies to managing specific populations, which directly contributes to the overall employability profile of students. Ecological principles directly relate to conservation, environmental and wildlife positions within the land-based sector.
Learning Outcomes

By the end of this unit a student will be able to:

1. Explain the mechanisms and ecological implications of evolution
2. Describe factors impacting flora and fauna within a range of environments
3. Analyse the complexity of interrelationships between organisms
4. Assess mechanisms governing fluctuations and stability within populations.
**Essential Content**

**LO1** *Explain the mechanisms and ecological implications of evolution*

- Natural selection
- Evolution
- Adaptations
- Ecological implications
- Darwin
- Genetic drift
- Hardy-Weinberg principle.

**LO2** *Describe factors impacting flora and fauna within a range of environments*

- Biotic factors
- Abiotic factors
- Biogeochemical cycles
- Edaphic conditions
- Climate
- Geographic demographics
- Natural disaster.

**LO3** *Analyse the complexity of interrelationships between organisms*

- Biomes
- Food webs
- Mutualism
- Trophic levels
- Commensalism
- Optimality theory.
LO4 **Assess mechanisms governing fluctuations and stability within populations.**

- Migration
- Immigration
- Survivorship
- Death rates
- Birth rates
- Food webs
- Predation
- Competition
- Boom-bust cycles.
## Learning Outcomes and Assessment Criteria

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<tr>
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<tbody>
<tr>
<td><strong>LO1</strong> Explain the mechanisms and ecological implications of evolution</td>
<td><strong>M1</strong> Compare the evolution of species in a variety of environments</td>
<td><strong>LO1 LO2</strong>&lt;br&gt;<strong>D1</strong> Evaluate a given species’ mechanisms of evolution in response to biotic and abiotic factors</td>
</tr>
<tr>
<td><strong>P1</strong> Define evolution by natural selection and provide examples of the theory in action</td>
<td><strong>P2</strong> Outline how species adapt to their environment</td>
<td><strong>LO1 LO2</strong>&lt;br&gt;<strong>D1</strong> Evaluate a given species’ mechanisms of evolution in response to biotic and abiotic factors</td>
</tr>
<tr>
<td><strong>LO2</strong> Describe factors impacting flora and fauna within a range of environments</td>
<td><strong>P3</strong> Investigate the impacts of biotic and abiotic factors within given populations</td>
<td><strong>M2</strong> Analyse the significance of the introduction of non-native species to a given location</td>
</tr>
<tr>
<td><strong>P4</strong> Explain the impacts natural disaster can have on flora and fauna within a population</td>
<td><strong>P4</strong> Explain the impacts natural disaster can have on flora and fauna within a population</td>
<td><strong>P4</strong> Explain the impacts natural disaster can have on flora and fauna within a population</td>
</tr>
<tr>
<td><strong>LO3</strong> Analyse the complexity of interrelationships between organisms</td>
<td><strong>P5</strong> Describe a range of biomes in the biosphere, citing representative species from each</td>
<td><strong>M3</strong> Describe the optimality theory and evaluate the relevance of the theory</td>
</tr>
<tr>
<td><strong>P6</strong> Analyse a food web within a given biome, detailing how the removal of a single species would impact the overall demographic of the ecosystem</td>
<td><strong>LO3 LO4</strong>&lt;br&gt;<strong>D2</strong> Analyse boom-bust cycles within a range of populations, including detail on the interdependence between all species involved</td>
<td><strong>M4</strong> Discuss the impacts of predation and competition within a given population</td>
</tr>
<tr>
<td><strong>LO4</strong> Assess mechanisms governing fluctuations and stability within populations</td>
<td><strong>P7</strong> Describe the population dynamics within a given ecosystem</td>
<td><strong>M4</strong> Discuss the impacts of predation and competition within a given population</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web
www.britishecologicalsociety.org British Ecological Society
Publication
(Learning & Resources)

www.ecology.com Ecology
Energy, Humans
(General reference)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:
Unit 26: Evolution and Adaptations
Unit 35: Wildlife Conservation
Unit 36: Ethics and Consultation
Unit 9: Veterinary Practice Management

**Unit code**  
H/616/7836

**Unit level**  
4

**Credit value**  
15

**Introduction**

Veterinary Practice Managers are essential to the successful running of the modern veterinary clinic. Veterinary practices represent small businesses, which require a manager who can manage staff, undertake marketing, understand business planning and financial management, as well as develop the practice’s bond with its clients. The growing importance of this role and the need for staff to acquire business management skills to help make the practice more efficient and successful, make this unit essential for anyone wishing to pursue a career in the veterinary sector.

This unit provides students with an introduction to veterinary practice management. It covers the fundamental requirements needed to run a small business contextualised to the veterinary environment. Students will develop a broad understanding of business skills required in marketing, human resource management, financial management and physical resource management, as well as debating the ethical and legislative constraints the veterinary practice operates within.

Students will also evaluate organisational structure and the role of different members of the veterinary practice, including how they work together to promote a positive working environment. The client-veterinary bond and factors which can increase and reduce client loyalty will be discussed. In addition, there will be an overview of the wider veterinary sector and allied industries, and students will learn how to construct business plans.

The skills developed in this unit will support future careers within the veterinary profession and underpin management roles in animal-related industries.
Learning Outcomes

By the end of this unit a student will be able to:

1. Describe the role of the Veterinary Practice Manager within the wider business team
2. Analyse key facets of business operations in the veterinary practice
3. Evaluate the management of a veterinary practice business
4. Design and present a business plan to develop the business of an existing veterinary practice.
Essential Content

LO1  **Describe the role of the Veterinary Practice Manager within the wider business team**

*Business organisation and its environment:*
The veterinary sector
Allied veterinary industries.

*Organisational structure:*
veterinary franchises and individual practices
Business legal status.

*Roles and responsibilities of the veterinary team:*
Practice Manager
Practical Principal
Partners
Head Nurse
Veterinary Nurses
Auxiliary nursing staff
Reception team
Team dynamics
Role of volunteers and work experience in the veterinary team
Other members of the veterinary business team.

LO2  **Analyse key facets of business operations in the veterinary practice**

*Management and leadership theories:*
Strategic analysis tools: SWOT, PESTLE, SOAR, STEEP, STEEPLE.

*Introduction to human resource management:*
Determining staffing requirements
Job descriptions
Contracts
Recruitment
Appraisals
Coaching and mentoring
Negotiation skills
Performance evaluation
Staff development and training
Employment law
Successful team leadership
Professional regulation and CPD requirements
Managing volunteers and work experience.

*Introduction to marketing:*
Strategies to support business success
Social media.

*Physical resource management:*
Servicing and maintenance
Safe operating procedures
Health and Safety
Risk assessment
COSHH.

*Introduction to financial management:*
Accounting principles
Use and evaluation of Key Performance Indicators within financial performance
Veterinary operating systems for practice expenses, stock control etc.
Cash flow strategies
Production of financial summaries.

**LO3 Evaluate the management of a veterinary practice business**

*Veterinary business considerations:*
Veterinary resource management
Safe storage of veterinary materials
Client interaction and education.

*Business constraints:*
Confidentiality
Veterinary ethics
Animal welfare
Working knowledge of relevant national legislation e.g. for the UK: Veterinary Surgeon’s Act, Animal Welfare Act, RCVS Code of Conduct, Practice Accreditation Scheme, Veterinary Medicine Regulations
Business status
Economic constraints
Staff-related constraints
Client loyalty
Client compliance
Regional, national and international influences on business.

*Common problems in veterinary business management:*
Client drift
Human resource issues
Financial issues
Staff retention.

*Veterinary-client relationship management:*
Effective communication
Strategies to build client loyalty.

LO4 **Design and present a business plan to develop the business of an existing veterinary practice**

*Components of a business plan:*
Vision, mission and values
Market trends analysis
Financial review and forecasting
Strategic analysis of business
Organisational/staffing structure
Example business plans.
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<tr>
<td><strong>LO1</strong> Describe the role of the Veterinary Practice Manager within the wider business team</td>
</tr>
<tr>
<td><strong>P1</strong> Produce an organisational chart for an example veterinary practice</td>
</tr>
<tr>
<td><strong>P2</strong> Describe the roles of key personnel within the veterinary practice team</td>
</tr>
<tr>
<td><strong>LO2</strong> Analyse key facets of business operations in the veterinary practice</td>
</tr>
<tr>
<td><strong>P3</strong> Discuss the role of human and physical resource management in the veterinary practice</td>
</tr>
<tr>
<td><strong>P4</strong> Complete a financial summary for a stated veterinary practice</td>
</tr>
<tr>
<td><strong>LO3</strong> Evaluate the management of a veterinary practice business</td>
</tr>
<tr>
<td><strong>P5</strong> Analyse the human resource management, marketing and financial status of a selected veterinary practice</td>
</tr>
<tr>
<td><strong>P6</strong> Discuss how regional and national influences impact the veterinary practice’s business</td>
</tr>
<tr>
<td><strong>LO4</strong> Design and present a business plan to develop the business of an existing veterinary practice</td>
</tr>
<tr>
<td><strong>P7</strong> Construct a business plan for an existing veterinary practice, including: strategic overview of the business, its mission, vision and values, market trends analysis, financial review and organisational review</td>
</tr>
<tr>
<td><strong>P8</strong> Present the business plan to an audience with the aim of seeking financial support for proposed developments</td>
</tr>
</tbody>
</table>
**Recommended Resources**

**Textbooks**


**Web**

www.vpma.co.uk  
Veterinary Practice Managers Association  
(General reference)

**Essential Requirements**

Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

**Links**

This unit links to the following related units:

*Unit 2: Business and the Business Environment*

*Unit 16: Human Resource Management*

*Unit 17: Marketing Essentials*

*Unit 21: Management Accounting*
Unit 10: Animal Nursing

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</table>

**Introduction**

This unit will provide students with the fundamental knowledge and animal nursing skills to care for patients in clinical environments within animal management facilities or veterinary practices. These skills will support careers across the animal and veterinary sectors.

Through the course of the unit, students will develop competent handling and restraint skills for dogs, cats, exotic animals and horses for health checking, clinical examination and venepuncture, as well as how to move animals between environments in a safe and effective manner. Students will develop knowledge and understanding of the signs of health and disease, enabling them to monitor and record inpatient clinical parameters to facilitate a high standard of inpatient care. Students will be able to record temperature, pulse and respiration rates for dogs, cats, exotic animals and horses.

The physical, behavioural and psychological requirements of inpatients will be discussed to enable students to provide suitable care and meet animal welfare needs through the provision of suitable accommodation, food, water and social enrichment. The principles of accurate record-keeping and their importance to ongoing patient care and monitoring will also be assessed.

Students will be able to describe normal working practices within the veterinary environment to enable them to work safely and effectively when nursing animals. The principles of disinfection and disease control will also be considered to enable students to design protocols to prevent cross-contamination between animals.
Learning Outcomes

By the end of this unit a student will be able to:

1. Recognise signs of health and disease in dogs, cats, exotic animals and horses
2. Describe routine nursing care for infectious, surgical and recumbent inpatients
3. Appraise the different nutritional, enrichment and housing requirements of hospitalised and ill animals
4. Demonstrate competent and professional handling and restraint of dogs, cats, exotic animals and horses for clinical health checks and venepuncture.
Essential Content

**LO1 Recognise signs of health and disease in dogs, cats, exotic animals and horses**

*Concepts of health and disease:*
- Disease transmission
- Define infectious, contagious and health
- Correct management of cleaning, feeding, watering, exercise and enrichment.

*History taking and health checking:*
- Define and identify normal ranges for basal clinical parameters: temperature, pulse, respiration, heart rate, capillary refill time, blood pressure, mucous membrane colour, posture, behaviour, coat condition, weight, hydration, locomotion, food and water intake, faecal and urinary output etc
- Identify abnormal parameters: behaviour, discharges, haemorrhage, pyrexia, dehydration, eating, drinking, excretions, exercise levels
- Frequency of monitoring and record-keeping.

*Categories, properties and examples of micro-organisms:*
- Viruses, bacteria, fungi, protozoa, parasites and prions.

*Clinical signs of common endo- and ectoparasites of the dog, cat, exotic animals and horses*

*Define infection, contagion, colonisation and contamination*

*Identify common infectious diseases of the dog, cat, exotic animals and horses, and list clinical signs associated with these diseases:*
- Dog: distemper, leptospirosis, canine parvovirus, canine adenovirus, canine parainfluenza virus, bordetella bronchispetica, rabies
- Cat: feline rhinotracheitis, feline calici virus, feline herpes virus, feline infectious enteritis, feline leukaemia virus, rabies
- Horse: equine influenza virus, tetanus, equine herpes virus, equine viral arteritis
- Exotics: salmonella, myxomatosis, viral hemorrhagic disease, E.coli.

*Describe clinical signs and nursing considerations for a range of common Zoonotic diseases e.g. toxoplasmosis, leptospirosis, toxocariasis, salmonella, campylobacter, psittacosis, sarcopotes and ringworm*
LO2 **Describe routine nursing care for infectious, surgical and recumbent inpatients**

*Describe specific nursing requirements for a range of inpatients:*
- Surgical inpatients: pre- and post-surgery
- Infectious inpatients: barrier nursing and infection control
- Recumbent patients: paresis and paralysis
- Young, old and immunocompromised patients.

*How to construct nursing care plans*

LO3 **Appraise the different nutritional, enrichment and housing requirements of hospitalised and ill animals**

*Identify suitable accommodation requirements:*
- Patient factors: species, age, condition, welfare considerations, legislative requirements, monitoring, duration of stay, purpose of stay, bedding, furniture, water and food bowls
- Environmental factors: heating, lighting, location, barrier/isolation, electricity, water, drainage, security, accessibility, ventilation, noise, access to external areas.

*Provision of safe, secure, hygienic and appropriate housing:*
- Frequency and procedures for cleaning animal accommodation
- Monitoring of signs of health and disease
- Selection and provision of suitable diets to meet nutritional and water requirements of animals
- Designing and completing inpatient records
- Provision and recording of medication: fluids, tablets, injections (subcutaneous, intramuscular)
- Provision of exercise and excretory opportunities.

*Patient care and stimulation:*
- Social, grooming, enrichment opportunities, human-animal interaction.

LO4 **Demonstrate competent and professional handling and restraint of dogs, cats, exotic animals and horses for clinical health checks and venepuncture**

*Daily work practices:*
- Monitoring frequency and record-keeping
- Cleaning protocols: frequency, order, equipment, retaining same equipment for duration of stay.
**Safe handling and movement of animals:**

Ergonomics and manual handling: risks, limitations of humans, positioning of loads, weight, stability, height, experience, physical condition and good practice

Role of restraint equipment: muzzles, leads, collars, lupi, harness, dog catcher, cat bags, crush cage, cat muzzle, towels, containers for exotics and small mammals, head collars, chifney, twitch, stocks, stretches, hoists, sedation and chemical restraint etc

Safe techniques for moving loads and different animals

Provision of a safe and secure environment

Temporary accommodation types

Personal protective equipment.

**Demonstrate safe handling of animals for clinical health checking and venepuncture:**

Identify suitable restraint equipment

Describe restraint for blood sampling using cephalic, jugular, marginal ear vein and tail vein and which species these are appropriate for.

**Identify when to inform the veterinary surgeon and nursing team regarding the status of patients**

**Principles of Health and Safety:**

Risk assessments, monitoring clinical environments, standard operating procedures

Identification of persons and animals at risk: pregnancy, immunosuppressed, ill, old, young, open wounds

Individual and employer responsibilities to maintain a safe working environment

Reporting of injuries and accidents e.g. relevant legislation.
# Learning Outcomes and Assessment Criteria

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<tr>
<td><strong>LO1</strong> Recognise signs of health and disease in dogs, cats, exotic animals and horses</td>
<td><strong>M1</strong> Compare and contrast how animal behaviour can change in healthy and diseased animals</td>
<td><strong>D1</strong> Evaluate the importance of history-taking and accurate record-keeping when investigating animal health and disease</td>
</tr>
<tr>
<td><strong>P1</strong> Describe signs of health and disease in dogs, cats, exotic animals and horses, including: normal ranges for temperature, pulse, respiration, faecal and urinary output, CRT, and mucous membrane colour</td>
<td><strong>P2</strong> Recognise common infectious diseases and parasites of the dog, cat, exotic animals and horses</td>
<td><strong>M1</strong> Describe signs of health and disease in dogs, cats, exotic animals and horses</td>
</tr>
<tr>
<td><strong>LO2</strong> Describe routine nursing care for infectious, surgical and recumbent inpatients</td>
<td><strong>M2</strong> Apply the principles of good nursing care to discuss how to nurse selected case studies</td>
<td><strong>D2</strong> Evaluate how nursing requirements change with patient status (infectious, surgical, recumbency), age and health status</td>
</tr>
<tr>
<td><strong>P3</strong> Explain the clinical parameters that should be monitored for a range of inpatients</td>
<td><strong>P4</strong> Discuss how animals’ health and welfare needs are provided via good nursing care</td>
<td><strong>D3</strong> Evaluate how patients’ requirements change with patient status (infectious, surgical, recumbency), age and health status</td>
</tr>
<tr>
<td><strong>LO3</strong> Appraise the different nutritional, enrichment and housing requirements of hospitalised and ill animals</td>
<td><strong>P5</strong> Design suitable animal accommodation for inpatients</td>
<td><strong>M3</strong> Analyse the housing and nutritional requirements of specified inpatients</td>
</tr>
<tr>
<td><strong>P6</strong> Create a nursing care plan for a selected inpatient</td>
<td><strong>D3</strong> Evaluate how patients’ requirements change with patient status (infectious, surgical, recumbency), age and health status</td>
<td><strong>M3</strong> Analyse the housing and nutritional requirements of specified inpatients</td>
</tr>
<tr>
<td><strong>LO4</strong> Demonstrate competent and professional handling and restraint of dogs, cats, exotic animals and horses for clinical health checks and venepuncture</td>
<td><strong>P7</strong> Explain how to handle and restrain animals for clinical health checking</td>
<td><strong>M4</strong> Select appropriate equipment for the handling and transportation of animals within a nursing environment</td>
</tr>
<tr>
<td><strong>P8</strong> Describe how to handle and restrain animals for venepuncture</td>
<td><strong>D4</strong> Perform a competent clinical health check including restraint for venepuncture appropriate to the species provided (this may be in the live animal or via a simulation)</td>
<td><strong>D4</strong> Perform a competent clinical health check including restraint for venepuncture appropriate to the species provided (this may be in the live animal or via a simulation)</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web
www.theteveterinarynurse.com The Veterinary Nurse Journal
Journal search
(Online journal articles)

www.vetsonline.com Vets online
The Veterinary Times Journal, Veterinary Nursing Times and Veterinary Business Journal
(Online journal articles)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:

Unit 1: Animal Health and Welfare
Unit 7: Animal Nutrition
Unit 29: Advanced Patient Care
Unit 11: Clinic Design and Processes

<table>
<thead>
<tr>
<th>Unit code</th>
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<tr>
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**Introduction**

Clinic design varies between different types of veterinary practice. How a veterinary practice is designed is important to promote business efficiencies and effective management.

This unit introduces students to the concepts which underpin veterinary clinic design. Key aspects of design to support veterinary care are reviewed and the ways in which these facilitate infection control and staff and patient Health and Safety are evaluated. Students will design their own veterinary practice layouts and decide which key services to include. Using the knowledge gained, students will possess the skills to appraise if veterinary clinic design is fit for purpose and will be able to make informed suggestions on how design could be improved to support business efficiencies.

Working processes that are undertaken routinely in veterinary practice will be identified, for example, patient record-keeping, radiography, drug management and the role of reception. Students will be able to describe how these areas operate and support patient care, and will learn how to assess if current working practices are suitable for the veterinary practice. Students will also be able to plan routine working schedules in veterinary practice and will develop the skills to be able to propose alternatives routines which can optimise patient care, enhance customer experiences and lead to business efficiencies.
Learning Outcomes

By the end of this unit a student will be able to:

1. Describe the key operational areas found in different types of veterinary clinic
2. Appraise if veterinary clinic design is fit for purpose
3. Evaluate the importance of safe working practice in the veterinary environment
4. Outline routine working processes which occur in veterinary clinics.
Essential Content

LO1 Describe the key operational areas found in different types of veterinary clinic

Key features and role of operational areas:
- Reception
- Consultation rooms/areas
- Waiting room
- Patient accommodation
- Diagnostic areas: radiography, laboratory
- Dispensary
- Preparation room
- Operating theatre
- Waste unit
- Storage areas
- Equine-specific areas: stables, knock down box, arena, trot up.

LO2 Appraise if veterinary clinic design is fit for purpose

Clinic types:
- Small animal
- Equine
- Mixed
- Referral centre.

Key features in design:
- Size
- Design materials
- Layout
- Movement of personnel between areas
- Patient security
- Infection control
- Parking
- Areas included support business function
- Storage
- Scope for expansion.
LO3  **Evaluate the importance of safe working practice in the veterinary environment**

*Role of different members of the veterinary team:*

Practice Principal  
Veterinary Practice Manager  
Veterinary Surgeons  
Veterinary Nurses  
Reception staff  
Radiation Protection Advisor/Radiation Protection Supervisor  
Professional regulation and CPD requirements.

*Maintenance of safe working environments:*

Working knowledge of relevant national legislation e.g. for the UK: Veterinary Surgeon’s Act, Animal Welfare Act, RCVS Code of Conduct, Practice Accreditation Scheme, Veterinary Medicine Regulations  
Health and Safety in the veterinary practice  
Risk assessment  
COSHH  
Standard operating procedures  
General risks and hazards in veterinary practice  
Waste disposal: general, sharps, clinical  
Infection control  
Radiation control  
PPE  
Staff training  
Daily, weekly and monthly working protocols.

LO4  **Outline routine working processes which occur in veterinary clinics.**

*Infection control:*

Routine cleaning protocols: order, equipment, materials, antiseptics and disinfectants, authorised personnel  
Hazards in different areas of the veterinary clinic  
Barrier nursing  
Isolation  
Daily, weekly and monthly working protocols  
Staff training  
Hand washing
Patient preparation for clinical and surgical procedures
Waste disposal.

*Client management:*
Data protection
Confidentiality
Professional code of conduct
Record-keeping
Computerised management systems.

*Patient management:*
Patient records
History taking
Prophylactic care
Role of nurse clinics
During the veterinary consultation
Admission and discharge
Routine monitoring: weight, vaccination, neutering, worming, flea treatments
Insurance claims.

*Stock control:*
Classification of veterinary goods
Stock control and rotation
Safe storage of drugs and medication
Dispensing: rules and regulations, dose calculation, labelling, authorised personnel, product classification.
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Describe the key operational areas found in different types of veterinary clinic</td>
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<tr>
<td><strong>P1</strong> Explain the role of key operational areas in veterinary clinics</td>
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<tr>
<td><strong>P2</strong> Describe the key features for different operational areas in veterinary clinics</td>
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<tr>
<td><strong>M1</strong> Compare and contrast differences in operational areas between small animal and equine veterinary clinics</td>
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<tr>
<td><strong>D1</strong> For a named operational area of the veterinary clinic, critically assess how different members of the veterinary team work together to enhance business efficiencies</td>
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<tr>
<td><strong>LO2</strong> Appraise if veterinary clinic design is fit for purpose</td>
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<tr>
<td><strong>P3</strong> Produce a summary report critiquing veterinary clinic design</td>
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<tr>
<td><strong>P4</strong> Discuss how veterinary clinic design is fit for purpose</td>
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<tr>
<td><strong>M2</strong> Make recommendations for how veterinary clinic design can be improved</td>
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<tr>
<td><strong>D2</strong> Evaluate how veterinary clinic design supports patient care and customer experience</td>
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<tr>
<td><strong>LO3</strong> Evaluate the importance of safe working practice in the veterinary environment</td>
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<tr>
<td><strong>P5</strong> Identify relevant legislation that governs safe working in the veterinary environment</td>
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<tr>
<td><strong>P6</strong> Explain the role of different members of the veterinary team in maintaining a safe working environment</td>
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<tr>
<td><strong>M3</strong> Assess how Health and Safety is maintained in different areas of the veterinary clinic</td>
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<tr>
<td><strong>D3</strong> Evaluate the importance of standard operating procedures in the veterinary environment</td>
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<tr>
<td><strong>LO4</strong> Outline routine working processes which occur in veterinary clinics</td>
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<tr>
<td><strong>P7</strong> Describe how different types of veterinary goods should be stored and dispensed</td>
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<tr>
<td><strong>P8</strong> Explain the process of client management in the veterinary clinic</td>
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<tr>
<td><strong>M4</strong> Analyse the different roles of the veterinary team within patient management</td>
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<tr>
<td><strong>D4</strong> Appraise how infection control processes in the veterinary clinic prevent the spread of disease</td>
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</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web
www.theterveterinarynurse.com The Veterinary Nurse Journal
Journal search
(Online journal articles)

www.vetsonline.com Vets online
The Veterinary Times Journal,
Veterinary Nursing Times and
Veterinary Business Journal
(Online journal articles)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:
*Unit 9: Veterinary Practice Management*
*Unit 10: Animal Nursing*
Unit 12: Horse Husbandry

<table>
<thead>
<tr>
<th>Unit code</th>
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<tbody>
<tr>
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**Introduction**

High-standard husbandry techniques and knowledge are the foundation of caring for any animal. With increased demands placed on horses in all disciplines, there is a need to raise standards in maintaining horse health, fitness and wellbeing. This is partnered with an increased awareness of the financial pressures of keeping horses.

This unit aims to develop the depth of student knowledge on the topic of horse husbandry in a variety of situations. It will form links to welfare legislations, and encourage students to identify where there is a need for reviewing current husbandry techniques through detailed studies of the horse. It will cover the financial implications of various husbandry techniques, and encourage students to consider the modern alternatives available to them in a variety of settings.

Students will be required to discuss the different living situations of horses depending on use, and review how husbandry practices can have an effect on horse wellbeing. They will be able to complete thorough health assessments, provide routine treatments and recognise safe practice while working around horses. The unit aims to give students the knowledge to be able to form husbandry plans for the day-to-day running of a yard, and how to select external services that may be needed.

On completion of this unit, students will have a confident and questioning approach to horse husbandry practices used, to ensure continued development and improvement of equine care. They will be able to perform routine husbandry techniques safely according to recognised industry standards, and support others in the development of these skills. Knowledge gained from this unit will be essential to students entering employment within the industry as managers or advisors to others in a bid to improve welfare conditions.
Learning Outcomes

By the end of this unit a student will be able to:

1. Discuss the husbandry needs of horses in a variety of living situations to ensure high standards of welfare
2. Challenge the effectiveness of horse husbandry practices to promote horse health, fitness and wellbeing
3. Design horse husbandry plans to consider both purpose and financial costs
4. Complete horse husbandry tasks safely, effectively and efficiently to support the development of others.
Essential Content

**LO1** Discuss the husbandry needs of horses in a variety of living situations to ensure high standards of welfare

*Welfare legislation and requirements:*
Nationally and internationally.

*Range of horse management practices:*
Stable design, field management, domesticated and free ranging.

*Variety of uses of equines and associated demands:*
Sport, working, leisure, companion, young stock, stud
Methods to promote fitness and condition, methods of injury prevention, care to manage fatigue and stress.

*Other affecting factors of horse welfare that can be managed:*
Social interaction, environmental, handling techniques, feed management.

**LO2** Challenge the effectiveness of horse husbandry practices to promote horse health, fitness and wellbeing

*Signs of health, fitness and wellbeing:*
Condition scoring, signs of health and ill heath, taking and monitoring TPR
Physical effects of fittening and training
Hoof care and health
Static and dynamic evaluation
Gait analysis: trot up, lameness evaluation.

*Providing treatments:*
Routine treatments for health problems and injuries, application of dressings, poultices and bandages.
Tubing, hosing.

*Safe practices:*
Fitting of tack, equipment and horse clothing.
Interpreting signs of horse behaviour.
Methods of handling and restraint.
LO3  **Design horse husbandry plans to consider both purpose and financial costs**

*Routine practices:*
Grooming methods, procedures for cleaning and maintaining stables and yards
Caring and storing of tack and equipment
Supplies and stock rotation
Record-keeping.

*Planning and yard organisation:*
Daily routines, Health and Safety considerations, selecting and sourcing external services: treatments, farriery, dentistry
Worming, daily field/stable maintenance and checks
Exercise and freedom of movement for horses
Isolation management
Vaccination requirements and planning.

LO4  **Complete horse husbandry tasks safely, effectively and efficiently to support the development of others**

*Health and Safety:*
Identifying hazards, risk assessments, COSHH, RIDDOR, accident reporting
Groom and rider considerations.

*Safe practices:*
Handler risk management, handlers clothing, horse behaviour

*Routine husbandry tasks:*
Methods of control and restraint, trotting up, fitting equipment, grooming methods, feeding, clipping, care of the stable and field.

*Developing skills of others:*
Evaluating current practices
Reflective practice
Sharing practical skills.

*Communication to encourage positive team working*
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Discuss the husbandry needs of horses in a variety of living situations to ensure high standards of welfare&lt;br&gt;<strong>P1</strong> Describe essential husbandry requirements of horses to maintain high levels of welfare according to current legislation&lt;br&gt;<strong>P2</strong> Determine three different living situations of horses and describe the specific care required for each to maintain high levels of welfare&lt;br&gt;<strong>M1</strong> Explain in detail the demands horses may face within different living situations and suggest possible management solutions&lt;br&gt;<strong>D1</strong> Critically analyse, with the use of specific examples, the effect domestication has had on the horse to highlight best practice in horse husbandry techniques</td>
<td><strong>LO2</strong> Challenge the effectiveness of horse husbandry practices to promote horse health, fitness and wellbeing&lt;br&gt;<strong>P3</strong> Review the effectiveness of three different horse husbandry practices to promote horse health, fitness and wellbeing&lt;br&gt;<strong>M2</strong> Select and justify alternative horse husbandry practices to promote horse health, fitness and wellbeing</td>
<td><strong>LO3</strong> Design horse husbandry plans to consider both purpose and financial costs&lt;br&gt;<strong>P4</strong> Design short-term and long-term horse management plans to consider workload and financial costs on a given yard&lt;br&gt;<strong>M3</strong> Evaluate horse husbandry plans to identify areas of strength and weakness&lt;br&gt;<strong>D2</strong> Critically appraise own performance in detail to create links between own practice and the impact this may have on overall horse wellbeing and care.&lt;br&gt;<strong>P5</strong> Demonstrate safe, effective and efficient routine practices when working around or with horses.&lt;br&gt;<strong>P6</strong> Manage a training session to support the development of horse husbandry skills.&lt;br&gt;<strong>M4</strong> Evaluate own performance in completing routine practices to identify areas of strength and improvement.</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web

www.cieh.org
Chartered Institute of Environmental Health
Health and Safety in horse riding establishments and livery yards
(General reference)
Essential Requirements

Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links

This unit links to the following related units:

Unit 1: Animal Health and Welfare

Unit 6: Animal Anatomy and Physiology
Unit 13: Management of Equine Facilities

<table>
<thead>
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<th>Unit code</th>
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<tbody>
<tr>
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</table>

**Introduction**

Many tasks are required to be completed in the short- and long-term organising and running of a yard or a collection of horses and/or donkeys. These can range from routine tasks such as mucking out and grooming, to long-term care plans, and annual field maintenance. A great variety of yard types exist in the equine sector and for a student to become employable and be selected above the competition, they must be able to demonstrate strong practical skills and a broad knowledge of the running and maintenance of yard facilities. This is a highly industry-focused unit aimed at those wishing to not only work and manage a yard but also those who would stand in an advisory role within the equine industry.

This unit aims to give students the skills to supervise and advise others on the day-to-day organising and running of an equine facility, being able to identify the wider yard requirements outside the care of horses and/or donkeys. Students will be able to identify the strengths of a facility and plan for potential improvements with consideration of legislative requirements.

The different types and areas of facilities will be reviewed, in particular the areas designated for grazing. Students will be able to plan and design grazing areas with consideration of fencing, gateways and watering systems. Students will also be able to develop 12-month grassland management plans to promote good and safe grazing for horses and/or donkeys. They will study the regular maintenance of equipment and facilities, including the management of arena surfaces, watering, lighting and waste, and will also gain a working knowledge of Health and Safety and environmental issues that they may encounter in managing an equine facility.

On completion of this unit, students should be able to confidently demonstrate and discuss practical equine facility management. They will have acquired improved skills of communication, supervising and problem-solving, knowledge of how to manage the variety of areas and systems that may be encountered on a day-to-day basis and the evaluative skills to identify where things can be improved. Detailed knowledge of setting up grazing land for horses and/or donkeys and the management of this to maximise quality all-year grazing will also be acquired.
Learning Outcomes

By the end of this unit a student will be able to:

1. Describe routine yard maintenance requirements to effectively manage the day-to-day running of a yard
2. Plan and design a grazing area for a group of horses and/or donkeys to include fencing, gateways, shelter and water supply
3. Develop a 12-month grassland management plan for a specified area of grazing
4. Outline an improvement plan to update an equine facility.
Essential Content

LO1 Describe routine yard maintenance requirements to effectively manage the day-to-day running of a yard

Schooling areas:
Maintenance of a variety of surfaces, levelling, harrowing, drainage, irrigation systems, equipment maintenance.

Waste management:
Legislation, methods, costs, environmental impact, drainage, recycling
Feed management and watering systems:
Stock rotation
Feed/forage storage
Ordering and monitoring of feed supplies
Troughs, automatic waterers, seasonal maintenance and care.

Lighting and equipment maintenance:
Yard and school lighting, infrared lamps, horse walkers, treadmills.

General management:
Identifying maintenance requirements, prioritising work, supervising others, record-keeping, Health and Safety, risk assessments
Legislation relevant to a variety of yard settings
Control measures against disease.

LO2 Plan and design a grazing area for a group of horses and/or donkeys to include fencing, gateways, shelter and water supply

Planning and construction:
Fencing types, gates, types of shelter, watering systems and positioning.

Suitability:
Materials, size of grazing area, specialist needs: young stock, stallions, permanent or temporary fencing access, security.

Costs:
Sources of fencing materials, accurate measurements, costings of material and labour, timescales.
LO3  **Develop a 12-month grassland management plan for a specified area of grazing**

*Recognising quality of grazing:*
Desirable and undesirable grasses and plants.
Soil properties.

*Fertiliser and drainage:*
Suitable use of fertiliser
Need and management of drainage, drainage system.

*Pasture management systems:*
Rotation, use of electric fencing, rolling, harrowing, removal of droppings, top cutting, recognising and removing poisonous plants
Stocking rates and alternative grazers.

LO4  **Outline an improvement plan to update an equine facility.**

*Types of equine facilities:*
Stud, competition centre, riding school, livery yard, private facility
Muck heap, feed room, tack room, horse walker, hacking, arenas, barns, stabling, wash downs, turn out and storing of medicines/chemicals
Yard security, Health and Safety
Isolation and quarantine facilities.

*Construction considerations:*
Stable design and maintenance.

*Planning requirements, construction processes and materials, specifications, construction contracts guarantees, timescales, costs.*
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Describe routine yard maintenance requirements to effectively manage the day-to-day running of a yard</td>
<td><strong>P1</strong> Explain routine maintenance tasks which are essential to manage a yard effectively</td>
<td><strong>M1</strong> Develop a plan of maintenance tasks to be completed on a specified yard, with reasoning to emphasise importance</td>
</tr>
<tr>
<td><strong>P2</strong> Design an area of grazing for a group of horses and/or donkeys to include fencing, gateways, shelter and water supply</td>
<td><strong>M2</strong> Evaluate the choices of materials used in a grazing area, to make informed decisions</td>
<td><strong>D1</strong> Manage a routine maintenance activity and evaluate effectiveness</td>
</tr>
</tbody>
</table>
| **LO2** Plan and design a grazing area for a group of horses and/or donkeys to include fencing, gateways, shelter and water supply | **M3** Evaluate a specified grazing area to predict potential change of management within the year, according to soil type, lay of land and current forage | **LO2 LO3**
| **P3** Outline pasture management systems and procedures | **P4** Create a 12-month grassland management plan to promote improved grazing for horses and/or donkeys for a specified area | **D2** Critically analyse reasoning for common issues with grazing and suggest possible solutions |
| **LO3** Develop a 12-month grassland management plan for a specified area of grazing | **P5** Describe current facilities that exist at an equine establishment | **M4** Develop an improvement plan to include a timeline and approximate costs in labour and materials |
| **P6** Complete a detailed SWOT analysis of an equine establishment to suggested updating and improvement of facilities | **M4** Develop an improvement plan to include a timeline and approximate costs in labour and materials | **D3** Present to an audience, a proposed improvement plan for an equine facility and respond to questions in a professional manner |
Recommended Resources

Textbooks

Web
www.bhs.org.uk British Horse Society
Pasture Management
(General reference)
www.britishgrassland.com British Grassland Society
Horse Grazing and Paddock Management
(General reference)
www.pcu.uk.org Pony Club UK / Chartered Institute of Environmental Health
Health and Safety on horse riding establishments and livery yards
(General reference)
www.teagasc.ie Rural Economy and Development Programme
Grassland for Horses
(Research)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.
Links

This unit links to the following related units:

Unit 2: Business and the Business Environment

Unit 3: Managing a Successful Project (Pearson-set)

Unit 12: Horse Husbandry
Unit 14: Management of Exotic Animal Species

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<thead>
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<th>Unit code</th>
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Introduction

The keeping of exotic animals represents an expanding sector of the animal industry. As it becomes increasingly common for private and public collections to keep exotic animals, the workforce needs to become increasingly familiar with the diverse range of animals and their requirements. This sector includes environments such as zoological gardens, wildlife sanctuaries and educational collections.

Exotic animals, by their nature, are essentially wild animals and as such are likely to have very specialist requirements in terms of their health, behaviour, diet and environment. By completing this unit, students will explore the diverse exotic animal industry/sector and its associated issues. They will learn about the comparative biology of exotic animal groups and how this affects their care and husbandry needs.

In order to meet animals’ needs and promote their welfare, students will gain skills in designing and maintaining appropriate environmental conditions such as temperature and humidity by employing suitable equipment and materials. Students will gain insights into the wild diets of animals and how nutritional and behavioural needs can be met in captivity. Students will also develop their knowledge of exotic animal health, identifying and managing a wide range of diseases and disorders.

Students will gain important theoretical knowledge and practical skills in promoting the welfare of a wide range of different exotic animal species. Upon completion of this unit, students will be well prepared to engage in employment in an exotic animal collection where they can apply what they have learned.
Learning Outcomes

By the end of this unit a student will be able to:

1. Explore the principles of exotic animal ownership and management
2. Evaluate the health and welfare of exotic animals in line with relevant legislative and industry standards
3. Explain the husbandry principles and practices for promoting exotic animal welfare to relevant standards
4. Implement husbandry practices for a range of exotic animal species in line with relevant standards.
Essential Content

LO1 Explore the principles of exotic animal ownership and management

Reasons and purposes for exotic animal collections:
Retail
Exhibition
Conservation
Education
Ethical criticisms and justifications.

Economic and socio-cultural context:
History of exotic animal ownership
Pet trade
Black markets
Public attractions.

Legislation:
Local, national and international
Public Health and Safety
Environmental protection
Licensing
Transportation
Trade.

LO2 Evaluate the health and welfare of exotic animals in line with relevant legislative and industry standards

Comparative biology of exotic animal anatomical systems:
Mammals, reptiles, birds, amphibians, fish, invertebrates
Health, clinical indicators.

Health issues affecting exotic animals:
Pathogenic illness
Parasites
Metabolic disorders
Environmental disease
Genetic disorders
Injuries.
Health management strategies:
Hygiene controls
Preventative strategies
Treatments.

Definitions and measures of welfare:
External measures
Regulatory bodies.

Behavioural and symptomatic indicators of health and welfare:
Stress indicators.

LO3 Explain the husbandry principles and practices for promoting exotic animal welfare to relevant standards

Nutrition:
Nutrient groups, sources and impact on animals’ bodies
Comparing wild diets to availability of captive diets
Feeding behaviours.

Environmental design:
Temperature
Humidity
Lighting
Substrate
Features
Chemistry
Social housing
Access and management
Measurements
Comparing natural habitats to availability of conditions in captivity
Comparative behaviour and anatomy of exotic animal groups.

Record-keeping and information management:
Online and offline systems.
ARKS
ZIMS.
LO4  Implement husbandry practices for a range of exotic animal species in line with relevant standards.

**Sourcing and use of relevant equipment and materials**

*Industry practices and procedures:*
- Codes of practice and industry guidelines
- Maintaining hygiene.
- Cleaning products and techniques.

*Feeding techniques:*
- Equipment
- Methods
- Preparation
- Presentation styles
- Recording and monitoring intake
- Resolving problems in feeding.

*Maintaining housing:*
- Principles of enclosure design
- Use of materials
- Displaying for exhibition.

*Handling and restraint*

*Factors affecting practices:*
- Finances
- Staff ability
- Scheduling
- Context of collection.
### Learning Outcomes and Assessment Criteria

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<tr>
<td><strong>LO1 Explore the principles of exotic animal ownership and management</strong></td>
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<tr>
<td><strong>P1 Discuss the variety of contexts for keeping exotic animals in captivity</strong></td>
<td><strong>M1 Assess the impact of legislation on the exotic animal trade/sector</strong></td>
<td><strong>D1 Critically analyse the contributing cultural, economic and legislative context of a specific exotic animal collection</strong></td>
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<tr>
<td><strong>P2 Explain the criteria of relevant legislation for the keeping of exotic animal collections</strong></td>
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</tbody>
</table>
| **LO2 Evaluate the health and welfare of exotic animals in line with relevant legislative and industry standards** | | **LO2 LO3 LO4**
| **P3 Examine the causes, treatment and prevention of diseases/disorders affecting exotic animals** | **M2 Develop an in-depth health management plan for an exotic animal species** | **D2 Critically evaluate an exotic animal collection in terms of the promotion of animal welfare in line with relevant industry and legislative standards** |
| **P4 Discuss behavioural indicators of welfare for exotic animals** | | |
| **LO3 Explain the husbandry principles and practices for promoting exotic animal welfare to relevant standards** | | |
| **P5 Discuss the impact of correct nutritional provision on the welfare of exotic animals** | **M3 Develop plans for husbandry routines for exotic animals** | |
| **P6 Discuss the impact of appropriate environmental conditions on the welfare of exotic animals** | | |
| **LO4 Implement husbandry practices for a range of exotic animal species in line with relevant standards** | | |
| **P7 Carry out activities which promote exotic animal welfare to relevant industry and legislative standards** | **M4 Reflect on the effectiveness of husbandry activities carried out** | |
Recommended Resources

Textbooks

Web
abwak.org The Association of British and Irish Wild Animal Keepers
(General reference)
www.cites.org Convention on the International Trade in Endangered Species
(General reference)
www.waza.org World Association of Zoos and Aquariums
(General reference)
www.zoolex.org Zoolex
Wild animal enclosure design guidance
(General reference)
Links

This unit links to the following related units:

Unit 1: Animal Health and Welfare
Unit 4: Animal Behaviour in Society
Unit 5: Animal Husbandry
Unit 15: Animal Collection Management
Unit 26: Evolution and Adaptations
Unit 15: Animal Collection Management

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</table>

Introduction

Animals are housed using a variety of different management systems across the animal and veterinary industries. It is therefore essential that anyone wishing to work within these sectors is able to judge the suitability of animal accommodation to meet animals’ needs, as well as being able to provide care to animals which maintains their health and optimises their welfare.

In this unit, students will review relevant legislation that governs the keeping, management and transportation of animals. Common husbandry methods used within companion animal, equine, exotic, zoological and farm animal collections will be reviewed to enable students to make informed judgements on how best to care for animals.

Students will learn how to safely handle and restrain a variety of animal species to facilitate routine management tasks. They will also be able to sex animals to prevent unwanted breeding or aggression within collections. Students will analyse how to prepare animal accommodation for a range of species, taking into account animals’ health, welfare and behavioural requirements, as well as demonstrating safe working practices to prevent the spread of disease within animal collections.

Successful completion of this unit will prepare students to work within any area of the animal industry which requires them to care for or manage individual animals or animal collections.
Learning Outcomes

By the end of this unit a student will be able to:

1. Demonstrate competent handling and restraint techniques for a range of animal species
2. Prepare animal accommodation which meets the needs of a range of animal species
3. Appraise the suitability of animal management facilities
4. Plan recommendations to animal collections to improve animal welfare.
Essential Content

LO1  **Demonstrate competent handling and restraint techniques for a range of animal species**

*Principles of animal restraint – this may occur using live animals or via simulation using models:*

- Cats, dogs, small mammals, exotic animals, horses, livestock
- Behavioural assessment
- Restraint for health checking
- Restraint for transportation
- Restraint for sexing.

*Safe handling and movement of animals:*

- Ergonomics and manual handling: risks, limitations of humans, positioning of loads, weight, stability, height, experience, physical condition and good practice
- Role of restraint equipment: muzzles, leads, collars, lupi, harness, dog catcher, cat bags, crush cage, cat muzzle, towels, containers for exotics and small mammals, head collars, chifney, twitch, stocks, stretches, hoists, sedation and chemical restraint etc
- Safe techniques for moving loads and different animals
- Provision of a safe and secure environment
- Temporary accommodation types
- Personal protective equipment
- Health and Safety.

LO2  **Prepare animal accommodation which meets the needs of a range of animal species**

*Suitability of animal accommodation and management:*

- Housing and materials: use, advantages and disadvantages
- Disease transmission: common diseases
- Cleaning substances and their uses
- Correct management of cleaning, feeding, watering, exercise and enrichment
- Frequency of monitoring and record-keeping
- Daily, weekly and monthly tasks
- Monitoring frequency and record-keeping
- Cleaning protocols: frequency, order, equipment, retaining same equipment for duration of stay
- Barrier nursing
Isolation and quarantine
Health and Safety, and risk assessment
Species-specific requirements.

Meeting animals’ needs:
Behaviour assessment
Welfare assessment
Feeding
Water
Spatial requirements
Bedding
Housing/shelter
Exercise
Excretion
Enrichment
Legislation
Social interaction
Sex of inhabitants
Individual versus group housing.

LO3 Appraise the suitability of animal management facilities

Welfare assessment of animal management facilities

Identify suitable accommodation requirements:
Patient factors: species, age, sex, condition, behaviour and welfare considerations, legislative requirements, monitoring, duration of stay, purpose of stay, bedding, furniture, water and food bowls
Environmental factors: heating, lighting, location, barrier/isolation, electricity, water, drainage, security, accessibility, ventilation, noise, access to external areas.

Provision of safe, secure, hygienic and appropriate housing:
Frequency and procedures for cleaning animal accommodation
Monitoring of signs of heath and disease
Selection and provision of suitable diets to meet nutritional and water requirements of animals
Designing and completing animal records
Provision of exercise and excretory opportunities
Enrichment opportunities
Human-animal interaction.
LO4 Plan recommendations to animal collections to improve animal welfare

Enrichment:
Food
Sensory: visual, olfactory (smell), auditory (hearing), taste and tactile (touch)
Environmental
Manipulative
Behavioural/social.

Welfare assessment:
Physiological measures
Physical measures
Behavioural measures
Eustress, stress and distress.
# Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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</thead>
<tbody>
<tr>
<td><strong>LO1</strong> Demonstrate competent handling and restraint techniques for a range of animal species</td>
<td><strong>M1</strong> Analyse if the environment being used is safe for animal handling</td>
<td><strong>D1</strong> Interpret the role of behaviour assessment within handling and restraint of animals</td>
</tr>
<tr>
<td><strong>P1</strong> Select suitable handling and restraint equipment for defined scenarios</td>
<td><strong>P2</strong> Demonstrate competent handling and restraint techniques for defined scenarios</td>
<td></td>
</tr>
<tr>
<td><strong>P3</strong> Prepare suitable accommodation for defined case studies</td>
<td><strong>P4</strong> Describe how the accommodation prepared meets the animals’ needs</td>
<td></td>
</tr>
<tr>
<td><strong>P5</strong> Perform an animal welfare assessment for a selected animal collection/facility</td>
<td><strong>P6</strong> Assess if the animal collection/facility is suitable for the animals housed in it</td>
<td></td>
</tr>
<tr>
<td><strong>P7</strong> List three recommendations which would improve animal welfare for a named animal collection/facility</td>
<td><strong>P8</strong> Justify how the recommendations made would improve animal welfare</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Prepare animal accommodation which meets the needs of a range of animal species</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>P3</strong> Prepare suitable accommodation for defined case studies</td>
<td><strong>P4</strong> Describe how the accommodation prepared meets the animals’ needs</td>
<td><strong>D2</strong> Assess how the prepared accommodation prevents disease transmission</td>
</tr>
<tr>
<td><strong>M2</strong> Discuss how additions to the prepared animal accommodation could enhance animal welfare</td>
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<tr>
<td><strong>LO3</strong> Appraise the suitability of animal management facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>P5</strong> Perform an animal welfare assessment for a selected animal collection/facility</td>
<td><strong>P6</strong> Assess if the animal collection/facility is suitable for the animals housed in it</td>
<td><strong>D3</strong> Evaluate how management protocols are used in the facility to prevent disease and keep the facility secure</td>
</tr>
<tr>
<td><strong>M3</strong> Appraise how the facility meets the needs of the animals housed within it</td>
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<tr>
<td><strong>LO4</strong> Plan recommendations to animal collections to improve animal welfare</td>
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</tr>
<tr>
<td><strong>P7</strong> List three recommendations which would improve animal welfare for a named animal collection/facility</td>
<td><strong>P8</strong> Justify how the recommendations made would improve animal welfare</td>
<td><strong>D4</strong> Design and validate one form of enrichment which could be used in the named animal collection/facility to improve animal welfare</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web

www.defra.gov.uk Department for Food and Rural Affairs
(General reference)

www.ufaw.org.uk Universities Federation for Animal Welfare
(General reference)

Links

This unit links to the following related units:

*Unit 1: Animal Health and Welfare*

*Unit 5: Animal Husbandry*

*Unit 7: Animal Nutrition*
Unit 16: Human Resource Management

<table>
<thead>
<tr>
<th>Unit code</th>
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Introduction

The aim of this unit is to enable students to appreciate and apply principles of effective human resource management (HRM). People are the lifeblood of any land-based organisation and being able to attract, recruit and retain talented staff and volunteers is at the core of all HRM activity.

This unit will explore the tools and techniques used in HRM to maximise the employee/volunteer contribution and how to use HR methods to gain competitive advantage. Students will explore the importance of training and development in building and extending the skills base of the organisation and ensuring it is relevant to the ever-changing business environment. Students will also consider the growing importance of becoming a flexible organisation within the land-based sector, with an equally flexible labour force, and become familiar with techniques of job design and reward systems.

The unit investigates the importance of good employee/volunteer relations and the ways in which employers engage with their staff and possibly with trade unions. Students will gain an understanding of the law governing HRM processes as well as the best practices which enable an employer to become an ‘employer of choice’ in their labour market.
Learning Outcomes

By the end of this unit a student will be able to:

1. Explain the purpose and scope of human resource management in terms of resourcing a land-based organisation with talent and skills appropriate to fulfil business objectives

2. Evaluate the effectiveness of the key elements of human resource management in a land-based organisation

3. Analyse internal and external factors that affect human resource management decision-making, including employment legislation

4. Apply human resource management practices in a work-related context.
Essential Content

LO1  Explain the purpose and scope of human resource management in terms of resourcing a land-based organisation with talent and skills appropriate to fulfil business objectives

The nature and scope of HRM:
Definitions of HRM
The main functions and activities of HRM
The ‘Best Fit’ approach versus ‘Best Practice’
The hard and soft models of HRM
Workforce planning
Types of labour market, labour market trends and PESTLE
The internal labour market
Analysing turnover, stability and retention
The impact of legal and regulatory frameworks
The impact that advances in technology have had upon improving the efficiency of HR practices.

Recruitment (employees and volunteers):
Sources of recruitment: internal versus external recruitment
Job analysis, job descriptions, personal specifications and competency frameworks.

Selection (employees and volunteers):
Main methods of selection: strengths and weaknesses of each
Reliability and validity as key criteria.

On-boarding and induction (employees and volunteers):
The issues affecting successful induction and socialisation of employees.

LO2  Evaluate the effectiveness of the key elements of human resource management in a land-based organisation

Learning, development and training:
Differentiating development and training
Identifying training needs – the training gap
Types of training
Evaluation of training.
Job and workplace design:
Reward management: extrinsic and intrinsic rewards from work
The link between motivational theory and reward
Series of job design-job extension techniques.

The flexible organisation:
Types of flexibility: numerical, structural and functional flexibility
Models of flexible organisations e.g. Handy, Atkinson
Flexible working options in modern organisations
Benefits to employers and benefits to employees/volunteers of flexible working practices.

Performance and reward:
Performance management and methods used to monitor employee/volunteer performance
Types of payment and reward system
Methods of a determination.

LO3 Analyse internal and external factors that affect human resource management decision-making, including employment legislation

Employee/volunteer relations:
Maintaining good employee/volunteer relations
Strategies for building and improving employee/volunteer relations and engagement.

Employee/volunteer relations and the law:
The purpose of employment law
Key legal issues and constraints e.g. equality, data protection, Health and Safety, redundancy, dismissal, employment contracts
Ethical and social responsibilities.

Trade unions and workplace representation:
The role of trade unions – local/national
Collective agreements
Discipline, grievances and redundancy – best practice.
LO4 **Apply human resource management practices in a work-related context.**

*Job and person specifications:*
Preparing job specifications and person specifications applicable to the recruitment context and needs of the organisations, taking into account legislation and company policies.

*Recruitment and selection in practice:*
The impact of technology on improving the recruitment and selection process e.g. the use of online resources, digital platforms and social networking
Designing and placing job advertisements
Shortlisting and processing applications
Interview preparation and best practice
Selection best practice.
# Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>P1</strong></td>
<td>Explain the purpose and the functions of HRM, applicable to workforce planning and resourcing an organisation</td>
<td><strong>M1</strong></td>
</tr>
<tr>
<td><strong>P2</strong></td>
<td>Explain the strengths and weaknesses of different approaches to recruitment and selection</td>
<td><strong>M2</strong></td>
</tr>
<tr>
<td><strong>P3</strong></td>
<td>Explain the benefits of different HRM practices within an organisation for both the employer and employee/volunteer</td>
<td><strong>M3</strong></td>
</tr>
<tr>
<td><strong>P4</strong></td>
<td>Evaluate the effectiveness of different HRM practices in terms of raising organisational profit and productivity</td>
<td><strong>D2</strong></td>
</tr>
<tr>
<td><strong>P5</strong></td>
<td>Analyse the importance of employee/volunteer relations in respect to influencing HRM decision-making</td>
<td><strong>M4</strong></td>
</tr>
<tr>
<td><strong>P6</strong></td>
<td>Identify the key elements of employment legislation and the impact it has upon HRM decision-making</td>
<td><strong>D3</strong></td>
</tr>
</tbody>
</table>

**LO1** Explain the purpose and scope of human resource management in terms of resourcing a land-based organisation with talent and skills appropriate to fulfil business objectives

**LO2** Evaluate the effectiveness of the key elements of human resource management in a land-based organisation

**LO3** Analyse internal and external factors that affect human resource management decision-making, including employment legislation

**LO3 LO4**

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<tr>
<td><strong>LO4</strong> Apply human resource management practices in a work-related context</td>
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<tr>
<td><strong>P7</strong> Illustrate the application of HRM practices in a work-related context, using specific examples</td>
<td><strong>M5</strong> Provide a rationale for the application of specific HRM practices in a work-related context</td>
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Recommended Resources

Textbooks


Links
This unit links to the following related units:

Unit 2: Business and the Business Environment

Unit 9: Veterinary Practice Management
Unit 17: Marketing Essentials

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<thead>
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</table>

Introduction

This unit is designed to introduce students to the principles of marketing, enabling them to develop a basic marketing plan and to employ elements of the marketing mix to achieve results. While students will learn the underpinning theories and frameworks, they will also be able to relate these to real-world examples, including products/services that they encounter in their own daily lives.

Organisations that work within the land-based sector or are associated with it such as Cadbury, Nestle, Unilever, Muller, John Deer, ABP, NFU and small local businesses all have at least one thing in common: they all use marketing to influence us to engage with their products and/or services. Whether it is becoming a loyal customer, buying a product and service or donating to a charity, organisations use a range of marketing techniques and tools to inform and influence us.

The knowledge, understanding and skill sets that students will gain on successfully completing this unit will enhance their career opportunities, whether setting up their own business or being employed by a land-based organisation.
Learning Outcomes

By the end of this unit a student will be able to:

1. Explain the role of marketing and how it interrelates with other functional units of a land-based organisation
2. Compare ways in which organisations use elements of the marketing mix (7Ps) to achieve overall business objectives
3. Develop and evaluate a basic marketing plan.
Essential Content

LO1  Explain the role of marketing and how it interrelates with other functional units of a land-based organisation

Definitions and the marketing concept:
Definitions of marketing and the nature of marketing
The development of the marketing concept e.g. current and future trends
How the external environment influences and impacts upon marketing activity.

The role of marketing:
The structure and operations of marketing departments
Overview of marketing processes that include analysis, strategic planning and the marketing mix
The different roles of marketing within both a B2C and B2B context.

The interrelationships of functional units:
Marketing as a business function
The different roles of business units and the interrelationships between these functional units and marketing.

LO2  Compare ways in which organisations use elements of the marketing mix (7Ps) to achieve overall business objectives

The 7Ps marketing mix:
Product: Differences between products and services, importance of brands, product development and product lifestyle
Price: Pricing context, pricing strategies and tactics
Place: Channel management, supply chain management and logistics
Promotion: Integrated communication mix and promotional tools
People: The different roles of ‘people’ in marketing e.g. customer interfacing and support personnel, and the different skills, attitudes and behaviour of people delivering the product or service to customers
Physical evidence: The tangible aspects of service delivery – visual, aural and olfactory elements
Process: Systems and processes involved in delivering a consistent service, and different types of processes used to expedite the marketing function.

Achieving overall business objectives:
The shift from the 4Ps to the 7Ps and the significance of the extended marketing mix
An overview of the marketing planning process (analysis, planning, implementation and control) and marketing strategy.
LO3  **Develop and evaluate a basic marketing plan**

*Marketing planning:*
- The importance and value of marketing plans
- The links between marketing plans, marketing objectives and marketing strategies
- Evaluating and monitoring marketing plans using appropriate control and evaluation techniques e.g. sales analysis, market-share analysis, efficiency ratios and cost-profitability analysis.

*Structure and development of marketing plans:*
- Market segmentation and target market selection
- Setting goals and objectives, situational analysis tools and techniques, creating a marketing strategy, allocation of resources, and monitoring and control measures.
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<tbody>
<tr>
<td><strong>LO1</strong> Explain the role of marketing and how it interrelates with other functional units of a land-based organisation</td>
<td><strong>P1</strong> Explain the key roles and responsibilities of the marketing function</td>
<td><strong>M1</strong> Analyse the roles and responsibilities of marketing in the context of the marketing environment</td>
</tr>
<tr>
<td><strong>P2</strong> Explain how roles and responsibilities of marketing relate to the wider organisational context</td>
<td><strong>M2</strong> Analyse the significance of interrelationships between marketing and other functional units of an organisation</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Compare ways in which organisations use elements of the marketing mix (7Ps) to achieve overall business objectives</td>
<td><strong>P3</strong> Compare the ways in which different organisations apply the marketing mix to the marketing planning process to achieve business objectives</td>
<td><strong>M3</strong> Evaluate different tactics applied by organisations to demonstrate how business objectives can be achieved</td>
</tr>
<tr>
<td><strong>LO3</strong> Develop and evaluate a basic marketing plan</td>
<td><strong>P4</strong> Produce and evaluate a basic marketing plan for an organisation</td>
<td><strong>M4</strong> Produce a detailed, coherent, evidence-based marketing plan for an organisation</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
www.ama.org American Marketing Association
Homepage
General reference
www.cim.co.uk Chartered Institute of Marketing (UK)
Homepage
General reference

Links
This unit links to the following related units:
Unit 2: Business and the Business Environment
Unit 9: Veterinary Practice Management
Unit 18: Equitation (Riding)

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<thead>
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<th>Unit code</th>
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Introduction

Understanding the principles of training and the ability to implement them in a calm and controlled manner whilst training horses on the flat is a skill valued by many employers. These skills are paramount as foundations to riding, regardless of the end discipline in which the rider chooses to participate. A good position helps the rider to maintain security and be effective while training horses and also ensures a positive bond is developed.

In this unit students will develop their riding position and reflect on its effectiveness. They will develop and improve a range of skills in working horses on the flat and use ridden school movements and complex lateral work on a variety of horses to maintain and improve their way of going. Students will also develop a key understanding of the welfare implications involved in the training and development of horses and ensure that welfare standards are high, with horses as a priority.

Students will be able to select and use suitable exercises and assess their effectiveness, making decisions on how to improve and alter the horse’s way of going. This can be by lengthening and shortening stride length, ensuring the horse is working on the bit and is accepting and soft in the contact. Students will investigate the levels of training required from novice to elementary-level British Dressage or an equivalent, and work a horse up to and above that standard. They will use learning theories to support and underpin the development of themselves as riders and the horses in training.

The unit requires students not only to work on a schooled horse and demonstrate the ability to get these horses to perform to the required standard, but also to demonstrate the ability to ensure horses with a variety of temperaments and at a range of abilities can perform select movements.

This unit will enable students to develop safe working practices, drawing on learning from across the qualification in relation to equine performance, horses and human relationship, and behaviour. This will prepare students for employment within the equine industry for a variety of disciplines.
Learning Outcomes

By the end of this unit a student will be able to:

1. Perform ridden flatwork exercises to demonstrate school movements, basic and complex lateral work – with the use of natural and artificial aids
2. Perform ridden flatwork exercises using poles work to enhance movement and develop consistent rhythm
3. Review training and suggest improvements for both horse and rider
4. Demonstrate the skills to influence a horse’s way of going when schooling on the flat.
Essential Content

LO1  Perform ridden flatwork exercises to demonstrate school movements, basic and complex lateral work – with the use of natural and artificial aids

Correct riding position:
Natural aids
Artificial aids.

Use of the aids:
Correct definitions e.g. upwards transitions, transitions in a gait, downwards transitions, half-halt, halt and rein back, turns and circles, 20m, 15m, 10m to turn-on-the-forehand, leg yielding, shoulder fore, shoulder-in, lengthening and collection.

Health and Safety

LO2  Perform ridden flatwork exercises using poles work to enhance movement and develop consistent rhythm

Range of transitions and movements:
Upwards transitions, transitions in a gait (lengthening and collection), downwards transitions, half-halt, halt and rein back, turns and circles, 20m, 15m, 10m to turn-on-the-forehand, leg yielding, shoulder fore, shoulder-in.

Using pole work to enhance movement:
Trotting poles
Canter poles
Raised poles.

LO3  Review training and suggest improvements for both horse and rider

Reflective practice:
Gibbs’ cycle of reflection
Learning theories
Learning cycles (Kolb)
Reflective portfolio.

Methods of checking progress:
Coach/instructor feedback
Competition results
Ease of movements
Increased obedience.
Building on progress:
Goal-setting
Adjusting goals
Mid-term and long-term goals
Complementary training e.g. loose schooling, hacking, jumping.

LO4 Demonstrate the skills to influence horses when schooling on the flat to improve way of going

Planning:
Qualities of a good rider/trainer.

The scales of training:
Way of going, rhythm, suppleness, contact, impulsion, straightness and collection.
## Learning Outcomes and Assessment Criteria

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<tr>
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<tbody>
<tr>
<td><strong>LO1</strong> Perform ridden flatwork exercises to demonstrate school movements, basic and complex lateral work – with the use of natural and artificial aids</td>
<td></td>
<td><strong>LO1 LO2</strong> Demonstrate the ability to work horses to elementary standard (BHS Level 4 or equivalent), evaluating their way of going</td>
</tr>
<tr>
<td><strong>P1</strong> Analyse personal riding position and how it affects horses’ way of going</td>
<td><strong>M1</strong> Perform ridden flatwork on horses with a variety of temperaments and of differing levels of training, showing a balanced, supple and independent seat</td>
<td></td>
</tr>
<tr>
<td><strong>P2</strong> Perform ridden flatwork and lateral work on schooled horses, showing a balanced, supple and independent seat</td>
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</tr>
<tr>
<td><strong>LO2</strong> Perform ridden flatwork exercises using poles work to enhance movement and develop consistent rhythm</td>
<td></td>
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</tr>
<tr>
<td><strong>P3</strong> Describe the importance of using pole work to improve flatwork movement</td>
<td><strong>M2</strong> Evaluate the significance of the link between riding position and application of the aids whilst working a horse over poles</td>
<td></td>
</tr>
<tr>
<td><strong>P4</strong> Perform ridden flatwork using poles to enhance movement, demonstrating supple and independent seat</td>
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<tr>
<td><strong>LO3</strong> Review training and suggest improvements for both horse and rider</td>
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<tr>
<td><strong>P5</strong> Describe the process of reflection and its importance in training, using theory models to support work</td>
<td><strong>M3</strong> Plan and perform ridden sessions and use information to inform reflective riding diary</td>
<td></td>
</tr>
<tr>
<td><strong>P6</strong> Produce a reflective riding diary</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LO4</strong> Demonstrate the ability to influence horses when schooling on the flat to improve way of going</td>
<td></td>
<td><strong>LO3 LO4</strong> Analyse the influence of reflective riding diary on planning a session to improve a horse’s way of going</td>
</tr>
<tr>
<td><strong>P7</strong> Explain basic training of the horse</td>
<td><strong>M4</strong> Analyse, with reference to theory, how correctly ridden school movements and basic lateral work can develop the basic training of the horse.</td>
<td></td>
</tr>
<tr>
<td><strong>P8</strong> Perform school movements to improve horse’s way of going</td>
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</tbody>
</table>
Recommended Resources

Textbooks


Web
www.horseandhound.co.uk Horse and Hound
Horse and rider training
(Article)

Links
This unit links to the following related units:
*Unit 20: Equestrian Performance*
*Unit 37: Equitation II (Riding)*
Unit 19: Horse and Human Relationship

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<td>Credit value</td>
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</table>

Introduction

This unit will look at the changes and advances in human and horse relationship over many years. The unit will allow students to identify how horses have changed within society and the alteration in the roles that a horse has had through the years. Students will evaluate how managing horses in varied ways can alter the relationship between human and horse in both positive and negative ways, looking into elements of husbandry routines and behaviour, and making links to other key aspects of equine management.

Students will identify training methods of natural horsemanship, analysing how this enhances human and horse bond, as well as looking into recent advances of using horses in therapy. This knowledge will allow students to work in a variety of equine sectors where a range of training methods are used.

Overall, key links will ensure that these human and horse relationships look to benefit both as well as improving rider relationships with horses when in a performance situation. This knowledge will support many aspects of work in the equestrian industry, such as understanding the suitability of horses for rider needs, working as an equine coach, breeder or trainer, as well as being understanding of key husbandry and welfare needs that can impact on horse and human relationship. This unit also offers the opportunity to understand how horses can be utilised in other avenues and therefore offers insight into other potential working avenues. This knowledge is vital whether it’s for a groom, rider, coach, analyst, behaviourist, breeder or trainer.
Learning Outcomes

By the end of this unit a student will be able to:

1. Discuss the domestication and uses of horses
2. Evaluate the influence of human management on horse and human relationship
3. Describe methods of natural horsemanship and how horses are used for therapy
4. Analyse the influence of horse and rider relationship on performance.
Essential Content

LO1  Discuss the domestication and uses of horses

Domestication of horses:
Timescale and process of domestication
Influences on culture and history.

Uses of horses:
Food, transport, military, farming, performance, gambling, load bearing, milk, companionship.

LO2  Evaluate the influence of human management on the horse and human relationship

Husbandry:
Feeding
Accommodation
Grooming
Grazing.

Interaction:
Social contact with humans and horse
Long-term interaction (owner)
Short-term interaction (vet, farrier, coach).

Equine personality and behaviour

Human:
Voice
Mannerisms
Body positioning
Gender
Approach.
LO3 **Describe methods of natural horsemanship and how horses are used for therapy**

*Types of natural horsemanship:*
- Bonds created
- Purpose of natural horsemanship
- Specific techniques and industry influences (Pat Parelli, Monty Roberts)
*Positives and negatives of natural horsemanship.*

*Horses used for therapy (Equine-assisted therapy – EAT):*
- ADD, anxiety, autism, dementia, delay in mental development, Down’s syndrome and other genetic syndromes, depression, trauma and brain injuries, behaviour and abuse issues.

*Horses in assisted therapy*

LO4 **Analyse the influence of horse and rider relationship on performance.**

*Injury rates*

*Coaching*

*Psychological factors of horse and rider.*

*Rider/horse suitability:*
- Personality, training, experience, behaviour.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tr>
<td><strong>LO1</strong> Discuss the domestication and uses of horses</td>
<td><strong>LO1 LO2</strong></td>
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<tr>
<td><strong>P1</strong> Discuss the process of domestication of horses and its influence on human history and culture</td>
<td><strong>M1</strong> Analyse the use of horses throughout the last century</td>
<td></td>
</tr>
<tr>
<td><strong>P2</strong> Describe ways in which horses have been utilised by humans</td>
<td><strong>D1</strong> Critically analyse the use of horses in the last century and how this has influenced modern-day husbandry management techniques and horse and human interaction</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Evaluate the influence of human management on horse and human relationship</td>
<td><strong>P3</strong> Discuss husbandry management technique, identifying how they could negatively/positively influence horse and human relationship</td>
<td></td>
</tr>
<tr>
<td><strong>P4</strong> Discuss the importance of interaction in establishing a positive horse and human relationship</td>
<td><strong>M2</strong> Evaluate how management techniques can positively and negatively influence the relationship between horse and human</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Describe methods of natural horsemanship and how horses are used for therapy</td>
<td><strong>LO4</strong> Analyse the influence of horse and rider relationship on performance</td>
<td></td>
</tr>
<tr>
<td><strong>P5</strong> Discuss types of natural horsemanship</td>
<td><strong>P7</strong> Discuss factors that could be affected in performance by a limited rider and horse relationship</td>
<td></td>
</tr>
<tr>
<td><strong>P6</strong> Describe the ways in which horses are used for therapy reasons</td>
<td><strong>P8</strong> Compare how different disciplines may require different forms of rider and horse relationship to ensure success</td>
<td></td>
</tr>
<tr>
<td><strong>LO5</strong> Describe methods of natural horsemanship and how horses are used for therapy</td>
<td><strong>LO4</strong> Analyse the influence of horse and rider relationship on performance</td>
<td></td>
</tr>
<tr>
<td><strong>P6</strong> Describe the ways in which horses are used for therapy reasons</td>
<td><strong>P8</strong> Compare how different disciplines may require different forms of rider and horse relationship to ensure success</td>
<td></td>
</tr>
<tr>
<td><strong>LO4</strong> Analyse the influence of horse and rider relationship on performance</td>
<td><strong>M4</strong> Analyse the importance of a horse and rider relationship in ensuring success in a selected discipline</td>
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<tr>
<td><strong>P7</strong> Discuss factors that could be affected in performance by a limited rider and horse relationship</td>
<td><strong>M4</strong> Analyse the importance of a horse and rider relationship in ensuring success in a selected discipline</td>
<td></td>
</tr>
<tr>
<td><strong>P8</strong> Compare how different disciplines may require different forms of rider and horse relationship to ensure success</td>
<td><strong>D2</strong> Critically evaluate the ethical implications of using horses for therapy</td>
<td></td>
</tr>
<tr>
<td><strong>D3</strong> Evaluate the influence of horse and rider relationship on the outcome of performance in a selected discipline</td>
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Pearson BTEC Levels 4 and 5 Higher Nationals in Animal Management
Specification – Issue 1 – August 2018 © Pearson Education Limited 2018
Recommended Resources

Textbooks


Journals


Links
This unit links to the following related units:

*Unit 18: Equitation (Riding)*

*Unit 20: Equestrian Performance*

*Unit 37: Equitation II (Riding)*

*Unit 39: Advanced Equine Performance*
Unit 20: Equestrian Performance

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Introduction

The effective management of horses’ fitness is necessary to ensure optimum performance levels are achieved and maintained. This unit provides detailed knowledge of the physiological effect of exercise and training on the different equine body systems. An understanding of enhancing and maintaining fitness techniques and principles will also be covered, as this is vital for the production of successful performance horses.

Evaluating methods of training and fitness for the horse and studying the science of biomechanics, gait and conformation will develop students’ appreciation of factors that may affect performance. This allows students to understand movement patterns and the rhythm of the horse gait, adding to the ability to alter or adjust movement through training.

Feeding horses’ the correct nutrition also plays a huge part in performance success. Nutrition allows a horse to develop vital athleticism, concentration, agility and stamina to perform at its best. This knowledge is vital whether it’s for a groom, rider, coach, analyst, behaviourist, breeder or, more specifically, performance analyst.

Overall, this unit enhances students’ ability to support and develop an athletic horse from the inside out. Students will develop training and nutrition programmes that support and enhance horses’ physiological systems, allowing the horse to work at its optimum performance level.
Learning Outcomes

By the end of this unit a student will be able to:

1. Identify alterations to the horse’s physiological systems during a select equestrian discipline
2. Describe the science of biomechanics, gait and conformation
3. Compare training and fitness programmes to support a horse to optimum performance in a selected discipline
4. Recognise the impact of nutrition on the outcome of performance.
Essential Content

LO1 Identify alterations to the horse’s physiological systems during a select equestrian discipline

Alterations to the following systems in selected discipline:
Cardiovascular system
Respiratory system
Skeletal system
Muscular system
Circulatory system
Endocrine system.

LO2 Describe the science of biomechanics, gait and conformation

Biomechanics:
Variables
Standard units
Kinetic versus kinematic measurement.

Locomotion and gait analysis:
Analysis of movement of different horses
Breed comparison
Motion analysis systems
Parameters of the walk, trot, canter, gallop and jump.

Conformation:
Differentiation of conformation for different disciplines
Dynamic conformation
Static conformation analysis
Common conformation faults in certain disciplines and how to manage them to prevent injury.
**LO3** Compare training and fitness programmes to support a horse to optimum performance in a selected discipline

*Different regimes for getting horses fit:*
- Conventional training
- Endurance training
- Interval training
- Speed training
- Strength training
- Acclimatisation training (preparation for different environments).

*Phases of fitness programmes:*
- Periodisation
- Performance goals
- Skills training
- Tapering.

*Monitoring fitness:*
- Heart rate
- Record-keeping
- Fitness testing
- Effects of training on oxygen uptake
- Recovery rate.

*Impact of altitude in improving fitness:*
- Speed
- Time
- Hydration
- Muscle enzymes
- Lactate
- Hydration
- Overtraining.

**LO4** Recognise the impact of nutrition on the outcome of performance

*Rations for performance horses*
*Feed types*
*Dietary manipulation to benefit the performance horse.*
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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<th>Distinction</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Identify alterations to the horse’s physiological systems during a select equestrian discipline</td>
<td><strong>M1</strong> Analyse the impact of alterations to the physiological systems during a selected equestrian discipline</td>
<td><strong>D1</strong> Critically analyse the impact of physiology alteration during exercise, evaluating the impact of biomechanics, gait and conformation on the mentioned systems</td>
</tr>
<tr>
<td><strong>P1</strong> Discuss the physiological systems within the equine body during exercise</td>
<td><strong>P2</strong> Discuss the alterations to the physiological systems during training</td>
<td><strong>LO1</strong> <strong>LO2</strong></td>
</tr>
<tr>
<td><strong>LO2</strong> Describe the science of biomechanics, gait and conformation</td>
<td><strong>M2</strong> Analyse the locomotion and gait of selected horses, making reference to impact on performance</td>
<td><strong>LO3</strong> <strong>LO4</strong></td>
</tr>
<tr>
<td><strong>P3</strong> Explain definitions and variables of measurement in biomechanics</td>
<td><strong>P4</strong> Discuss the importance of conformation on performance outcome</td>
<td><strong>D2</strong> Critically evaluate a training and nutrition programme for a horse in a selected discipline, making justification for improvement</td>
</tr>
<tr>
<td><strong>LO3</strong> Compare training and fitness programmes to support a horse to optimum performance in a selected discipline</td>
<td><strong>M3</strong> Evaluate the need to monitor fitness to ensure improved performance and prevent overtraining</td>
<td></td>
</tr>
<tr>
<td><strong>P5</strong> Compare different fitness regimes</td>
<td><strong>P6</strong> Assess fitness programmes for horses competing at different levels in a range of disciplines</td>
<td></td>
</tr>
<tr>
<td><strong>LO4</strong> Recognise the impact of nutrition on the outcome of performance.</td>
<td><strong>M4</strong> Perform comparative analysis of different feed samples from industry</td>
<td></td>
</tr>
<tr>
<td><strong>P7</strong> Review rations for given performance horses</td>
<td><strong>P8</strong> Explain how the diet can be manipulated to benefit the performance horse</td>
<td></td>
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</table>
Recommended Resources

Textbooks

Links
This unit links to the following related units:

*Unit 6: Animal Anatomy and Physiology*
*Unit 7: Animal Nutrition*
*Unit 18: Equitation (Riding)*
*Unit 37: Equitation II (Riding)*
*Unit 39: Advanced Equine Performance*
Unit 21: Management Accounting

<table>
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<th>Unit code</th>
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<tr>
<td>Unit level</td>
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Introduction

The overall aim of this unit is to introduce the fundamentals of management accounting which apply to the wider land-based business environment and the organisations which operate within that environment. Students will explore how management accounting uses financial data to aid planning decisions, and the monitoring and control of finance within organisations.

On successful completion of this unit, students will be in a position to present financial statements in a workplace context and be able to assist senior colleagues with financial business planning. In addition, students will have the fundamental knowledge and skills to progress to a higher level of study.
**Learning Outcomes**

By the end of this unit a student will be able to:

1. Demonstrate an understanding of management accounting systems
2. Apply a range of management accounting techniques
3. Explain the use of planning tools used in management accounting
4. Compare ways in which organisations could use management accounting to respond to financial problems.
Essential Content

LO1  Demonstrate an understanding of management accounting systems

Introduction to management accounting:
What is management accounting? Definition of management accounting
What is a management accounting system?
Why is it important to integrate these within an organisation?
Explore the origin, role and principles of management accounting
The distinction between management and financial accounting.

Different types of management accounting systems:
Cost-accounting systems, inventory management systems, job-costing systems and price-optimising systems
Benefits of different types of systems.

Presenting financial information:
Why information should be relevant to the user, reliable, up-to-date and accurate
Why the way in which the information is presented must be understandable
Different types of managerial accounting reports.

LO2  Apply a range of management accounting techniques

Microeconomic techniques:
What is meant by cost? Different costs and cost analysis
Cost-volume profit, flexible budgeting and cost variances
Applying absorption and marginal costing.

Product costings:
Fixed and variable costs, cost allocation
Normal and standard costing, activity-based costing and the role of costing in setting price.

Cost of inventory:
Definition and meaning of inventory costs and different types of inventory costs
The benefits of reducing inventory costs to an organisation
Valuation methods
Cost variances
Overhead costs.
LO3  **Explain the use of planning tools used in management accounting**

*Using budgets for planning and control:*
- Preparing a budget
- Different types of budgets e.g. capital and operating
- Alternative methods of budgeting
- Behavioural implications of budgets.

*Pricing:*
- Pricing strategies
- How do competitors determine their prices?
- Supply and demand considerations.

*Common costing systems:*
- Actual costing, normal costing and standard costing systems
- How cost systems differ depending on the costing activity: job costing, process costing, batch costing and contract costing.

*Strategic planning:*
- Applying PEST, SWOT, balance scorecard or Porter’s Five Forces analysis to the financial position of an organisation.

LO4  **Compare ways in which organisations could use management accounting to respond to financial problems**

*Identifying financial problems:*
- Using benchmarks, key performance indicators (financial and non-financial) and budgetary targets to identify variances and problems.

*Financial governance:*
- Definitions of financial governance, and how this can be used to pre-empt or prevent financial problems
- Using financial governance to monitor strategy.

*Management accounting skill sets:*
- What are the characteristics of an effective management accountant?
- How can these skills be used to prevent and/or deal with problems?

*Effective strategies and systems:*
- The development of strategies and systems which require effective and timely reporting, full disclosure of financial positions and are responsibly owned and governed.
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>LO1</strong> Demonstrate an understanding of management accounting systems</td>
<td><strong>M1</strong> Evaluate the benefits of management accounting systems and their application within an organisational context</td>
<td><strong>D1</strong> Critically evaluate how management accounting systems and management accounting reporting is integrated within organisational processes</td>
</tr>
<tr>
<td><strong>P1</strong> Explain management accounting and give the essential requirements of different types of management accounting systems</td>
<td><strong>P2</strong> Explain different methods used for management accounting reporting</td>
<td></td>
</tr>
<tr>
<td><strong>M2</strong> Accurately apply a range of management accounting techniques and produce appropriate financial reporting documents</td>
<td><strong>D2</strong> Produce financial reports that accurately apply and interpret data for a range of business activities</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Apply a range of management accounting techniques</td>
<td><strong>M3</strong> Analyse the use of different planning tools and their application for preparing and forecasting budgets</td>
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</tr>
<tr>
<td><strong>P3</strong> Calculate costs using appropriate techniques of cost analysis to prepare an income statement using marginal and absorption costs</td>
<td></td>
<td><strong>LO3 LO4</strong></td>
</tr>
<tr>
<td><strong>M4</strong> Analyse how, in responding to financial problems, management accounting can lead organisations to sustainable success</td>
<td><strong>D3</strong> Evaluate how planning tools for accounting respond appropriately to solving financial problems and lead organisations to sustainable success</td>
<td></td>
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Recommended Resources

Textbooks


Links

This unit links to the following related units:

Unit 2: Business and the Business Environment
Unit 30: Advanced Management Accounting
Unit 22: Teaching in a Specialist Subject

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<th>Unit code</th>
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Introduction

Working in the animal and agricultural industries frequently includes delivery of material designed to educate others about the welfare of animals. This can include teaching in further education (FE), working in the animal entertainment sector or owning a business. Knowledge of the principles and practices of teaching is fundamental to ensure sufficient learning. This unit provides an introduction to the key principles of teaching and gives students the opportunity to put what they have learned into practice.

Students will be provided with the opportunity to explore a range of learning theories used within teaching and gain an understanding of the ways in which lessons are structured. They will explore a range of delivery methods, including inclusive approaches to activities within a specialist area. Students will also be able to identify issues and management strategies relating to equality and diversity as well as behavioural management.

This unit also provides the opportunity to explore the importance of using a range of assessment techniques, as well as managing and developing resources to inspire. In addition, students will have the chance to evaluate their own approaches to teaching, enabling them to tailor this to a specialist area.

The underlying principle of the unit is to give students the opportunity to develop confidence in developing and delivering educational material to pupils within the animal management sector. During their careers, students will take on roles that may require professional evaluation and working effectively with others. Students will also gain skills in dealing with issues arising out of equality and diversity, along with the management of behaviour, which forms an integral part of teaching a specialist subject.
Learning Outcomes

By the end of this unit a student will be able to:

1. Identify the application of the theories and principles of education and training in a specialist subject
2. Develop a range of resources to enable inclusive learning
3. Demonstrate how to plan, design and construct a lesson
4. Evaluate delivery techniques and improve activities.
Essential Content

LO1  Identify the application of the theories and principles of education and training in a specialist subject

Curriculum:
Educational/training context in specialist subject (FE College, HE, sixth form, work-based training, school visits, entertainment industry, charity work)
Delivery (knowledge-based, tutor-centred, student-centred, lecture style, research-based).

Principles of learning:
Maslow’s hierarchy of needs
Behaviourists, cognitivists and humanists e.g. Piaget, Romanowski, Kolb, Pavlov
VAK
Inclusive learning
Bloom’s taxonomy.

LO2  Develop a range of resources to enable inclusive learning

Resource design and management:
Differentiation
Starters
Plenaries
Evaluation of own resources.

Resources and activities to promote learning:
VLE e.g. Blackboard, Moodle
ICT
Handouts
Case studies
Guest speakers
Educational visits
Role play
Peer working/support.
Equality and diversity:
Promoting equality
Challenging discriminatory behaviour
Legislation
Incorporating equality and diversity in a range of lessons.

LO3 Demonstrate how to plan, design and construct a lesson

Session planning:
Aims and objectives
Lesson planning e.g. pace of lesson, stages, timing, variety
Schemes of Work
Time management techniques.

Assessment techniques:
Initial assessment
Formative assessment
Summative assessment
Peer assessment
Ways to incorporate assessment in lessons
Feedback techniques.

LO4 Evaluate delivery techniques and improve activities.

Strength and development:
Use of reflective journals in evaluating own approaches
Reflection in action/reflection on action
Kolb’s learning cycle.

Sharing good practice:
Team meetings, staff development days
Using feedback from others
The importance of continuing professional development
Liaising with others, experience in workplace/industry.
The observation process:
People who carry out observations in specialist areas
The importance of observations
Methods of observation
Formal/informal observations
Feedback process.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Identify the application of the theories and principles of education and training in a specialist subject</td>
<td><strong>M1</strong> Analyse the different methods of delivery of education within own specialist subject area, giving both advantages and disadvantages</td>
<td><strong>D1</strong> Critically evaluate the planning and delivery process and appropriate resources applied</td>
</tr>
<tr>
<td><strong>P1</strong> Explain the various ways teaching can be implemented in own specialist subject area</td>
<td><strong>P2</strong> Describe a range of theories and philosophies used within teaching and learning, giving specific examples</td>
<td><strong>LO1</strong> <strong>LO2</strong></td>
</tr>
<tr>
<td><strong>LO2</strong> Develop a range of resources to enable inclusive learning</td>
<td><strong>M2</strong> Analyse the effectiveness of specific resources, reviewing both advantages and disadvantages</td>
<td><strong>D2</strong> Provide a critical evaluation and reflection of your planning and delivery of sessions</td>
</tr>
<tr>
<td><strong>P3</strong> Select and produce a range of resources, including new and emerging technologies, for a minimum of two sessions in a specialist subject area</td>
<td><strong>P4</strong> Identify, use and evaluate appropriate resources for support in promoting equality and diversity</td>
<td><strong>LO3</strong> <strong>LO4</strong></td>
</tr>
<tr>
<td><strong>P5</strong> Plan a detailed Scheme of Work for a specialist subject area</td>
<td><strong>M3</strong> Evaluate the use of differentiation within the planning and delivery of a minimum of two sessions</td>
<td><strong>LO3</strong> <strong>LO4</strong></td>
</tr>
<tr>
<td><strong>P6</strong> Provide evidence of the planning and delivery of a minimum of two different sessions</td>
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</table>

Pass

- **P1**: Explain the various ways teaching can be implemented in own specialist subject area
- **P2**: Describe a range of theories and philosophies used within teaching and learning, giving specific examples
- **P3**: Select and produce a range of resources, including new and emerging technologies, for a minimum of two sessions in a specialist subject area
- **P4**: Identify, use and evaluate appropriate resources for support in promoting equality and diversity
- **P5**: Plan a detailed Scheme of Work for a specialist subject area
- **P6**: Provide evidence of the planning and delivery of a minimum of two different sessions

Merit

- **M1**: Analyse the different methods of delivery of education within own specialist subject area, giving both advantages and disadvantages
- **M2**: Analyse the effectiveness of specific resources, reviewing both advantages and disadvantages
- **M3**: Evaluate the use of differentiation within the planning and delivery of a minimum of two sessions

Distinction

- **D1**: Critically evaluate the planning and delivery process and appropriate resources applied
- **D2**: Provide a critical evaluation and reflection of your planning and delivery of sessions
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<tbody>
<tr>
<td>LO4</td>
<td>Evaluate delivery techniques and improve activities</td>
<td></td>
</tr>
<tr>
<td>P7</td>
<td>Reflect on own approaches, strengths and development needs in relation to own specialist subject area</td>
<td></td>
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<tr>
<td>P8</td>
<td>Review the various ways in which sharing good practice can be beneficial to improve teaching and learning, giving specific examples where possible</td>
<td>M4</td>
</tr>
<tr>
<td></td>
<td>M4 Analyse the positive and negative outcomes of lesson planning and delivery, supported by specific examples</td>
<td></td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
www.educationworld.com Education world (General reference)
http://geoffpetty.com Geoff Petty (General reference)
www.tes.com Tes (General reference)

Links
This unit links to the following related units:
*Unit 3: Managing a Successful Project (Pearson-set)*
*Unit 24: Research Project (Pearson-set)*
Unit 23: Biological Principles

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Introduction

The aim of this unit is to provide students with the underpinning knowledge of fundamental biological concepts which can be developed within Unit 6: Animal Anatomy and Physiology, Unit 27: Biochemistry and Medical Microbiology, and Unit 33: Animal Breeding and Genetics. Biological principles relate to all areas of study within the animal management sector.

Students will study core concepts of cellular structure and function at organelle level, how cellular transport mechanisms allow the cell to function, and the subsequent organisation of cells into the specialised tissues and organ systems within the bodies of animal species. The importance of the maintenance of the internal environment will also be examined through the regulatory functions of homeostasis, feedback mechanisms and endocrine and nervous system control.

Students will develop essential practical laboratory skills, risk assessment and Health and Safety management within the laboratory, and analytical skills through the planning, development, execution and analysis of investigations into relevant biological principles and processes. Assessment strategies will include online quizzes, assessed practical investigations, written reports and presentations.

Having completed this unit, students will be equipped with the underpinning knowledge of the principles of biological processes as well as the necessary skills for carrying out practical investigations. These broad skills can be applied to their choices of specialism and career progression.
Learning Outcomes

By the end of this unit a student will be able to:

1. Analyse the structure and function of animal cells, organelles and cellular transport mechanisms
2. Assess the interrelationships between the organisation of cells, tissues and organ systems within the animal body
3. Determine how the internal environment of the animal body is maintained through the mechanisms of homeostasis
4. Demonstrate, through practical investigations, the principles and processes of biological concepts.
Essential Content

**LO1 Analyse the structure and function of animal cells, organelles and cellular transport mechanisms**

*Cell structure and functions:*
- Prokaryotic cells (capsule, cell wall, plasma membrane, nucleoid, ribosomes, pili)
- Eukaryotic cells (plasma membrane, cytoplasm, mitochondria, endoplasmic reticulum (smooth and rough), ribosomes, Golgi apparatus, peroxisomes, lysosomes, centrioles, nucleus), specialist structures (chloroplasts, vacuole, plasmodesmata, cilia, flagella)
- Role of enzymes in cellular processes.

*Cellular transport mechanisms:*
- Diffusion, osmosis, facilitated diffusion, active transport, filtration, phagocytosis, pinocytosis.

**LO2 Assess the interrelationships between the organisation of cells, tissues and organs systems within the animal body**

*Tissue types:*
- Epithelial tissue (simple (squamous, cuboidal, columnar), stratified (squamous, columnar) pseudostratified)
- Connective tissue (areolar, adipose, dense fibrous, cartilage, bone, blood).
- Muscular tissue (smooth, skeletal, cardiac)
- Nervous tissue (neurons, neuroglia, oligodendrocytes, microglia, astrocytes, ependymal cells, Schwann cells).

*Organisation of tissues into organs and organ systems:*
- Nervous (central, peripheral, sympathetic, parasympathetic), endocrine, respiratory, circulatory (arteries, veins, capillaries), digestive, musculoskeletal, urinary, immune, integumentary.

**LO3 Determine how the internal environment of the body is maintained through the mechanisms of homeostasis**

*Feedback systems:*
- Components and functions of feedback systems e.g. receptor, integrating centre, effector
- Negative feedback systems e.g. CO₂, blood glucose, temperature, pH, water, sodium
- Positive feedback systems, parturition
- Effects when homeostasis is not maintained.
Role of the nervous and endocrine systems:

Nervous system e.g. autonomic nervous system, visceral sensory and motor neurons, rapid signalling

Endocrine system e.g. mechanism of action of hormones, transport into target cells, surface receptors, intracellular receptors, role of the second messenger systems (cyclic AMP, protein/tyrosine kinase, cyclic GMP, calcium), endpoint activity (alteration of enzyme and other dynamic molecule expression, cell physiology, modulation of gene expression).

LO4 Demonstrate, through practical investigations, the principles and processes of biological concepts.

Plan and implement a range of investigations:

Scientific experimental method e.g. research, developing hypotheses

Formulation of method e.g. design of practical activities, resources required, controls, sampling strategies, dependent and independent variables

Risk assessment

Selection and competent use of appropriate techniques

Collation of results (appropriate format).

Analysis and evaluation:

Use of appropriate statistical tests to derive valid conclusions

Potential sources of experimental error

Accuracy and validity of practical investigations undertaken

Evaluation of practical investigations against valid sources and potential for further investigation.
<table>
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<tr>
<th>Learning Outcomes and Assessment Criteria</th>
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<tbody>
<tr>
<td><strong>Pass</strong></td>
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<td><strong>LO1</strong> Analyse the structure and function of animal cells, organelles and cellular transport mechanisms</td>
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<td>Pass</td>
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<tr>
<td><strong>LO4</strong> Demonstrate, through practical investigations, the principles and processes of biological concepts</td>
</tr>
<tr>
<td>P7 Independently plan and conduct a series of practical activities to investigate a range of biological principles and processes</td>
</tr>
<tr>
<td>P8 Analyse the results of these investigations and provide valid conclusions.</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
www.biologymad.com Biology Mad
Additional Resources/Useful websites
(General reference)
www.msdvetmanual.com MSD Manual (Merck)
Veterinary Content/Resources
(Research/General reference)

Links
This unit links to the following related units:

Unit 6: Animal Anatomy and Physiology
Unit 27: Biochemistry and Medical Microbiology
Unit 33: Animal Breeding and Genetics
**Unit 24: Research Project (Pearson-set)**

<table>
<thead>
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<td>Unit level</td>
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</table>

**Introduction**

This unit is assessed by a Pearson-set assignment. Students will choose their own project based on a theme provided by Pearson (this will change annually). The project must be related to students’ specialist pathway of study (unless the student is studying a general pathway). This will enable students to explore and examine a relevant and current topical aspect of business in the context of the land-based business environment and their chosen specialist pathway.

The aim of this unit is to offer students the opportunity to engage in sustained research in a specific field of study. The unit enables students to demonstrate the capacity and ability to identify a research theme, develop research aims, objectives and outcomes, and present the outcomes of such research in both written and verbal formats. The unit also encourages students to reflect on their engagement in the research process, as recommendations for future, personal development are key learning points.

On successful completion of this unit, students will have the confidence to engage in problem-solving and research activities which are part of the function of a manager. Students will have the fundamental knowledge and skills to enable them to investigate workplace issues and problems, determine appropriate solutions and present evidence to various stakeholders in an acceptable and understandable format.

**Please refer to the accompanying Pearson-set Assignment Guide and the Theme Release document for further support and guidance on the delivery of the Pearson-set unit.**
Learning Outcomes

By the end of this unit a student will be able to:

1. Examine appropriate research methodologies and approaches as part of the research process
2. Conduct and analyse research relevant for a land-based business research project
3. Communicate the outcomes of a research project to identified stakeholders
4. Reflect on the application of research methodologies and concepts.
Essential Content

**LO1** Examine appropriate research methodologies and approaches as part of the research process

*Developing a research proposition:*
The importance of developing methodical and valid propositions as the foundation for a research project
Rationale – the purpose and significance for research question or hypothesis
The value of the philosophical position of the researcher and the chosen methods
Use of Saunders’ research onion as a guide to establishing a methodological approach.

*Literature review:*
Conceptualisation of the research problem or hypothesis
The importance of positioning a research project in the context of existing knowledge
Significance and means of providing benchmarks by which data can be judged.

*Qualitative, quantitative and mixed method research:*
Key theoretical frameworks for research
Advantages and limitations of qualitative and quantitative research approaches and methods.

**LO2** Conduct and analyse research relevant for a land-based business research project

*Research as a process:*
Research has distinct phases which support a coherent and logical argument, which includes using secondary research to inform a primary, empirical, study.

*Selecting a sample:*
The importance of gathering data and information (qualitative or quantitative) to support research analysis
Selecting sample types and sizes that are relevant to the research
Considering sampling approaches and techniques e.g. probability and non-probability sampling.

*Ethics, reliability and validity:*
Research should be conducted ethically – how is this achieved and reported?
Research should also be reliable (similar results would be achieved from a similar sample) and valid (the research measures what it aimed to measure).
Analysing data:
Using data collection tools e.g. interviews and questionnaires
Using analytical techniques e.g. trend analysis, coding or typologies.

LO3 Communicate the outcomes of a research project to identified stakeholders

Stakeholders:
Who are they?
Why would they be interested in the research outcomes?
What communication method do they expect?

Communicating research outcomes:
Consideration of different methods of communicating outcomes (e.g. written word, spoken word) and the medium (e.g. report, online, presentation)
The method and medium will be influenced by the research and its intended audience.

Convincing arguments:
No matter what the method/medium, all research should be convincing and presented logically where the assumption is that the audience has little or no knowledge of the research process
The importance of developing evaluative conclusions.

LO4 Reflect on the application of research methodologies and concepts.

Reflection for learning and practice:
Difference between reflecting on performance and evaluating a research project – the former considers the research process, the latter considers the quality of the research argument and use of evidence
Reflection on the merits, limitations and potential pitfalls of the chosen methods.

The cycle of reflection:
Reflection in action and reflection on action
Considering how to use reflection to inform future behaviour and future considerations.

Reflective writing:
Avoiding generalisation and focusing on personal development and the research journey in a critical and objective way.
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<th>Learning Outcomes and Assessment Criteria</th>
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<tbody>
<tr>
<td><strong>Pass</strong></td>
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<tr>
<td><strong>LO1</strong> Examine appropriate research methodologies and approaches as part of the research process</td>
</tr>
<tr>
<td><strong>P2</strong> Examine appropriate research methods and approaches to primary and secondary research.</td>
</tr>
<tr>
<td><strong>LO2</strong> Conduct and analyse research relevant for a land-based business research project</td>
</tr>
<tr>
<td><strong>P4</strong> Apply appropriate analytical tools, analyse research findings and data.</td>
</tr>
<tr>
<td><strong>LO3</strong> Communicate the outcomes of a research project to identified stakeholders</td>
</tr>
<tr>
<td><strong>P5</strong> Communicate research outcomes in an appropriate manner for the intended audience.</td>
</tr>
<tr>
<td><strong>LO4</strong> Reflect on the application of research methodologies and concepts.</td>
</tr>
<tr>
<td><strong>P7</strong> Consider alternative research methodologies and lessons learnt in view of the outcomes.</td>
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</table>
Recommended Resources

Textbooks


Links
This unit links to the following related units:

*Unit 3: Managing a Successful Project (Pearson-set)*
Unit 25: Anthrozoology

<table>
<thead>
<tr>
<th>Unit code</th>
<th>Y/616/7851</th>
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<tbody>
<tr>
<td>Unit level</td>
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Introduction

Anthrozoology is an emerging area of interest within the animal management industry, with increased consciousness of the importance of understanding the associations between humans and animals in differing contexts, from companionship, exhibition, agriculture and sporting disciplines, to situations where the human-animal interaction can be utilised for mutual benefit. Knowledge gained from this unit enables a deeper understanding of the human-animal dyad which is required for a range of positions within the animal management industry, such as consultancy, animal welfare organisations and lecturing.

This unit examines the human-animal interaction, exploring the variety of ways in which animals are utilised in human society and how interactions can be exploited for a number of purposes, including therapy animals. It explores the wide range of human-animal interactions that currently exist, both nationally and internationally, and discusses and evaluates different aspects of these.

A variety of assessment methods and criteria employed within this unit develop a range of skills required for the animal management industry. Students will develop skills in terms of evaluation and critical analysis in both theoretical and practical settings. In addition, the nature of anthrozoology naturally requires students to develop enhanced research skills and scientific paper analysis.
Learning Outcomes

By the end of this unit a student will be able to:

1. Demonstrate an awareness of diverse facets of human-animal interactions
2. Evaluate the practice of animals in a wide range of human therapies and review ways in which animals can assist alternative areas of development
3. Interpret general patterns of behaviour, psychological functions and experience in relation to anthrozoology
Essential Content

LO1 **Demonstrate an awareness of diverse facets of human-animal interactions**

*Human-animal interaction*

*Facets of human-animal interaction:*
Uses of animals across the world
Animal-assisted therapy
Public-service animals
Animals for entertainment
Conservation
Animal testing.
*National uses of animals*
*International uses of animals*

LO2 **Evaluate the practice of animals in a wide range of human therapies and review ways in which animals can assist alternative areas of development**

*Human therapy:*
Guide dogs
PAT dogs
Therapy llamas
The use of animals within schools.
*Human development*
*Animal development*
*Alternative therapies*

LO3 **Interpret general patterns of behaviour, psychological functions and experience in relation to anthrozoology**

*Anthrozoological testing*
*Rehabilitation*
*Mental health*
*Human health*
LO4 Analyse emerging areas of anthrozoology in relation to human exploitation and animal welfare.

Welfare issues:
Conservation
Animals used within cooking
Animals used within testing.

Welfare societies

National and international organisations:
WWF
IUCN
RSPCA
DEFRA
BIAZA
EAZA
WAZA.
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Demonstrate an awareness of diverse facets of human-animal interactions</td>
<td><strong>M1</strong> Discuss a range of human-animal interactions in a national and international context</td>
<td><strong>D1</strong> Critically evaluate the human-animal interaction, highlighting the advantages and disadvantages to human and non-human species</td>
</tr>
<tr>
<td><strong>P1</strong> Investigate a range of facets of the human-animal interaction</td>
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<td><strong>P2</strong> Compare the benefits provided to humans as a result of the human-animal interaction</td>
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<tr>
<td><strong>LO2</strong> Evaluate the practice of animals in a wide range of human therapies and review ways in which animals can assist alternative areas of development</td>
<td><strong>M2</strong> Analyse the methods in which animals are utilised to aid human development processes</td>
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<tr>
<td><strong>P3</strong> Assess the use of animals in a range of human therapies</td>
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<tr>
<td><strong>LO3</strong> Interpret general patterns of behaviour, psychological functions and experience in relation to anthrozoology</td>
<td><strong>M3</strong> Discuss potential positive psychological impacts of the human-animal interaction</td>
<td><strong>D2</strong> Illustrate and evaluate qualitative and quantitative anthrozoological data, highlighting the impact of animals on human health and psychology</td>
</tr>
<tr>
<td><strong>P4</strong> Research and interpret the impact of animals on human biological functioning</td>
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<tr>
<td><strong>P5</strong> Explore methods of measuring and monitoring benefits of the human-animal interaction</td>
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</tr>
<tr>
<td><strong>LO4</strong> Analyse emerging areas of anthrozoology in relation to human exploitation and animal welfare</td>
<td><strong>M4</strong> Analyse animal welfare legislation in regard to a selected human-animal conflict</td>
<td><strong>D3</strong> Critically evaluate the exploitation of animals internationally, with specific emphasis on negative animal welfare impacts</td>
</tr>
<tr>
<td><strong>P6</strong> Select and analyse an emerging human-animal conflict with regard to animal welfare</td>
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<tr>
<td><strong>P7</strong> Investigate the influences of national and international organisations on the selected human-animal conflict</td>
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Recommended Resources

Textbooks

Web
www.apa-hai.org Human-Animal Interaction
(Generic reference)
www.bekindexhibit.org Be kind: A Visual History of Humane Education
Background: About Human Education
(Timeline)

Links
This unit links to the following related units:
Unit 1: Animal Health and Welfare
Unit 4: Animal Behaviour in Society
Unit 36: Ethics and Consultation
Unit 26: Evolution and Adaptations

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<th>Unit code</th>
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Introduction

An understanding of the principles and mechanics of evolution underpins all of animal science, as well as the wider biological sciences. Through evolutionary history, the animal kingdom has diversified into the variety of forms found today. Human involvement in the artificial selection of traits has led to the domestication of animal species. Through studying this unit, students will gain an understanding of the key theories and models of natural and artificial selection, and their applications.

Completing this unit will provide students insights into the diversity of animals’ physiological systems, giving them knowledge which they can apply in any number of working contexts, from managing the health of livestock animals to increasing the performance of sport animals. Beyond physiology, this unit will also let students explore behavioural adaptations exhibited throughout the animal kingdom, and learn about the processes by which they developed. Gaining an understanding of animals’ evolution allows students to best interact with and manage existing species, whether in the wild or captivity.

In this unit, students will develop skills in technical and scientific analysis, gaining insight into the use of models and theories to explain aspects of animals. In practice, the content of this unit will help students progressing into work in the scientific or veterinary fields, analysing and managing aspects of animal bodies. The knowledge and skills gained in this unit will have wider implications for working in animal management, such as the application to commercial animal breeding success or managing the genetic health of a wildlife population.
Learning Outcomes

By the end of this unit a student will be able to:

1 Explain the principles of evolutionary theories and models
2 Examine physiological adaptations which have evolved in animal bodies
3 Examine behavioural and ecological adaptations which have evolved in animals
4 Evaluate the impact of artificial selection on physiological features of domestic animals.
Essential Content

LO1 Explain the principles of evolutionary theories and models

Natural history:
Origins and history of life on Earth
Key milestones in the development of the animal kingdom.

Taxonomy and classification of groups of organisms

History of evolutionary science:
Pre- and post-Darwinian theory
Developments and important discoveries
Key scientists and theorists
Comparing theories.

Natural selection:
Selection pressures
Sexual selection and reproduction
Environmental pressures
Adaptation to environment
Fitness
Competition.

Genetics and inheritance:
Genotype
Phenotype
Definitions in molecular genetics
Replication
Mutation
Genetic drift
Gene flow
Mendelian principles.
LO2 **Examine physiological adaptations which have evolved in animal bodies**

*Comparative biology of differing taxonomic groups*

*Examining anatomical systems’ impact on species’ fitness in natural habitats:*
Morphology
Metabolism
Digestion
Respiration
Temperature regulation
Homeostasis
Reproduction
Locomotion
Cardiovascular system
Nervous system
Musculoskeletal system
Endocrine system.

LO3 **Examine behavioural and ecological adaptations which have evolved in animals**

*Comparative examination of characteristics of animal groups:*
Life history
Migration
Sociality
Activity cycles.

*Interspecific connections:*
Symbiotic relationships
Coevolution
Mutualism
Parasitism.

*Intraspecific connections:*
Reproductive strategies
Predation and predator avoidance.
LO4 **Evaluate the impact of artificial selection on physiological features of domestic animals**

*Principles of artificial selection*

*Processes and technology in artificial selection*

*Domestication:*
  - Preadaptation
  - Levels of domesticity
  - Purpose and functions.

*Common characteristics in domestic breeds:*
  - Anatomical features
  - Behavioural biology
  - Strength
  - Agility
  - Size
  - Yield.
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<td><strong>Pass</strong></td>
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<tr>
<td><strong>LO1</strong> Explain the principles of evolutionary theories and models</td>
</tr>
<tr>
<td><strong>P1</strong> Explain the process of natural selection</td>
</tr>
<tr>
<td><strong>P2</strong> Compare models of evolutionary theory</td>
</tr>
<tr>
<td><strong>LO2</strong> Examine physiological adaptations which have evolved in animal bodies</td>
</tr>
<tr>
<td><strong>P3</strong> Assess the necessity of anatomical systems for the survival of animals in their natural habitat</td>
</tr>
<tr>
<td><strong>P4</strong> Assess how selection pressures have contributed to changes in a species’ anatomical systems over time</td>
</tr>
<tr>
<td><strong>LO3</strong> Examine behavioural and ecological adaptations which have evolved in animals</td>
</tr>
<tr>
<td><strong>P5</strong> Explain how intraspecific behaviour has developed as a result of selection pressure</td>
</tr>
<tr>
<td><strong>P6</strong> Explain how interspecific behaviour has developed as a result of selection pressure</td>
</tr>
<tr>
<td><strong>LO4</strong> Evaluate the impact of artificial selection on physiological features of domestic animals</td>
</tr>
<tr>
<td><strong>P7</strong> Discuss the history and development of animals’ function in human society</td>
</tr>
<tr>
<td><strong>P8</strong> Assess the impact of artificial selection of physiological characteristics to the development of a modern breed of animal</td>
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<tr>
<td><strong>Merit</strong></td>
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<tr>
<td><strong>M1</strong> Analyse the selection pressures resulting in the development of an animal species</td>
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<tr>
<td><strong>M2</strong> Analyse how a specific environmental factor has contributed to the development of a specific anatomical system</td>
</tr>
<tr>
<td><strong>M3</strong> Analyse how the evolution of a species’ behavioural ecology has promoted its survival</td>
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<tr>
<td><strong>LO1 LO2 LO3</strong></td>
</tr>
<tr>
<td><strong>D1</strong> Critically evaluate scientific models to perform an in-depth analysis of the physiological and behavioural adaptations which have evolved in an animal species, highlighting milestones in the species’ evolution</td>
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<tr>
<td><strong>LO1 LO2 LO3</strong></td>
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<tr>
<td><strong>D2</strong> Analyse, in-depth, the factors contributing to the development of an animal breed over time – the human requirements, the characteristics selected for development and the impact on the species</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
http://darwin-online.org.uk Darwin Online
Repository of Charles Darwin’s publications
(General reference)

www.omicsonline.org OMICS Publishing
Database of open access scientific journals
(Research)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.
Links

This unit links to the following related units:

Unit 4: Animal Behaviour in Society
Unit 6: Animal Anatomy and Physiology
Unit 7: Animal Nutrition
Unit 23: Biological Principles
Unit 33: Animal Breeding and Genetics
Unit 27: Biochemistry and Medical Microbiology

<table>
<thead>
<tr>
<th>Unit code</th>
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Introduction

The aim of this unit is to develop underpinning knowledge in biochemistry and medical microbiology, and practical skills which can be applied throughout the animal management sector.

Biochemistry is part of the underpinning knowledge of animal nutrition and for students wishing to follow the animal nutrition career route. It is also part of developing understanding of biological concepts and thus builds on the Unit 23: Biological Principles and links closely with Unit 28: Chemistry for Biologists. The practice of microbiological sampling is essential for the quick and efficient diagnosis of disease in animals and a key practical skill for those working in veterinary surgeries or laboratories. This links closely with the Animal Health and Welfare, Veterinary Practice Management and Animal Nursing units.

In biochemistry, students will explore the structure and function of the micro molecules which contribute to the biochemical function of the related macromolecules. The medical microbiology is essentially practically based with underpinning knowledge of the range of methods of specimen collection and structure of microorganisms reviewed. The concept of minimum inhibitory concentration of antibiotics and the role of antibiotics in treatment of disease will be addressed both in theory and practice.

Students will have the opportunity to plan and execute practical investigations to isolate and identify microorganisms, developing and enhancing essential laboratory skills necessary for animal health monitoring. Assessment strategies will include written reports and poster work, as well as assessed practical investigations.
Learning Outcomes

By the end of this unit a student will be able to:

1. Explore the biochemistry of biological macromolecules and their constituent micro molecules
2. Review methods of specimen collection from animals
3. Demonstrate the isolation and identification of pathogens
Essential Content

LO1 Explore the biochemistry of biological macromolecules and their constituent micro molecules

Proteins:
Amino acids (chemical structure, R group classification, acid/base properties, isoelectric point, D and L classifications and essential amino acids)
Proteins (structure to include primary, secondary, tertiary and quaternary, properties of globular and fibrous proteins).

Saccharides:
Monosaccharides (chemical structure, reducing properties, reactivity of glycosidic and hydroxyl groups, α and β nomenclature and optical isomerism)
Polysaccharides (glycogen, starch, cellulose, effect of α glycosidic links on shape, effect of branching on structural polysaccharides, enzymic hydrolysis in energy production).

Lipids:
Fatty acids (classification, saturated, unsaturated and essential fatty acids)
Triglycerides and phospholipids (saturated:unsaturated ratio in cell membrane fluidity, energy production and storage).

Nucleic acids:
Nucleotides, nucleosides (nitrogen bases, sugar residue attachment)
DNA (structure – double helix, function, importance of hydrogen bonding)
RNA (types and roles).

LO2 Review methods of specimen collection from animals

Types of specimen required:
Blood, urine, faeces, tissue fluid, skin samples, biopsies.

Factors affecting the choice of sampling method:
Health and Safety
PPE
Specimen type and expected pathogen lability
Quality control and management
Risk of cross contamination
Records required.
Transport of samples:
Collection device
Container design
Storage of samples prior to delivery to laboratories
Transport medium.

LO3 Demonstrate the isolation and identification of pathogens

Structure of relevant pathogenic organisms:
Bacteria: taxonomic classification (c cocci, bacilli, spiroactales, chlamydiaceae, rikettsiaeaceae, mycoplasmataceae), gram-positive and gram-negative, structure of generalised bacterium, replication methods
Viruses: orf, picornavirus – encephalomyocarditis, paromyxovirus, rabies, structure of virus types, replication methods
Fungi: Aspergillus, Candida, Dermatophytes, structure of yeasts and fungi, replication methods.

Isolation of pathogens:
Techniques for the isolation of specimens (bacteria, viruses and fungi)
Growth conditions
Microscopy
Aseptic technique (PPE)
Selective and differential media (composition of media)
Primary identification (appearance of colonies, microscopic observation, gram stain and other staining methods).

Identification of pathogens:
Testing systems (biochemical, serological, coagulase, DNA testing, molecular)
Test kits (API-20E, OXOID Strep)
Clinical findings and reporting.

LO4 Determine antibiotic sensitivity in bacteria.

Methods of identifying antibiotic sensitivity:
Gram-positive and gram-negative bacteria
Advantages and disadvantages of disc diffusion
Consideration of treatment already undertaken (synergistic and antagonistic effects).
Minimum inhibitory concentration:
Broth dilution
Agar diffusion (E-test).

Antibiotic mode of action:
Aminoglycoside
Tetracycline
Sulphonamide
Trimethoprim
Rifampicin.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>LO1</th>
<th>Explore the biochemistry of biological macromolecules and their constituent micro molecules</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1</strong></td>
<td>Discuss the structure, properties and activity of amino acids, monosaccharides, fatty acids, nucleotides and nucleosides</td>
</tr>
<tr>
<td><strong>P2</strong></td>
<td>Discuss the biochemical functions of proteins, polysaccharides, lipids and nucleic acids</td>
</tr>
<tr>
<td><strong>M1</strong></td>
<td>Critically analyse how the structures of the micro molecules assist the functions of the macromolecules</td>
</tr>
<tr>
<td><strong>D1</strong></td>
<td>Evaluate the biochemical importance of proteins, lipids, polysaccharides and nucleic acids in the living organism</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LO2</th>
<th>Review methods of specimen collection from animals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P3</strong></td>
<td>Examine the collection and transport mechanisms available for sampling the range of possible specimens from animals</td>
</tr>
<tr>
<td><strong>P4</strong></td>
<td>Discuss the factors affecting the choices of sampling methods available to a veterinary surgery</td>
</tr>
<tr>
<td><strong>M2</strong></td>
<td>Appraise the efficacy of sampling methods available, in relation to a range of specimens.</td>
</tr>
<tr>
<td><strong>D2</strong></td>
<td>Evaluate and justify the processes and procedures associated with sampling for pathogens in animals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LO3</th>
<th>Demonstrate the isolation and identification of pathogens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P5</strong></td>
<td>Compare the structures of micro-organisms relevant to animal health</td>
</tr>
<tr>
<td><strong>P6</strong></td>
<td>Demonstrate the isolation and identification of a range of micro-organisms using appropriate techniques and methods</td>
</tr>
<tr>
<td><strong>M3</strong></td>
<td>Analyse the accuracy and validity of the findings of the isolation and identification processes undertaken</td>
</tr>
<tr>
<td><strong>D3</strong></td>
<td>Critically evaluate the methods of isolation and identification used, and recommend improvements</td>
</tr>
<tr>
<td>Pass</td>
<td>Merit</td>
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</tr>
<tr>
<td><strong>P7</strong> Discuss the mode of action of a range of antibiotics, and the methods available to identify antibiotic sensitivity of bacteria</td>
<td><strong>M4</strong> Analyse the importance of determining the MIC of antibiotics in the treatment of animals</td>
</tr>
<tr>
<td><strong>P8</strong> Investigate, through planned practical activities, the minimum inhibitory concentration (MIC), of antibiotics on both gram-positive and gram-negative bacteria</td>
<td></td>
</tr>
<tr>
<td><strong>LO4</strong> Determine antibiotic sensitivity in bacteria</td>
<td></td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
www.boundless.com Boundless
Biology Textbooks
(General reference)

www.ehs.wisc.edu Zoonotic Diseases PDF
(Research/General reference)

www.iaszoology.com IAS Zoology
Bacterial Diseases
(Research)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:
Unit 1: Animal Health and Welfare
Unit 7: Animal Nutrition
Unit 9: Veterinary Practice Management
Unit 10: Animal Nursing
Unit 28: Chemistry for Biologists
**Unit 28: Chemistry for Biologists**

<table>
<thead>
<tr>
<th>Unit code</th>
<th>M/616/7855</th>
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</thead>
<tbody>
<tr>
<td>Unit level</td>
<td>5</td>
</tr>
<tr>
<td>Credit value</td>
<td>15</td>
</tr>
</tbody>
</table>

**Introduction**

The aim of this unit is to develop underpinning knowledge in chemistry and relevant practical skills which can be applied throughout the animal management sector. It is anticipated that much of the learning will be achieved through the practical application of the relevant theories, thus developing industry-standard practical skills which will support employment in laboratories and other settings.

Chemistry is part of the underpinning knowledge of animal nutrition and for students wishing to follow the animal nutrition career route. It is also part of developing more complex chemical knowledge and, as such, links closely with Unit 27: Biochemistry and Medical Microbiology.

In this unit, students will explore the various classes of organic compounds and apply practical investigations to analyse the properties of these. Bonding and molecular properties are an important part of biological study and will assist students with the understanding of cellular processes in Biochemistry and Medical Microbiology and Animal Breeding and Genetics. Practical investigation of rates of reactions of enzymes and other relevant examples will form the basis of assessment for this outcome. The study of thermodynamic quantities and equilibrium theory and practice will also assist students in applying concepts such as redox reactions to biological functions, and understanding how acid and pH balance is essential to the correct functioning of the cell.

Students will have the opportunity to plan and execute practical investigations to see the application of the theories and to develop the industry-standard skills necessary for research and employment. Assessment strategies will include written reports and poster work, as well as assessed practical investigations.
**Learning Outcomes**

By the end of this unit a student will be able to:

1. Investigate the chemical behaviour of organic compounds
2. Assess how chemical bonding affects the properties of molecules
3. Review the feasibility of reactions to thermodynamic quantities
4. Investigate the features of equilibrium forces.
Essential Content

LO1  **Investigate the chemical behaviour of organic compounds**

*Classes of organic compounds:*
Alkenes, alkanes, aldehydes, alcohols, haloalkanes, aldehydes, ketones, carboxylic acids, esters, amines, amides

*IUPAC (International Union of Pure and Applied Chemists) system.*

*Important reactions of organic compounds:*
Alkanes (combustion, free radical substitution)
Alkenes (addition: \( \text{Br}_2, \text{HBr}, \text{H}_2, \text{H}_2\text{O} \))
Alcohols (oxidation, esterification)
Haloalkanes (substitution)
Carboxylic acids (reaction with base, esterification)
Esters (hydrolysis to acid and alcohol)
Amines (bases).

*Isomerism:*
Structural (chain, positional, functional group)
Stereoisomerism (geometric)
Optical
Biological examples.

LO2  **Assess how chemical bonding affects the properties of molecules**

*Chemical bonding:*
Spd notation
Types of bonding (ionic, covalent, polar covalent, metallic)
Hydrostatic interactions
Intermolecular and Van der Waals forces
Hydrogen bonding
Dipole-dipole interactions.

*Physical properties:*
Melting and boiling points
Electrical conductivity
Surface tension
Solubility.
Factors associated with the rate of chemical reactions and their effects:
Factors (concentration, particle size and number, temperature, catalyst)
Effects (collisions per second, surface area, reaction profile, activation energy-levels with and without catalyst)
Distribution curves (at given temperature, with variation of temperature)
Enzymes as catalysts
Biological examples of reactions.

LO3 Review the feasibility of reactions to thermodynamic quantities

Thermodynamic quantities:
Enthalpy (Hess’s law, exothermic, endothermic, combustion, formation, dissociation, mean bond, solution, lattice, hydration, making and breaking bonds)
Thermodynamic tables
Entropy, Gibbs energy
Standard changes occurring (enthalpy, entropy, Gibbs energy)
Conditions for equilibrium, and when products or reactants predominate
Exergonic, endergonic.

Oxidation and reduction:
Oxidation as loss of electrons
Reduction as gaining electrons
Overall and half redox equations
Balancing overall equations in terms of electron numbers
Oxidation numbers
Biological examples of redox half cells (NAD+, NADH).

LO4 Investigate the features of equilibrium forces

Equilibrium constants:
Rates of forward and reverse reactions
Dynamic equilibrium
Concentration and products at equilibrium (osmosis, partition, weak acid dissociation)
Calculation of Kc from concentration of reactants and products at equilibrium
Magnitude of equilibrium constant
Changes in conditions (concentration, pressure, pressure and reactions involving gases, stoichiometric number, temperature, catalyst, Le Chatelier’s principle).
**pH and acid dissociation constant:**

- Bronsted-Lowry theory
- pH of acidic solutions, neutral and alkaline solutions
- Strong and weak acids
- Calculate the pH of weak acids
- Henderson–Hasslebach equation
- Buffer solutions and their application
- Ionisation of amino acids in solutions of different pH.
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LO1</strong> Investigate the chemical behaviour of organic compounds</td>
<td><strong>P1</strong> Discuss the various forms of isomerism using biological examples</td>
<td><strong>M1</strong> Critically analyse the role of isomerism in biology</td>
</tr>
<tr>
<td><strong>P2</strong> Assess the properties of the classes of organic compounds to functional groups</td>
<td><strong>D1</strong> Evaluate the properties of the organic compounds</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Assess how chemical bonding affects the properties of molecules</td>
<td><strong>P3</strong> Assess how chemical bonding affects the physical properties of molecules</td>
<td><strong>M2</strong> Analyse data to explain how enzymes function as biological catalysts</td>
</tr>
<tr>
<td><strong>P4</strong> Discuss the factors affecting rates of reaction and how these affect the rates of reaction</td>
<td><strong>D2</strong> Critically evaluate how chemical bonding affects the reactivity of compounds</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Review the feasibility of reactions to thermodynamic quantities</td>
<td><strong>P5</strong> Appraise thermodynamic quantities in terms of the feasibility of reactions</td>
<td><strong>M3</strong> Analyse the importance of entropy and enthalpy in biology</td>
</tr>
<tr>
<td><strong>P6</strong> Discuss the processes of oxidation and reduction reactions</td>
<td><strong>D3</strong> Critically evaluate the role of redox reactions within biological reactions</td>
<td></td>
</tr>
<tr>
<td><strong>LO4</strong> Investigate the features of equilibrium forces</td>
<td><strong>P7</strong> Demonstrate equilibrium constants using biological examples and the calculation of K&lt;sub&gt;c&lt;/sub&gt;.</td>
<td><strong>M4</strong> Analyse how equilibrium favours weak acids</td>
</tr>
<tr>
<td><strong>P8</strong> Discuss the concept of pH and the acid dissociation constant</td>
<td><strong>D4</strong> Critically evaluate the roles of equilibrium and pH in cellular activity</td>
<td></td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
Organic Chemistry/Nomenclature
(General reference/Research)
http://www.rsc.org  Royal Society of Chemists
Practical work
(General reference)
www.wiley.com  Essential Biochemistry
Prerequisite concepts
(General reference)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:
*Unit 7: Animal Nutrition*
*Unit 27: Biochemistry and Medical Microbiology*
*Unit 33: Animal Breeding and Genetics*
Unit 29: Advanced Patient Care

<table>
<thead>
<tr>
<th>Unit code</th>
<th>T/616/7856</th>
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</thead>
<tbody>
<tr>
<td>Unit level</td>
<td>5</td>
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<tr>
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</tbody>
</table>

Introduction

This unit explores the needs of advanced nursing cases, including medical cases, recumbent patients, infectious patients requiring barrier nursing and patients requiring fluid therapy. Students will be able to discuss multiple factors which influence patient management in non-routine inpatients to optimise their health and welfare, and to recognise how these influence broader practice management. Design of advanced nursing care plans, including the role of the different members of the veterinary team within these, will be undertaken and the benefits and limitations of care plans will be evaluated.

The methods and modes of communication that can occur within a veterinary practice between colleagues and with clients will be evaluated. Students will learn to recognise their own preferred communication style and to reflect on how this influences their interactions with colleagues. Advantages and disadvantages of verbal and non-verbal communication methods are also analysed alongside the influence of religion, socio-economics and culture upon communication.

Students will develop the skills to be able to admit and discharge surgical cases and discuss inpatient progress with members of the veterinary team and clients. Throughout the unit, students are encouraged to engage in self-reflection to be able to evaluate the quality of the care provided to patients, but also how effective they

The principles and skills gained in this unit will support future employment within the veterinary sector. Understanding how to optimise the welfare of animals with variable needs, and how to provide accommodation and care to optimise positive behaviour and health provide valuable skills for anyone seeking to pursue a career working in the zoo, pet and equine sectors. In addition, gaining an appreciation for how individuals interact and use communication effectively when working is an essential skill to underpin careers across the animal sector, where good client and customer communication skills and effective team working are key to the success of businesses.
Learning Outcomes

By the end of this unit a student will be able to:

1. Evaluate the role of teamwork and communication within the veterinary practice
2. Analyse patient requirements in advanced nursing cases
3. Construct advanced nursing care plans
4. Critically reflect on own performance
Essential Content

LO1 Evaluate the role of teamwork and communication within the veterinary practice

The veterinary team:
Roles and responsibilities.

Verbal and non-verbal communication:
Direct, authoritative, statements, body language, indirect, modes (e.g. face-to-face, telephone, written, social media, video) and models of communication (e.g. listening and questioning) in the veterinary environment
Recognising own preferred communication style and how to adapt it to different situations.

The veterinary environment:
The role of ethics in communication
Professional integrity and confidentiality
Knowledge of when to seek peer support when dealing with clients
Factors which can affect professional relationship with clients and veterinary colleagues
Dealing with complaints
Client-veterinary bond.

Understand how emotions can affect communication and how to manage communication in difficult scenarios related to advanced patient care:
Terminal illness
Culture
Socio-economic status
Religious beliefs
Client age
Euthanasia
Welfare cases.
LO2  **Analyse patient requirements in advanced nursing cases**

*Identification of advanced nursing cases:*

Common medical cases, fluid therapy cases, trauma cases, non-elective surgical cases, paresis and paralysis cases, oncology

Advanced surgical cases

Nursing the infectious/contagious patient: barrier nursing

Nursing the neonate

Preparation of animal accommodation for advanced nursing cases

Aetiopathogenesis of common medical diseases and syndromes in dogs, cats, exotic animals and horses.

*Knowledge and understanding of the requirements of advanced nursing cases:*

Role of the veterinary surgeons versus role of the veterinary nurse and animal nursing assistants (for the UK, this will include a review of the Veterinary Surgeons Act and Schedule Three, and RCVS Code of Conduct) Drug calculations and dose rates

Basal metabolic rate (BMR) and basal energy requirements (BER)

Methods that encourage eating and drinking e.g. fluid therapy and assisted feeding

Fluid therapy: indication

Fluid calculations: fluid replacement and daily maintenance rate, preparation of equipment for fluid therapy, maintenance of patients on fluid therapy, common issues and how to avoid them

Drug administration methods: oral and parenteral (simulation only)

Risk assessment

Health and Safety

Working protocols: hygiene, prevention of disease transmission, cleaning, waste disposal.

*Monitoring of advanced nursing care patients:*

Frequency of monitoring in advanced nursing care cases

Routine monitoring e.g. listing relevant parameters which should be monitored for advanced nursing cases

Ability to appraise quality of life related to short- and long-term prognoses in advanced nursing cases.
LO3  **Construct advanced nursing care plans**

* Nursing care plans:  
  - Common theories and models  
  - Differences between routine and advanced nursing care plans  
  - Example nursing care plans  
  - Importance of accurate record-keeping  
  - Designing and using nursing care plans for individual patients.

LO4  **Critically reflect on own performance.**

* Processes and practices of reflection:  
  - Defining reflection: physical, mental, emotional, values, context, practice, improvement  
  - Reflective models: Schon, Gibbs, Kolb, Ghaye  
  - Reflective writing.

* The role of reflection in the veterinary practice and nursing care
### Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LO1</strong> Evaluate the role of teamwork and communication within the veterinary practice</td>
<td><strong>P1</strong> Describe the roles of key personnel in the veterinary team</td>
<td><strong>M1</strong> Debate factors which influence communication in the veterinary practice</td>
</tr>
<tr>
<td><strong>P2</strong> Discuss different models, modes and methods of communication used in veterinary practice</td>
<td><strong>M2</strong> Calculate fluid therapy requirements for a specified advanced nursing case</td>
<td><strong>D2</strong> Analyse the role of the veterinary surgeon and veterinary nurse in advanced patient care</td>
</tr>
<tr>
<td><strong>LO2</strong> Analyse patient requirements in advanced nursing cases</td>
<td><strong>P3</strong> Identify which patients are classified as advanced nursing cases</td>
<td><strong>M2</strong> Calculate fluid therapy requirements for a specified advanced nursing case</td>
</tr>
<tr>
<td><strong>P4</strong> Explain the Health and Safety, and hygiene requirements of advanced patients</td>
<td><strong>M2</strong> Calculate fluid therapy requirements for a specified advanced nursing case</td>
<td><strong>D2</strong> Analyse the role of the veterinary surgeon and veterinary nurse in advanced patient care</td>
</tr>
<tr>
<td><strong>LO3</strong> Construct advanced nursing care plans</td>
<td><strong>P5</strong> Review common nursing care models used in the veterinary environment</td>
<td><strong>M3</strong> Explain the role of advanced patient care plans and outline patient progress for a specified case to the client</td>
</tr>
<tr>
<td><strong>P6</strong> Design nursing care plans for specified advanced nursing care cases</td>
<td><strong>M3</strong> Explain the role of advanced patient care plans and outline patient progress for a specified case to the client</td>
<td><strong>D3</strong> Critically analyse the role of different nursing care plans used in the veterinary environment within advanced patient care</td>
</tr>
<tr>
<td><strong>LO4</strong> Critically reflect on own performance</td>
<td><strong>P7</strong> Recognise own communication style</td>
<td><strong>M4</strong> Discuss the skills, knowledge and personal attributes required to be an effective nurse</td>
</tr>
<tr>
<td><strong>P8</strong> Discuss how individual personal communication style can influence relationships in the veterinary practice</td>
<td><strong>M4</strong> Discuss the skills, knowledge and personal attributes required to be an effective nurse</td>
<td><strong>D4</strong> Critically reflect on your own skills, knowledge and personal attributes and how they would support a career in animal nursing</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
www.theveterinarynurse.com The Veterinary Nurse Journal
Journal search
(Online journal articles)
www.vetsonline.com Vets online
The Veterinary Times Journal, Veterinary Nursing Times and Veterinary Business Journal
(Online journal articles)

Essential Requirements
Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links
This unit links to the following related units:

Unit 7: Animal Nutrition
Unit 10: Animal Nursing
Unit 15: Animal Collection Management
Unit 30: Advanced Management Accounting

<table>
<thead>
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<th>Unit code</th>
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<tr>
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<td>Credit value</td>
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</table>

Introduction

The overall aim of this unit is to develop students’ understanding of management accounting. The focus of this unit is on critiquing management accounting techniques and using management accounting to evaluate company performance.

Students will explore how the decisions taken through the use of management accounting techniques influence managerial behaviour across a land-based organisation.

On successful completion of this unit, students will be in a position to support a land-based organisation to create value through effective decision-making, where management accounting is used, to some degree, to control members of the organisation. In addition, students will have the fundamental knowledge and skills to progress to a higher level of study.
Learning Outcomes

By the end of this unit a student will be able to:

1. Analyse the purpose for developing and presenting financial information
2. Evaluate the use of management accounting techniques to support organisational performance
3. Analyse actual and standard costs to control and correct variances
Essential Content

LO1 Analyse the purpose for developing and presenting financial information

*Users of financial information:*
Investors, senior management, banks and government.

*Developing financial statements:*
Critiquing why financial information should be developed into statements
The value of financial statements in support of a financial plan and decision-making.

*Presenting financial information:*
Critiquing the use of profit and loss statements, trial balances, cash flow statements and balance sheets as methods to present financial information.

LO2 Evaluate the use of management accounting techniques to support organisational performance

*Microeconomic techniques:*
Cost analysis, cost-volume profit, flexible budgeting and cost variances. Absorption and marginal costing.

*Cost allocation:*
Considering the theoretical aspects as well as how this is applied in practice.

*Capital and capital budgeting:*
The meaning behind these terms, their importance and their use
Techniques e.g. Net Present Value (NPV), Internal Rate of Return (IRR), Discounted Cash Flow (DCF) and pay back periods.

LO3 Analyse actual and standard costs to control and correct variances

*Actual costs:*
What does this mean?
How is actual cost determined?
How does this differ to estimated or standard costs?

*Standard costs:*
What does this mean?
How is standard cost determined?
How does estimating standard costs result in variances?
Variances:
Variance analysis as a concept and a technique
Negative and positive variances
How can a negative variance be considered a positive and vice versa?

Controlling and correcting variances:
Integrating variance analysis into budget monitoring across an organisation
Reporting systems for monitoring and controlling variances
Schedule variance versus cost variance.

LO4 Evaluate how a changing business environment impacts on management accounting.

Analysing changes to a business environment:
Internal and external analysis techniques
Comparing the outcomes of analysis to inform decisions and to evaluate possible implications for management accounting.

Impact of the business environment on management accounting systems:
Using technology to enhance and support processes and procedures
The role of improved communication within a system to expedite decision-making.

Impact of change on management accounting systems:
Determining the impact of different types of change
Deciding how to respond to different types of change
Ensuring effective communication and acceptance of change.
<table>
<thead>
<tr>
<th>Learning Outcomes and Assessment Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pass</strong></td>
</tr>
<tr>
<td><strong>LO1</strong> Analyse the purpose for developing and presenting financial information</td>
</tr>
<tr>
<td><strong>LO2</strong> Evaluate the use of management accounting techniques to support organisational performance</td>
</tr>
<tr>
<td><strong>LO3</strong> Analyse actual and standard costs to control and correct variances</td>
</tr>
<tr>
<td><strong>LO4</strong> Evaluate how a changing business environment impacts on management accounting</td>
</tr>
<tr>
<td><strong>D1</strong> Critically evaluate financial information supported by effective and appropriate judgements</td>
</tr>
<tr>
<td><strong>D3</strong> Critically evaluate the impact of changes, and support justified recommendations for future communication and acceptance of change</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Essential Requirements

Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

Links

This unit links to the following related units:

Unit 21: Management Accounting
Unit 31: Equine Health and Disease

<table>
<thead>
<tr>
<th>Unit code</th>
<th>A/616/7857</th>
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</thead>
<tbody>
<tr>
<td>Unit level</td>
<td>5</td>
</tr>
<tr>
<td>Credit value</td>
<td>15</td>
</tr>
</tbody>
</table>

Introduction

Whether a horse or donkey is kept for sport, work, leisure or companionship, they are all susceptible to becoming ill, encountering an injury or contracting disease. Ill health of horses, donkeys, etc. does not only increase care need but can also lead to a reduced lifespan and a reduction in long-term performance. With this in mind, those responsible for horses, donkeys, etc. as an owner, groom, instructor, yard manager and any other role involving hands-on care of these animals must become aware of the risks to the animals' health, the means of early detection, prevention methods and treatments available.

The purpose of this unit is to provide students with the broad range of skills to act quickly and confidently to health issues they may face in the equine industry, identifying when they will require specialist veterinary assistance and the steps they can take to prevent the worsening of a situation.

This unit encourages students to become familiar with the parameters of equine health, and how to monitor and maintain it. Students will become familiar with the symptoms of disease threats to equines worldwide, the causal agents and how to nurse those affected in order to limit the risks of further transmission.

Wider disease prevention methods will also be investigated to take sensible cross-contamination precautions at locations where unfamiliar horses, donkeys, etc. are likely to meet. In addition, students will gain knowledge of the equine immune system to better understand how it fights infection and repairs, and also how vaccinations work to heighten defences.

One of the most likely health concerns encountered with horses, donkeys, etc. is injury. It is for this reason that the unit will also provide students with the knowledge to identify the symptoms of injury types, the treatment required both in first aid and longer-term management, and also the importance of acknowledging limitations in the care they can provide and therefore needing specialist assistance.

Through completion of this unit, students will be able to determine the health of a horse, donkey, etc. in their care, and quickly determine changes that may require attention. They will be able to validate assumptions of poor health through practical assessment methods, and identify when additional veterinary assistance is needed.
Learning Outcomes

By the end of this unit a student will be able to:

1. Interpret measures of health and ill health in horses and/or donkeys to improve conditions of care and welfare
2. Discuss the appropriate management of specific diseases in horses and/or donkeys to work towards a quickened recovery and reduce the risk of transmission
3. Analyse the role of the immune system in horses and/or donkeys to develop knowledge of natural defences and the use of vaccinations
4. Determine types of injury in horses and/or donkeys and the treatments required to minimise long-term effects.
Essential Content

LO1 **Interpret measures of health and ill health in horses and/or donkeys to improve conditions of care and welfare**

*Measures of health and ill health:*
Visual, physical and veterinary measures
TPR, condition, capillary refill, behaviour, stance, mucous membranes, heat, swelling, soreness, injury, haematology results, droppings, staling, hydration.
Lameness
Hoof and flexion testing
Static and dynamic musculoskeletal assessment.

LO2 **Discuss the appropriate management of specific diseases in horses and/or donkeys to work towards a quickened recovery and reduce the risk of transmission**

*Diseases and conditions:*
Metabolic diseases, diet-related conditions, contagious diseases, notifiable diseases, zoonosis
Ectoparasite and endoparasite infestation.

*Management:*
Causal agents, symptoms, prognosis, prevention, and treatments.

*Reducing the risk of transmission:*
Nursing techniques, disinfection, asepsis, sterilisation, isolation and quarantine
Barrier nursing
Veterinary referral, ethical treatments, euthanasia, disposal of cadavers and clinical waste
Minimising direct and indirect contact between unfamiliar horses, donkeys, etc.

LO3 **Analyse the role of the immune system in horses and/or donkeys to develop knowledge of natural defences and the use of vaccinations**

*Disease and immunity:*
Structure of the immune system, T-cells, B-cells, natural killer cells, phagocytes, platelets, thymus, spleen, interaction between cellular and humoral immunities.
Innate and adaptive immunity:
Exterior defences, inflammation, antibodies, antigens, integrated defence mechanisms.

Vaccinations:
Vaccines available for equines
Prophylactic, therapeutic
Vaccine types e.g. inactivated, attenuated.

LO4 Determine types of injury in horses and/or donkeys and the treatments required to minimise long-term effects

Types of wound and injury:
Puncture, laceration, incised, haemorrhage, contusion, abrasion, sprain, strain, dislocation, fracture, internal injuries
Tendon and joint injuries.

First aid and long-term treatment:
Roles and limitations, conditions and injuries necessitating first aid, first-aid procedures, first-aid kits, wound management bandaging techniques
Cold hosing, tubing
Consideration of euthanasia.
# Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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</thead>
<tbody>
<tr>
<td><strong>LO1</strong> Interpret measures of health and ill health in horses and/or donkeys to improve conditions of care and welfare</td>
<td><strong>P1</strong> Interpret results from two equine health checks to draw conclusions regarding the health of each animal</td>
<td><strong>M1</strong> Explain alternative measures of health to strengthen health evaluations</td>
</tr>
<tr>
<td><strong>P2</strong> Devise advisory notes to improve the care and welfare of horses and/or donkeys as a result of completed health checks</td>
<td><strong>D1</strong> Formulate a health profile for two horses or donkeys utilising both current health records and history to form conclusions and recommendations for future health monitoring</td>
<td></td>
</tr>
<tr>
<td><strong>LO2</strong> Discuss the appropriate management of specific diseases in horses and/or donkeys to work towards a quickened recovery and reduce the risk of transmission</td>
<td><strong>P3</strong> Investigate three specific equine diseases of concern to enable quick identification of symptoms, transmission, treatment and prevention</td>
<td><strong>M2</strong> Evaluate barrier nursing techniques to heighten awareness and improve effectiveness in the control of disease</td>
</tr>
<tr>
<td><strong>P4</strong> Discuss the disease management strategies required for equines, people and the wider environment following a disease outbreak to reduce spread</td>
<td><strong>D2</strong> Design an informative poster to advise riders at events to be aware of the risks of cross-contamination and advise ways to avoid the spread of disease</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Analyse the role of the immune system in horses and/or donkeys to develop knowledge of natural defences and the use of vaccinations</td>
<td><strong>P5</strong> Analyse how the horse and/or donkey’s natural immune responses interact to provide a first line of defence against invading pathogens</td>
<td><strong>M3</strong> Describe how the horse and/or donkey’s immune response develops memory of invading pathogens to prevent reinfection</td>
</tr>
<tr>
<td><strong>P6</strong> Explain equine vaccines available and how they generate protection against disease</td>
<td><strong>D3</strong> Critically compare the reasons for and against the use of vaccinations in protecting horses and/or donkeys against disease to highlight if the benefits outweigh the risks</td>
<td></td>
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<tr>
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<td>Distinction</td>
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</tr>
<tr>
<td><strong>LO4</strong> Determine types of injury in horses and/or donkeys and the treatments required to minimise long-term effects</td>
<td><strong>P7</strong> Distinguish five types of wound found on horses and/or donkeys, and describe the short- and long-term treatments required to minimise long-term effects</td>
<td><strong>M4</strong> Compare the treatments needed for injuries to soft tissue and bone, in ensuring quick and appropriate first aid responses</td>
</tr>
</tbody>
</table>
Recommended Resources

**Textbooks**


**Web**

- [www.buckinghamequinevets.com](http://www.buckinghamequinevets.com)  Buckingham Equine Vets Injuries in Competition Horses (General reference)

- [www.petmd.com](http://www.petmd.com) PET MD Horse Conditions (General reference)

- [www.thehorse.com](http://www.thehorse.com) The Horse The Equine Immune System (General reference)

- [www.thehorse.com](http://www.thehorse.com) The Horse Vaccination Basics for Horses (General reference)
**Essential Requirements**

Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

**Links**

This unit links to the following related units:

*Unit 23: Biological Principles*

*Unit 32: Therapy and Rehabilitation*

*Unit 39: Advanced Equine Performance*
Unit 32: Therapy and Rehabilitation

<table>
<thead>
<tr>
<th>Unit code</th>
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<tr>
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</tbody>
</table>

Introduction

As the modern-day horse is placed under increasing demands to perform and work in a variety of settings, the likelihood of injury increases in correlation. Injuries of the muscular and skeletal systems limit performance, and can have detrimental effects on the overall wellbeing of the horse. If a horse has experienced stress and trauma, this can in turn affect behaviour and attitude to the work.

It is for these reasons that heightened awareness and management strategies have been developed to support recovery and return to work for horses following injury or trauma. In an aim to prolong the working and performance longevity of horses, a manager or carer must respond to needs and possess knowledge of the options available to them in the recovery process.

Covered within the unit are the factors that predispose the horse to problems, including specific discipline demands, environmental causes and metabolic disorders. The mechanisms of injury to the musculoskeletal system, both bone and soft tissue, the processes of short and long-term treatment to these injuries, and rehabilitation leading to full recovery are also discussed. In addition, the options of modern-day complementary and alternative therapies to support the recovery process are investigated.

On completion of the unit, students should be able to review the stresses placed on a working or performance horse, and show heightened awareness of the signs and symptoms of injury. They should be able to take action to minimise the risk of injury, and, if it occurs, identify appropriate treatment and therapies to support recovery.
Learning Outcomes

By the end of this unit a student will be able to:

1. Review the factors that predispose the working horse to injury and performance-related problems to consider how they may be reduced.
2. Describe the mechanisms within the musculoskeletal system during injury and repair to support recovery.
3. Explain the processes of treatment and rehabilitation to plan for recovery of injuries in horses.
4. Evaluate complementary and alternative therapies to select appropriate treatment methods following an injury.
Essential Content

LO1  **Review the factors that predispose the working horse to injury and performance-related problems to consider how they may be reduced**

*Specific demands:*
Physical demands relating to speed, endurance, jumping effort, repetitive work, competitive demands.

*Environmental factors:*
Stabling, husbandry practices, exercising environment, travelling. Surface type.

*Environmental-induced disorders:*
Recurrent airway obstruction, small airway disease, heatstroke. Lameness, soft tissue injuries.

*Metabolic factors and inherent disorders:*
Feeding and exercise regimes, exertional myopathies, colic, laminitis. Inherent cardiovascular disorders (atrial fibrillation).

LO2  **Describe the mechanisms within the musculoskeletal system during injury and repair to support recovery**

*Physiology, causes and symptoms:*
Main causes and risk factors for muscle, tendon and ligament injuries, muscle damage and repair mechanisms
Tendon and ligament injuries and repair
Diagnosis
Hoof evaluation
Impact of farriery work.

*Bone and joint disorders:*
Fractures, epiphysitis, periostitis, ostitis, osteoarthritis, developmental orthopaedic diseases
Diagnosis.

*Repair process:*
Wound healing, bone and muscle repair.
LO3 **Explain the processes of treatment and rehabilitation to plan for recovery of injuries in horses**

*First aid of performance-related injuries:*
First line treatment, importance of early assessment.

*Role of the veterinary surgeon and paraprofessionals:*
Role of the veterinary surgeon and veterinary treatments available. Support for veterinary team e.g. osteopath, physiotherapist, farrier.

*Treatment aids:*
Ultrasound, radiograph, thermography, hydrotherapy, laser, massage, physiotherapy, taping, solarium, corrective and therapeutic shoeing.

*Therapy and rehabilitation programmes:*
Muscle re-education, weakness limitations, progressive work routine and exercise to aid rehabilitation, use of solarium swimming pool, water, treadmill

Use of training aids and ground schooling
Assessment of progress/outcome measures.

LO4 **Evaluate complementary and alternative therapies to select appropriate treatment methods following an injury**

*Role of alternative and complementary therapies:*
Position in relation to conventional therapies, considerations when using ‘natural’ remedies.

*Evidence supporting therapies:*
Magnotherapy, acupuncture, herbalism, aromatherapy, massage, physiotherapy, chiropractic, osteopathy, nutritional supplements. Electrotherapies, shock wave and cryotherapy.
## Learning Outcomes and Assessment Criteria

<table>
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<tr>
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<tbody>
<tr>
<td><strong>LO1</strong></td>
<td>Review the factors that predispose the working horse to injury and performance-related problems to consider how they may be reduced</td>
<td><strong>LO1 LO2</strong></td>
</tr>
<tr>
<td>P1</td>
<td>Review the factors that predispose the working horse to injury and poor performance in a specific setting and role</td>
<td><strong>D1</strong> Plan a detailed case study on a performance or working horse to investigate lifestyle, the likelihood of injury/performance-related problems, and suggest possible changes in care to reduce the risks</td>
</tr>
<tr>
<td>P2</td>
<td>Discuss the ways to manage and reduce risk factors leading to injury and performance-related problems</td>
<td>M1 Compare two different uses for horses, in detail, to highlight the common causes of injury and performance-related problems and the reasoning behind each</td>
</tr>
<tr>
<td><strong>LO2</strong></td>
<td>Describe the mechanisms within the musculoskeletal system during injury and repair to support recovery</td>
<td><strong>LO3 LO4</strong></td>
</tr>
<tr>
<td>P3</td>
<td>Describe two musculoskeletal injuries (one soft tissue and one bone) in detail, and the way in which they undergo repair to support recovery</td>
<td><strong>D2</strong> Design an appropriate plan of traditional and complementary treatment for a given scenario to support recovery, and recommend the required rehabilitation to take place</td>
</tr>
<tr>
<td>M2</td>
<td>Explain how horse locomotion is connected to musculoskeletal injury to highlight the effect movement has on the mechanisms of injury and repair</td>
<td>M3 Assess the appropriateness of a range of treatment aids and rehabilitation plans in the recovery from injury</td>
</tr>
<tr>
<td><strong>LO3</strong></td>
<td>Explain the processes of treatment and rehabilitation to plan for recovery of injuries in horses</td>
<td><strong>M4</strong> Distinguish key benefits of complementary and alternative therapies available for horses in treating specific injuries</td>
</tr>
<tr>
<td>P4</td>
<td>Respond accurately to questions on the range of treatment aids available for horses and how they assist recovery from injury</td>
<td>M4 Distinguish key benefits of complementary and alternative therapies available for horses in treating specific injuries</td>
</tr>
<tr>
<td>P5</td>
<td>Explain the use of rehabilitation programmes for recovery from injury in horses</td>
<td>M5 Assess the appropriateness of a range of treatment aids and rehabilitation plans in the recovery from injury</td>
</tr>
<tr>
<td><strong>LO4</strong></td>
<td>Evaluate complementary and alternative therapies to select appropriate treatment methods following an injury</td>
<td><strong>LO5</strong></td>
</tr>
<tr>
<td>P6</td>
<td>Evaluate the range of complementary and alternative therapies available for horses in relation to specific injury types</td>
<td><strong>D3</strong> Plan a detailed case study on a performance or working horse to investigate lifestyle, the likelihood of injury/performance-related problems, and suggest possible changes in care to reduce the risks</td>
</tr>
<tr>
<td>M4</td>
<td>Distinguish key benefits of complementary and alternative therapies available for horses in treating specific injuries</td>
<td>M4 Distinguish key benefits of complementary and alternative therapies available for horses in treating specific injuries</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


**Web**

- [www.horseandhound.co.uk](http://www.horseandhound.co.uk) Horse and Hound
  - All about suspensory ligament injuries
    - (Article)

- [www.smartpakequine.com](http://www.smartpakequine.com) SmartPak
  - Tendons & Ligaments: Treating injuries and Supporting Healthy Tissues
    - (Research)

- [www.thehorse.com](http://www.thehorse.com) The Horse
  - Developing the Sport Horse: Common Injuries
    - (Article)

- [http://veterinarynews.dvm360.com](http://veterinarynews.dvm360.com) Veterinary News
  - Predisposed to Injury: Different sports carry different risks for horses
    - (Article)

- [www.vetfolio.com](http://www.vetfolio.com) VetFolio
  - An Overview of Equine Rehabilitation
    - (General reference)

**Essential Requirements**

Tutors must be appropriately qualified and experienced within this subject to cover the principles and skills development aspects of this unit.

**Links**

This unit links to the following related units:

*Unit 6: Animal Anatomy and Physiology*

*Unit 12: Horse Husbandry*

*Unit 31: Equine Health and Disease*
Unit 33: Animal Breeding and Genetics

<table>
<thead>
<tr>
<th>Unit code</th>
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Introduction
The breeding of animals is fundamental to the animal industry worldwide, and possessing an understanding of genetic processes has a clear advantage for those breeding animals. Genetics spans several key areas of the animal management industry, including conservation, veterinary science, and animal welfare. This unit introduces the key principles of genetics and how this impacts the overall breeding of animals.

Within many settings of the animal management industry, neonatal and young animals are cared for. This unit has an industry-led focus, providing students with the required knowledge to progress into a range of job roles.

The unit covers a wide range of topics, opening with genetic information and key principles of heredity. This develops onto the planning of breeding, caring for young animals and potential problems associated with specific species. Finally, reproductive technologies are considered, with a key focus on the practicality and availability for breeders.

There is an opportunity for providers to integrate practical skills with breeding and genetics knowledge within this unit. Students can undertake laboratory sessions to enhance the learning of key content, and animal breeding is also encouraged to provide students with actual breeding and husbandry skills.
Learning Outcomes

By the end of this unit a student will be able to:

1. Analyse genetic information and principles of inheritance in relation to breeding animals
2. Manage the breeding process from oestrus to parturition
3. Manage neonatal and young animals from parturition to adolescence
4. Explore the uses of reproductive technologies when breeding animals.
Essential Content

**LO1 Analyse genetic information and principles of inheritance in relation to breeding animals**

*Genetic information:*
Deoxyribonucleic acid
Ribonucleic acid
Chromosomes
Genes
Alleles.

*Protein synthesis:*
Transcription and translation.

*Gene interactions:*
Incomplete dominance
Lethal alleles
Co-dominance
Multiple alleles
Epistasis
Sex-linkage.

*Meiosis and mitosis:*
Each stage of division for somatic cells and gametes.

*Mendelian genetics:*
The work of Gregor Mendel
Monohybrid and dihybrid crosses using probability tables (Punnett squares).

**LO2 Manage the breeding process from oestrus to parturition**

*Mate selection:*
Purpose of intended breeding
Genotype analysis
Breeding for specific phenotypes
Pedigree analysis.
Reproductive stages and potential problems:
Oestrus
Ovulation
Conception
Gestation
Parturition
Record-keeping
Health and Safety considerations.

LO3 Manage neonatal and young animals from parturition to adolescence

Neonatal care and young animal care:
First days of life
Nutrition
Housing
Husbandry
Handling
Health
Vaccinations.

Potential problems:
Orphaned neonates
Species-specific problems.

Legislative requirements:
Species-specific legislative requirements
Sale/transfer of animals
Notifiable disease
Animal welfare standards.
LO4 Explore the uses of reproductive technologies when breeding animals.

*Genetic technologies:*
- Genetic analysis
- DNA screening
- Hormone therapy
- Superovulation
- Ovulation indicators
- Artificial insemination
- Oestrus synchronisation
- Embryo transfer
- Confirmation of gestation.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
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</thead>
</table>
| **LO1**  | Analyse genetic information and principles of inheritance in relation to breeding animals | **M1** Investigate the impacts of the following gene interactions with specific emphasis on phenotypic traits:  
- Lethal alleles  
- Epistasis  
- Incomplete dominance  
- Co-dominance  
- Multiple alleles  
- Sex-linkage |
| **P1**   | Compare the properties of DNA and RNA with specific emphasis on their roles in protein synthesis | **D1** Critically evaluate the work of Gregor Mendel in relation to the relevance of his laws in modern-day breeding programmes |
| **P2**   | Discuss the role of meiotic and mitotic cell division in the development of offspring | **P3** Review the use of probability tools when predicting the outcome of specific crosses/matings |
| **P3**   | Investigate the impacts of the following gene interactions with specific emphasis on phenotypic traits:  
- Lethal alleles  
- Epistasis  
- Incomplete dominance  
- Co-dominance  
- Multiple alleles  
- Sex-linkage |                                                             |
| **LO2**  | Manage the breeding process from oestrus to parturition | **D2** Evaluate information available to breeders when planning a breeding programme from oestrus identification to the weaning of young animals for a given species |
| **P4**   | Analyse the factors that influence mate selection in a given species | **P5** Discuss stages of the breeding process for a given species |
| **P5**   | Discuss stages of the breeding process for a given species | **P6** Discuss the potential problems during each stage of reproduction for a given species |
| **P6**   | Discuss the potential problems during each stage of reproduction for a given species | **P7** Assess the Health and Safety and record-keeping requirements for a given species |
| **P7**   | Assess the Health and Safety and record-keeping requirements for a given species | **M2** Provide an analysis of how breeders may prevent, manage and eradicate potential reproductive problems from a breeding programme for a specific species |

- **LO2 LO3**
<table>
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<tbody>
<tr>
<td><strong>LO3</strong> Manage neonatal and young animals from parturition to adolescence</td>
<td><strong>P8</strong> Discuss the care requirements of neonates and young animals for a given species</td>
<td>-</td>
</tr>
<tr>
<td><strong>P9</strong> Investigate the potential problems that may arise with neonatal and young animals for a given species</td>
<td><strong>M3</strong> Create a husbandry plan for the care of neonatal and young animals from parturition to adolescence for a given species</td>
<td>-</td>
</tr>
<tr>
<td><strong>P10</strong> Analyse legislative requirements when caring for neonatal and young animals for a given species</td>
<td><strong>P11</strong> Discuss a range of reproductive technologies available to breeders of a range of species</td>
<td>-</td>
</tr>
<tr>
<td><strong>LO4</strong> Explore the uses of reproductive technologies when breeding animals</td>
<td><strong>M4</strong> Evaluate the success of reproductive technologies in relation to functionality, cost and availability for a range of species</td>
<td><strong>D3</strong> Critically analyse the use of reproductive technologies within breeding programmes for a range of species, including moral and ethical viewpoints</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web

www.animalgenetics.eu

Research

Canine, Equine

(General reference)

www.animalsmart.org

Animal Science

Breeding and Genetics

(General reference)

Links

This unit links to the following related units:

*Unit 1: Animal Health and Welfare*

*Unit 5: Animal Husbandry*

*Unit 6: Animal Anatomy and Physiology*
Unit 34: Management of Animal Boarding Establishments

<table>
<thead>
<tr>
<th>Unit code</th>
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<tbody>
<tr>
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</tbody>
</table>

Introduction

The aim of the unit is to provide students with a holistic understanding of animal boarding establishments, policies, and processes. The companion animal market is a highly lucrative and expansive industry that is continually growing, and animal boarding establishments employ a vast number of employees within the animal management industry. Possessing a fundamental knowledge of processes from design to husbandry equips students with immediate employment prospects.

Management skills are embedded throughout the unit content and equip students with the key knowledge and skills required within an animal boarding environment. Successful boarding establishments encompass a range of ancillary services to improve profit and engage clients with a range of additional facilities. Dealing with an array of animals, students will develop handling and restraint skills of animals in a range of behavioural states. Effective husbandry techniques are key when working with, for example, dogs and cats in a potentially stressful environment.

In addition, a wide range of legislation and policy governs animal boarding establishments. This unit therefore requires students to analyse legislation in order to develop an understanding of the requirements of managing a boarding establishment.

Through effective engagement with this unit, students gain insights into animal boarding establishment design with consideration of legislation and animal welfare, admission processes and administrative responsibilities, ancillary services and husbandry regimes. These are all transferable skills across the animal management industry.
Learning Outcomes

By the end of this unit a student will be able to:

1. Evaluate a range of animal boarding designs in relation to animal welfare and legislation
2. Discuss advantages and disadvantages of ancillary services commonly employed by animal establishments
3. Describe and follow administrative procedures required for an animal boarding establishment
4. Demonstrate specialist handling, husbandry and restraint techniques within an animal boarding setting.
Essential Content

LO1 Evaluate a range of animal boarding designs in relation to animal welfare and legislation

Animal boarding designs:
Materials
Capacity
Facilities
Fixtures and fittings
Maintenance
Cost
Animal welfare and legislative considerations (contextualise to delivering country).

LO2 Discuss advantages and disadvantages of ancillary services commonly employed by animal boarding establishments

Ancillary services:
Grooming parlour
Day care
Training
Puppy group
Day care facilities
Animal transportation
Retail outlets.

LO3 Describe and follow administrative procedures required for an animal boarding establishment

Admitting animals and administration:
Booking-in procedure
Customer service
Information collection
Data protection
Vaccinations
Financial records
Dealing with emergencies.
LO4 Demonstrate specialist handling, husbandry and restraint techniques within an animal boarding setting.

Handling equipment:
Techniques for dealing with aggressive, nervous, or stressed animals
Feeding processes
Health checks.
# Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
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</table>
| **LO1** Evaluate a range of animal boarding designs in relation to animal welfare and legislation | **P1** Design an animal boarding establishment for use in the following circumstances:  
- Rescue  
- Boarding  
- Breeding  
- Competition  
**M1** Assess current legislation impacting animal boarding design.  
**M2** Assess current legislation impacting animal welfare within an animal boarding environment | **LO1** **LO2**  
**D1** Critically evaluate how the functional characteristics impact the overall design of animal boarding establishments, with consideration of animal welfare, ancillary services and legislative requirements |
| **LO2** Discuss advantages and disadvantages of ancillary services commonly employed by animal boarding establishments | **P3** Investigate current ancillary services offered to clients using animal boarding establishments  
**P4** Compare a range of ancillary services offered to clients of animal boarding establishments  
**M3** Assess the feasibility of providing a range of ancillary services | |
| **LO3** Describe and follow administrative procedures required for an animal boarding establishment | **P5** Demonstrate the admission process for an animal boarding establishment following policies and procedures  
**M4** Assess policies and procedures within a given animal boarding setting | **D2** Discuss how policies and procedures would apply to an emergency situation, highlighting how to manage a situation within an animal boarding establishment |
<table>
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<tbody>
<tr>
<td><strong>LO4</strong> Demonstrate specialist handling, husbandry and restraint techniques within an animal boarding setting</td>
<td></td>
<td><strong>D3</strong> Provide a detailed analysis of husbandry requirements of animals within an animal boarding setting</td>
</tr>
<tr>
<td><strong>P6</strong> Identify and apply specialist handling equipment to an animal within an animal boarding establishment</td>
<td><strong>M5</strong> Discuss the relative advantages and disadvantages of specialist handling equipment used within an animal boarding establishment</td>
<td></td>
</tr>
<tr>
<td><strong>P7</strong> Plan and manage a husbandry schedule for animals within an animal boarding environment.</td>
<td><strong>M6</strong> Discuss the importance of health and welfare assessment within an animal boarding setting</td>
<td></td>
</tr>
<tr>
<td><strong>P8</strong> Describe health and behaviour assessments for animals within an animal boarding establishment</td>
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</tbody>
</table>
Recommended Resources

Textbooks

Web
www.kennelandcattery.com

Links
This unit links to the following related units:
Unit 1: Animal Health and Welfare
Unit 2: Business and the Business Environment
Unit 9: Veterinary Practice Management
Unit 35: Wildlife Conservation

<table>
<thead>
<tr>
<th>Unit code</th>
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</table>

Introduction

The natural world faces ever-increasing pressures from human activities. As ecosystems reduce in size and productivity, this impacts on the wildlife populations that inhabit them. In recent decades, conservation action has increased in significance and effectiveness to a point where human activity can now greatly benefit the sustainability of wildlife populations. In the land-based sector, there are many activities which impact on natural spaces and, as such, the workforce must be knowledgeable and skilled in understanding and interacting with wildlife and their habitats.

In this unit, students will study the theories and principles for analysing wild animal species and explore how to apply this knowledge in the field. They will examine the threats to wild animal populations and explore the solutions to conservation problems that face the modern world. Through studying wildlife conservation, students will gain insights into the variety of approaches to promoting wildlife, from working with key species directly, to managing natural spaces and habitats, and engaging in political and economic issues.

This unit will also allow students to develop knowledge of the natural world and evaluate the human impact on wildlife species. They will again insight into the practical realities of working in the conservation field and examine existing and theoretical conservation projects and activities.

With the experience gained through studying this unit, students will be well equipped to engage in solving wildlife conservation problems, underpinned by knowledge of the relevant theories and principles. Students will find their knowledge and skills useful if looking to progress into a wide range of roles in the land-based sector, from the management of natural spaces and game-keeping, to responsible agriculture, as well as working in the wildlife conservation field specifically.
Learning Outcomes

By the end of this unit a student will be able to:

1. Evaluate human influences on wildlife species and their natural habitats
2. Discuss species-centred approaches to wildlife conservation
3. Discuss habitat management strategies to promote wildlife conservation
4. Explore economic, social and political approaches to wildlife conservation.
Essential Content

LO1 Evaluate human influences on wildlife species and their natural habitats

*Population disruption:*
Overharvesting
Exploitation.

*Habitat disruption:*
Destruction
Fragmentation.

*Ecological disruption:*
Disruption of food chains
Fragmentation of populations
Alien/invasive species introduction.

*Environmental impacts:*
Pollution
Climate change.

*Impact of human development:*
Industry
Agriculture
Urbanisation.

LO2 Discuss species-centred approaches to wildlife conservation

*Species ecology:*
Life history
Behavioural ecology
Population dynamics.

*Wildlife rehabilitation:*
Capture and transportation
Captive care and management
Translocation of animals
Release and post-release monitoring.
Breeding programmes:
- Gene pool management
- Gene flow
- Genetic drift
- Inbreeding
- Captive breeding management
- Collaborative systems
- Hybridisation
- Cross-fostering
- Hand-rearing.

Assessing animal populations:
- Wildlife census
- Tracking and monitoring techniques and equipment
- Population viability analysis
- Data interpretation and analysis.

LO3 Discuss habitat management strategies to promote wildlife conservation

Habitat ecology:
- Abiotic factors
- Biome definitions and issues.

Habitat rehabilitation and management:
- Recovering vegetation
- Fire management
- Corridors
- Erosion control
- Protected areas
- National and transnational parks
- Invasive species control.

Common practices:
- Action planning
- Legislative considerations
- Codes of practice
- Equipment and materials
- Considering sensitive environments.
Ecological surveying:
Techniques for investigating habitats
Using ecological survey data.

LO4 Explore economic, social and political approaches to wildlife conservation

Wildlife economics:
Animal trade
Wildlife product trade
Market regulation and black markets
Ecotourism
Economic impact of productive ecosystems.

Conservation legislation:
National, international and transnational legislation
Wildlife crime investigation and enforcement
Codes of practice.

Socio-cultural considerations:
Human perspectives on wildlife
Community demands
Community education
Campaigning and marketing
Fundraising.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Evaluate human influences on wildlife species and their natural habitats</td>
<td><strong>P1</strong> Investigate the impact of human activity on wildlife population numbers</td>
<td><strong>D1</strong> Critically analyse the influencing factors for the decline of a wildlife population</td>
</tr>
<tr>
<td><strong>P2</strong> Assess the impact of human activity on the natural environment</td>
<td><strong>M1</strong> Evaluate the ecological significance of human industry and agriculture on wildlife</td>
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<tr>
<td><strong>LO2</strong> Discuss species-centred approaches to wildlife conservation</td>
<td><strong>M2</strong> Evaluate the success of intervention in a wildlife species’ population</td>
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</tbody>
</table>
| **P3** Assess strategies for managing wild animal populations in captivity for conservation purposes | **LO2 LO3**
| **P4** Explain the practices and considerations for managing a wild animal population | **D2** Critically evaluate the conservation actions taken to promote a wildlife population and justify suggested alternatives/improvements |
| **LO3** Discuss habitat management strategies to promote wildlife conservation | **M3** Analyse the ecological implications of human alteration of environmental factors. |
| **P5** Discuss the ecological components of wildlife habitats | **P6** Compare strategies for influencing environmental factors |
| **LO4** Explore economic, social and political approaches to wildlife conservation | **M4** Compare the needs of different stakeholders in a conservation project |
| **P7** Analyse the economic significance of wildlife and their habitats | **D3** Critically analyse the economic, cultural and political context for a conservation project |
| **P8** Evaluate political and social actions undertaken in the promotion of conservation | **P9** | **P10** |
Recommended Resources

Textbooks


Web
www.cites.org Convention on the International Trade in Endangered Species
(General reference)

www.iucn.org The International Union for the Conservation of Nature
(General reference)

thewrc.org The International Wildlife Rehabilitation Council
(General reference)

www.wwf.org.uk World Wide Fund for Nature
(General reference)

Links
This unit links to the following related units:

*Unit 14: Management of Exotic Animal Species*

*Unit 8: Ecological Principles*

*Unit 26: Evolution and Adaptations*

*Unit 33: Animal Breeding and Genetics*
Unit 36: Ethics and Consultation

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<th>Unit code</th>
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Introduction

This unit focuses on key ethical theories within a consultation setting. The animal management industry is a varied and diverse sector with multiple applications where ethics require consideration. From agriculture to captive animal collections, ethical approaches enable decision-making and justification of actions. Consultation on animal activity is imperative to ensure animal welfare is maintained, whilst enabling human benefit. Consultants are required throughout the industry to see all angles of an argument and provide a logical course of action that considers animal welfare and ethical standings.

Students are given the opportunity to investigate a range of areas within the animal management industry and apply ethical theory. They are also able to select specific topics that interest them and that align with their future career aspirations.

The key aim of the unit is to combine animal welfare and ethical approaches within a consulting context. Within the first two Learning Outcomes, students assess current issues within the animal industry and apply philosophical and ethical approaches whilst considering animal welfare and human requirement. The third Learning Outcome requires students to develop consultation skills within legal parameters. The final Learning Outcome of the unit enables students to recognise animal welfare indicators through behaviour and physiology within a cultural context.

This unit encourages active debate and professional argument which supports progression into a wide range of professional settings. The ability to convey logical arguments in a professional way is a highly-regarded skill within any professional setting. A working knowledge of ethical applications is also imperative within any consultation position. This unit combines both areas to provide a solid base for future employment.
Learning Outcomes

By the end of this unit a student will be able to:

1. Analyse current ethical dilemmas in animal science/welfare
2. Demonstrate an awareness of present difficulties/insights at the head of animal science, and the philosophical, welfare and ethical issues related to these
3. Apply consultation practices while representing an understanding of legal implications of working as an expert in the animal sector
4. Evaluate general patterns in animal behaviour, psychological functioning and experience in relation to ethics.
Essential Content

LO1 Analyse current ethical dilemmas in animal science/welfare

Ethics:
Meta-ethics
Normative ethics
Applied ethics.

Current ethical dilemmas:
Animal welfare conflicts
Animal science conflicts.

LO2 Demonstrate an awareness of present difficulties/insights at the head of animal science, and the philosophical, welfare and ethical issues related to these

Present issues within the animal industry:

Production:
Slaughter
Accommodation
Transportation

Exhibition:
Competition
Body modification e.g. tail docking.

Hunting:
Predatory animals
Kinship
Welfare impacts
Fair chase.

Experimentation:
Wild-caught
Animal welfare.
Captivity:
Home range
Aquatic mammals.

International conservation threats:
Nuclear power
Human impacts
Philosophical applications to issues within the animal industry
Welfare impacts
Ethical standpoints.

LO3 Apply consultation practices while representing an understanding of legal implications of working as an expert in the animal sector

Regulation of animal welfare:
Statutory and regulatory
Methods of consultation
Practice of consultation.

LO4 Evaluate general patterns in animal behaviour, physiological functioning and experience in relation to ethics.

Animal behaviour patterns:
Signs of negative welfare impacts
Measuring of negative welfare impacts

Physiological function and experience:
Physiological responses to welfare impacts.

Ethical viewpoints:
Application of ethical standings in relation to the actions of individuals and cultures towards animals.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>LO1</strong> Analyse current ethical dilemmas in animal science/welfare</td>
<td><strong>P1</strong> Discuss key ethical theories in relation to the animal management industry, including:  - Meta-ethics  - Normative ethics  - Applied ethics <strong>M1</strong> Assess given ethical theories, highlighting the relevance of said theories in the modern-day animal industry</td>
<td><strong>LO1 LO2</strong> <strong>D1</strong> Critically evaluate a given issue within the animal industry, including ethical and philosophical standings, and recommend changes to improve animal welfare</td>
</tr>
<tr>
<td><strong>P2</strong> Analyse two ethical theories and apply to a specific animal welfare or science conflict</td>
<td><strong>LO2</strong> Demonstrate an awareness of present difficulties/insights at the head of animal science, and the philosophical, welfare and ethical issues related to these <strong>P3</strong> Select and discuss a current issue within the animal industry, including the philosophical, ethical and welfare considerations <strong>M2</strong> Review a selected issue within the animal industry, recognising all standpoints of the argument</td>
<td></td>
</tr>
<tr>
<td><strong>LO3</strong> Apply consultation practices while representing an understanding of legal implications of working as an expert in the animal sector <strong>P4</strong> Investigate applications of consultation within the animal industry <strong>P5</strong> Report legal considerations in relation to consulting within the animal industry</td>
<td><strong>M3</strong> Design a consultation plan within a given situation, considering client requirements, legal frameworks, and animal welfare</td>
<td><strong>D2</strong> Demonstrate consultation methods within a given situation whilst considering legal implications</td>
</tr>
<tr>
<td><strong>M3</strong> Design a consultation plan within a given situation, considering client requirements, legal frameworks, and animal welfare</td>
<td><strong>D2</strong> Demonstrate consultation methods within a given situation whilst considering legal implications</td>
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<tr>
<td><strong>LO4</strong> Evaluate general patterns in animal behaviour, physiological functioning and experience in relation to ethics</td>
<td><strong>D3</strong> Justify the use of animals within a cultural context and analyse the significance of ethical viewpoints in relation to possibilities of consultation to improve animal welfare</td>
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<tr>
<td><strong>P6</strong> Describe methods of assessing animal welfare indicators within a given context</td>
<td><strong>M4</strong> Evaluate the use of animals within a cultural context, determining whether animal welfare is considered</td>
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<tr>
<td><strong>P7</strong> Discuss physiological and behavioural functioning as indicators of animal welfare states</td>
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<tr>
<td><strong>P8</strong> Select a human-animal conflict and apply ethical standpoints in relation to welfare indicators</td>
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Recommended Resources

Textbooks

Web
www.ciwf.org.uk  Compassion in World Farming
  Farm Animals, Factory Farming
  (General reference)
www.gov.uk  UK Government
  Research and testing using animals
  Farm Animal Welfare Committee
  (General reference)
www.howtoconserve.org  Conserve
  Marine Species
  Human-Animal Threats
www.rspca.org.uk  RSPCA
  Advice and Welfare
  Pets, Lab Animals, Farm Animals, Wildlife
  (General reference)
www.WWF.org  World Wide Fund for Nature
  Species threats, Habitat loss, Illegal wildlife trade
  (General reference)
Links

This unit links to the following related units:

Unit 1: Animal Health and Welfare
Unit 5: Animal Husbandry
Unit 25: Anthrozoology
Unit 37: Equitation II (Riding)

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Introduction

This unit will give students the background knowledge needed to be able to work in the equine industry. It will ensure that students have the knowledge of how to train horses and ensure progression is made whilst training them. Students will learn about the theory that underpins practical horse riding as well as implementing the theory in riding sessions, focusing on a selected discipline. The module aims to develop a reflective practitioner.

In this unit, students will develop their understanding of how horses learn and what is required when training horses in-hand and under saddle for a selected discipline. They will develop knowledge of evidence-based training methods and the emerging field of equitation science, looking at the methods used for training a variety of horses.

Students will also identify and investigate the equipment, techniques and programmes used to introduce young horses to training and to develop or rehabilitate horses. They will create and implement a training programme that demonstrates progression over a timescale and consider behavioural and physical issues in a training context. In the discipline chosen to create a training plan, students must demonstrate the ability to ride and train horses up to industry standards (equivalent to BHS Level 3/4, elementary dressage, BE 100).

With an understanding of learning theory, as well as developed training techniques and riding ability, students will be able to progress to employment involving handling and riding horses, coaching, groom, behaviourist and also have greater knowledge on breed types and traits.
Learning Outcomes

By the end of this unit a student will be able to:

1. Apply the principles of learning theory to practical training in equitation
2. Describe the influence of rider fitness within equine training
3. Design and justify a fit for purpose training programme for an individual horse in a specific discipline
4. Implement a successful training programme which demonstrates progression for an individual horse.
Essential Content

LO1  **Apply the principles of learning theory to practical training in equitation**

*Reinforcement:*
Use of voice, aids from reins, use of leg, use of whip/spurs, positive and negative reward, positive and negative punishment.

*Non-associative learning:*
Equine cognition, recall ability, environmental stimuli that provoke responses, unwanted responses.

*Associative learning:*
Principles of associative learning and their relationship to training horses – when is this used during riding?

*Operant and classical conditioning:*
Skinner and Pavlov.

LO2  **Describe the influence of rider fitness within equine training**

*Rider fitness:*
Importance of rider fitness, specific physiological systems that play a large part for riders in selected equine disciplines, research on the influence of rider fitness on equine performance, obesity in horse riders and alterations to rule books in selected disciplines.

*Fitness testing:*
Heart rate, bleep testing, lung capacity, stamina.

*Types of training relevant to specific equine discipline’s cardiovascular training:*
HITT training, yoga, Pilates, core strength.

*How fitness levels alter for riders between disciplines:*
Dressage, eventing, racing, team chasing, show jumping.

LO3  **Design and justify a fit for purpose training programme for an individual horse in a specific discipline**

Goal setting and principles of training.
Considerations when designing training aims:
Breaking down the ultimate training aim of a variety of situations into training blocks of smaller, achievable goals
The aim of training any horse should be to achieve consistent correct responses
Appropriate training cycles, micro/meso/macro cycles, training diary
Reflective practice.

Assessment of horse:
Age
Level of prior fitness and training
Health records
Behaviour.

Rehabilitating horses from injury:
Specific sites of injury
Fittening work (after horse has had a long period out of work)
Re-schooling
Maintaining established horses.

Considerations when designing training programmes for a variety of horses with different training aims:
Duration and frequency of ridden and non-ridden exercise
Environment
Facilities affecting regularity of exercise and type of exercise performed
School movements and gymnastic exercises e.g. practical schooling in-hand.

Planning:
Consideration of the time taken to train horses, factors that affect rate of progress, assessment, use of positive and negative reinforcement.

LO4 Implement a successful training programme which demonstrates progression for an individual horse
Importance of reflective practice.

Development of the horse’s way of going:
Short- and long-term goals, issues that arise in training programmes, carry out training regime with reflective diary and video evidence of progression.
**Reflective practice:**

Gibbs’ cycle of reflection, learning theories, learning cycles (Kolb), Raul
Reflective portfolio to demonstrate ability to reflect and make changes to enhance training and performance, judge own ability
Methods of checking progress e.g. video, coach/instructor feedback, competition results, ease of movements and increased obedience
Building on progress e.g. adjusting goals, mid-term and long-term goals, complementary training (loose schooling, hacking, jumping).

**Qualities of a good rider/trainer:**

Patience, calmness, temper control, tolerance, goal setting, and clear understanding of aims, knowledge, and practical ability.

**The scales of training:**

The way of going e.g. rhythm, suppleness, contact, impulsion, straightness and collection.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
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</table>
| **LO1** Apply the principles of learning theory to practical training in equitation | **M1** Demonstrate the ability to recognise how learning theories influence own riding in a practical training session | **LO1 LO2**
| **P1** Discuss learning theories and how they influence equestrian training | **D1** Critically analyse the use of reinforcement when it is used in both ridden and in-hand training sessions |  |
| **P2** Perform a ridden training session, demonstrating appropriate use of reinforcement methods | **LO2 Describe the influence of rider fitness within equine training** |  |
| **P3** Discuss the impact of rider fitness on a horse's ability to work/perform | **M2** Perform a ridden training session monitoring heart rate and position (of rider), making recommendations for fitness development |  |
| **P4** Discuss a range of methods to improve rider fitness and core stability of a horse that will benefit position, posture and fitness | **LO3 Design and justify a fit for purpose training programme for an individual horse in a specific discipline** |  |
| **P5** Assess the suitability of an individual horse for a named discipline | **M3** Evaluate challenges that may occur whilst creating and implementing a training programme, making a contingency plan | **LO3 LO4**
| **P6** Produce a six-week training programme for a horse to demonstrate development in particular selected areas | **D2** Critically evaluate the training programme, reflecting on both the horse and rider’s progression, making further recommendations for a continued training programme and identifying problems that came about during the implementation of the training programme |  |
| **LO4 Implement a successful training programme which demonstrates progression for an individual horse** | **M4** Analyse how the horse’s specified skills have developed to identify strengths and areas which still require improvement. |  |
| **P7** Perform ridden training sessions demonstrating planning in conjunction with the six-week training plan | **P8** Produce a reflective portfolio of the six-week training programme (recording rider and horse progression) |  |
Recommended Resources

Textbooks


Journals


For rider:


Specific papers:

Links

This unit links to the following related units:

Unit 18: Equitation (Riding)
Unit 20: Equestrian Performance
Unit 39: Advanced Equine Performance
Unit 38: Horse Event Management

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<th>Unit code</th>
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**Introduction**

As financial demands on keeping and working horses increases, owners and employees are under pressure to find commercial means to generate funds for running yards. By maximising the use of facilities, realising opportunities and generating interest in the industry, budgets can be expanded and businesses can grow. This is an increasing requirement of any yard environment, large or small, and efforts must be focused to find niche markets and form careful plans for equestrian events to be successful.

This unit considers the management, promotion and marketing of events, and investigates the legislation surrounding this. Students will be required to plan each stage of an event, considering the suitability of a specific facility, the type of event, and technical, resource and staff requirements. Students will then be expected to run an equine event and evaluate its success upon completion.

This unit develops skills from *Unit 13: Management of Equine Facilities*, allowing students to become more rounded and successful yard managers. Equine events are held in a variety of forms, from lecture demonstrations, displays, competitions and pony camps to tack sales, all of which have varying popularity depending on area and facilities. It is important that those within the industry can recognise the individual strengths of a yard and harness these in the competitive equine industry.

On completion of this unit, students will be able to complete a detailed assessment of facilities and their potential to hold a successful equine event. They will also be able to identify and interpret relevant legislation to ensure the correct planning and running of an event. In addition, students will develop the skills required to market an event and generate income through sponsorship.
**Learning Outcomes**

By the end of this unit a student will be able to:

1. Assess the potential of facilities to host a successful equine event
2. Interpret relevant legislation to ensure legal obligation is met in event organisation
3. Plan and run an equine event to generate profit for an equine facility
4. Develop a marketing strategy to promote an equine event.
Essential Content

LO1  Assess the potential of facilities to host a successful equine event

SWOT analysis:
Location, range, standard of facilities, suitability for different events and/or competitions, reputation, capacity, demand for local, regional, national events Affiliated and unaffiliated events and organisations.

Availability:
Under-utilisation, untapped potential, need for market research, niche and opportunity.

Staff requirements:
Skills profile of available individuals, need for specialists and/or officials, constraints, planning restrictions and local competition
Knowledge of Health and Safety considerations (for horses and riders).

LO2  Interpret relevant legislation to ensure legal obligation is met in event organisation

Technical requirements:
Rules, regulations, expected standards, customer care, competitors, officials, spectators, workers, Health and Safety requirements, risk assessments, COSHH analysis, legislative implications, requirements for trained personnel.

Legal:
Relevant legislation, Health and Safety, accident reporting, RIDDOR, rules on protective equipment, hazard analysis, risk minimisation.

LO3  Plan and run an equine event to generate profit for an equine facility

Requirements for a chosen event:
Facilities, labour, resources, technical planning and organisation, construction and distribution of information/schedules
Organising teams, setting and meeting objectives, timescales, work distribution
Financial planning.

Preparation of facilities:
Efficiency and safety, manning the event on the day, technical aspects, supporting activities, financial aspects, post-event review and evaluation.
Running an equine event:
Team working
Essential preparation
Effective communication
Roles and responsibilities.

LO4 Develop a marketing strategy to promote an equine event.

Marketing strategy:
Promotional plan, target audience, budget allocation.

Advertising:
Definition, purpose, objectives, different techniques, analysis of success, customer response, loyalty cost effectiveness
Use of media, social media
Developing a brand
Unique selling point.

Sponsorship:
Advantages and disadvantages, involvement of sponsors.
### Learning Outcomes and Assessment Criteria

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<td>Assess the potential of facilities to host a successful equine event</td>
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<tr>
<td>P1</td>
<td>Respond to the results of a SWOT analysis to discuss the potential of an equine facility to hold an event</td>
<td>M1 Evaluate an equine facility in detail to identify the USP</td>
</tr>
<tr>
<td>LO2</td>
<td>Interpret relevant legislation to ensure legal obligation is met in event organisation</td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>Interpret the main features of legislation that will require compliance during an equine event to ensure legal obligations are met</td>
<td>M2 Demonstrate compliance to legislation by identifying specific actions within the planning and running of an event to emphasise best practice</td>
</tr>
<tr>
<td>LO3</td>
<td>Plan and run an equine event to generate profit for an equine facility</td>
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</tr>
<tr>
<td>P3</td>
<td>Plan an equine event to meet prescribed objectives and generate a profit</td>
<td>M3 Perform the running of an event, effectively meeting objectives, prioritising work and allocating workloads within a set timescale</td>
</tr>
<tr>
<td>LO4</td>
<td>Develop a marketing strategy to promote an equine event</td>
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<tr>
<td>P4</td>
<td>Develop a marketing strategy and supporting marketing material to promote a specific equine event</td>
<td>M4 Describe how sponsorship and custom could be improved through an effective marketing plan</td>
</tr>
</tbody>
</table>
Recommended Resources

Textbooks


Web

www.bhs.org.uk British Horse Society
   Event Guidelines
   (General reference)

www.eventbrite.co.uk Eventbrite
   Event Marketing Strategy: Timeline, Template and Tactics
   (Article)

www.thespruce.com The Spruce
   How to Plan and Hold a Horse Show
   (Article)

Links

This unit links to the following related units:

Unit 12: Horse Husbandry

Unit 13: Management of Equine Facilities
# Unit 39: Advanced Equine Performance

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## Introduction

Horses are complex animals that have been utilised for a variety of performance activities for many years. The effective management of horses’ fitness, as well as the analysis of movement, are necessary to ensure optimum performance levels are achieved and maintained.

This unit gives detailed knowledge of the physiological effect of exercise and training on the different equine body systems and identifies the necessity to be able to monitor and test levels of fitness and strength within these systems. An understanding of gait, movement and biomechanical analysis will be covered. These are vital to the production of successful performance horses as understanding movement and stride length can influence the ability to perform tasks.

The unit will also allow students to recognise the importance of breed types and characteristics on the ability to perform and distinguish between breeds, and which disciplines would be most suited due to physiological and psychological traits of that breed. Psychology now plays a huge part in performance and an understanding of this is necessary in allowing a horse to perform at its best and considering potential constraints to performance.

This knowledge is vital whether it’s for a groom, rider, coach, analyst, behaviourist, breeder or, more specifically, performance analyst.
Learning Outcomes

By the end of this unit a student will be able to:

1. Analyse physiological systems and testing methodology of a horse in a specific discipline
2. Conduct biomechanical analysis of horse movement in a selected discipline
3. Describe conformation and breeding attributes to suit disciplines
4. Discuss psychological influence for horse and rider on performance.
Essential Content

LO1 Analyse physiological systems and testing methodology of a horse in a specific discipline

Systems:
Skeletal
Endocrine
Cardiovascular
Circulatory
Respiratory.

Key alterations:
Altitude
Peak fitness
Illness
Stress
Age.

Methods of analysis (monitoring fitness):
Blood tests – anaemia, red blood cell count, infection, white blood cell count, muscle enzyme status (AST and CPK), liver enzymes, electrolyte status, Haemoglobin concentration
HR testing, VO2max, respiratory testing, standard and maximal exercise tests
Bone density testing, force and strength.

Ways in which testing is conducted:
Treadmill
Laboratory testing
Race track
Power plates
Ethical issues with tests.
LO2  **Conduct biomechanical analysis of horse movement in a selected discipline**

Horses in motion

*Alteration in movement due to:*
Rider
Injury
Surfaces
Different disciplines (dressage, show jumping, racing, eventing).

*Kinematic data collection:*
Video analysis
Software used for analysis
Farrier influence.

*Static and dynamic assessment*

**LO3  Describe conformation and breeding attributes to suit disciplines**

*Conformation:*
Faults
Weaknesses
Strengths
Ideals
Suits for different disciplines.

*Breed types:*
Suitability of breeds for different disciplines
Pedigree/bloodlines (breed tests and grading)
Characters
Stallion selection
Embryo transfer (pros and cons)
Assisted reproductive techniques
Genetic evaluation
Hereditary indices.
LO4  Discuss psychological influences for horse and rider on performance

*Psychological influences:*
Physical traits
Breed traits
Behaviour modifications
Positive and negative traits
Profile of mood states
Learning process
Rider influence on horse’s psychological responses.
<table>
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<tbody>
<tr>
<td><strong>Pass</strong></td>
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<tr>
<td><strong>LO1</strong> Analyse physiological systems and testing methodology of a horse in a specific discipline</td>
</tr>
<tr>
<td><strong>D1</strong> Critically analyse testing methods and the impact they have on improving performance, making reference to the ethical implications</td>
</tr>
<tr>
<td><strong>LO2</strong> Conduct biomechanical analysis of horse movement in a selected discipline</td>
</tr>
<tr>
<td><strong>LO2 LO3 LO4</strong></td>
</tr>
<tr>
<td><strong>LO3</strong> Describe conformation and breeding attributes to suit disciplines</td>
</tr>
<tr>
<td><strong>LO4</strong> Discuss psychological influence for horse and rider on performance</td>
</tr>
<tr>
<td><strong>P7</strong> Describe how the psychological state of a horse can positively and negatively affect performance</td>
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Recommended Resources

Textbooks


Journals

Links
This unit links to the following related units:
Unit 6: Animal Anatomy and Physiology
Unit 18: Equitation (Riding)
Unit 20: Equestrian Performance
Unit 23: Biological Principles
Unit 37: Equitation II (Riding)
Unit 40: Sustainable Practices

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<td>Unit level</td>
<td>5</td>
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<td>Credit value</td>
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</table>

Introduction

The concept of sustainability and sustainable practices has many interpretations. For the purpose of this unit, sustainable practices are defined as operations carried out with the minimum impact, allowing those practices to be continued in the long term. Sustainable practices need to be applied to both inputs and outputs from a business. Consideration needs to be given to the resources used in production, the energy used to process those resources and the management of any waste products arising. To secure the future of production, businesses must seek to minimise their negative impacts in carrying out their operations.

This unit will develop the skills required to analyse business activities from the perspective of sustainability. It will allow systems and practices to be reviewed to minimise energy use and waste production, enabling the reduction of negative impacts on the environment. Once practices have been reviewed and impacts minimised, the use of green business credentials in marketing will be explored.

During unit delivery, local and national schemes to which a business can sign up will be identified and eligibility criteria examined. Methods for evaluating a business’s environmental impact will also be developed, and opportunities for local sourcing, collective purchasing and transportation and packaging minimisation will be explored. In addition, the application of the waste hierarchy will be explored so that resource waste can be eliminated, and utilising green business credentials will be optimised.

By the end of the unit, students will have developed the skills to review business activities in order to minimise environmental impacts and then utilise the green business credentials in promoting and marketing business activities and products. They will also be able to identify appropriate schemes and initiatives which could support sustainable business aims.
Learning Outcomes

By the end of this unit a student will be able to:

1. Evaluate the opportunities for applying sustainable practices to business operations
2. Analyse business facilities and practices to minimise energy use
3. Identify opportunities for waste minimisation and recycling
**Essential Content**

**LO1**  **Evaluate the opportunities for applying sustainable practices to business operations**

*All aspects of business practices need to be considered:*
Identify opportunities to minimise the risk of loss or damage to land, water and air
Practices which minimise resource requirement need to be explored
Consideration must be given to the sourcing of inputs to ensure they continue to be available for production in the future.

**LO2**  **Analyse business facilities and practices to minimise energy use**

*Technologies and systems which minimise energy use need to be explored:*
Insulation and thermal efficiency of buildings
The adoption of energy efficient production methods
The development of maintenance schedules for equipment
The evaluation of latest technologies for energy saving.

**LO3**  **Identify opportunities for waste minimisation and recycling**

*Methods of reducing waste need to be explored:*
Matching of systems to local circumstances
Stock control to be practised
Avoidance of excess packaging
Use of biodegradable products
Storing and sorting waste products to maximise recycling opportunities
Preventing waste escaping into the wider environment
The waste hierarchy needs to be followed
Non-recyclable waste disposal in accordance with current legislation.

**LO4**  **Utilise sustainable practices in business promotion**

*Marketing opportunities utilising the business’ sustainable reputation need to be developed:*
Quality Assurance schemes requiring sustainable practices to be reviewed
Niche marketing to be investigated
Opportunities for spreading sustainable practices up and down the supply chain to be explored.
## Learning Outcomes and Assessment Criteria

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<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Evaluate the opportunities for applying sustainable practices to business operations</td>
<td><strong>P1</strong> Produce a risk plan of activities and their negative impacts</td>
<td><strong>M1</strong> Evaluate the impact of the risk plan and viability of changing input sources</td>
</tr>
<tr>
<td><strong>P2</strong> Identify sustainable practices which would reduce the risks</td>
<td><strong>P3</strong> Identify sustainable sources for business inputs</td>
<td><strong>LO1 LO2</strong></td>
</tr>
<tr>
<td><strong>LO2</strong> Analyse business facilities and practices to minimise energy use</td>
<td><strong>P4</strong> Produce an environmental audit of business premises and practices</td>
<td><strong>M2</strong> Evaluate feasibility of applying technologies</td>
</tr>
<tr>
<td><strong>LO3</strong> Identify opportunities for waste minimisation and recycling</td>
<td><strong>P5</strong> Produce a waste management audit for the business</td>
<td><strong>M3</strong> Evaluate waste minimisation opportunities in the local area</td>
</tr>
<tr>
<td><strong>LO4</strong> Utilise sustainable practices in business promotion</td>
<td><strong>P6</strong> Produce a marketing plan which makes use of the business’ environmental credentials</td>
<td><strong>M4</strong> Evaluate own plan against plans of similar businesses</td>
</tr>
<tr>
<td><strong>D1</strong> Critically evaluate potential savings and costs from applying sustainable practices</td>
<td><strong>D2</strong> Critically evaluate potential savings and costs from applying sustainable practices</td>
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</tr>
</tbody>
</table>
Recommended Resources

Textbooks

Web
www.energysavingtrust.org.uk The Energy Saving Trust
Whole site
(General reference)

Links
This unit links to the following related units:
Unit 2: Business and the Business Environment
Unit 9: Veterinary Practice Management
Unit 21: Management Accounting
Unit 30: Advanced Management Accounting
**Unit 41: Work Experience**

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**Introduction**

A crucial part of a professional’s skills, abilities and competences are developed during work, and are refined through practical experiences and ‘learning by doing’. Employers rate work experience above all else and the Higher National qualifications aim to make students work-ready and prepare them with the appropriate balanced skills profile that employers require.

Integral to achieving ‘work readiness’ is the need for practical application and contextualisation of learning, a perspective that is increasingly sought after by employers. Curriculum that helps students gain real-world, relevant experience in their chosen careers has proven to be an enabler for graduate progression to employment and of considerable value to students’ personal and professional development.

This unit aims to enable students to develop personal and professional skills by engaging in practical tasks and activities within a relevant workplace. It is designed to facilitate supervised learning in a workplace that can be fit around full-time or part-time student commitments and enables both an employer as well as an academic supervisor to monitor and support students through a goal-orientated process. **The minimum work experience hours required for completion is 80 hours.**

Students will be given the opportunity to identify and plan their own skills development in line with a chosen career path or direction. It will be expected that students negotiate and agree work experience in an appropriate work context, approved by the employer and academic supervisor. They will monitor and record evidence from the tasks and activities that they undertake, to allow them to evaluate the process and any shortcomings in their development going forward.
Learning Outcomes

By the end of this unit a student will be able to:

1. Investigate the value and benefits of practical work experience for career and personal development
2. Plan suitable and relevant work experience in an appropriate service sector organisation
3. Undertake appropriate work experience to develop professional skills and competences
4. Evaluate personal skills and competences developed during practical work experiences.
**Essential Content**

**LO1 Investigate the value and benefits of practical work experience for career and personal development**

*Organisational contexts for career development:*
Different service sector sub-sectors and organisational contexts
The key roles and responsibilities found within different service sub-sectors.

*Learning and development in work environments:*
Academic knowledge versus practical knowledge and skills
Learning theories e.g. Bloom’s taxonomy, Gardner’s multiple intelligences and Bandura’s Social Learning Theory
Concept of application of theory to practice
The benefits of practical learning
Career progression and employer expectations of key employability skills e.g. interpersonal skills, communication skills, critical thinking, presentation skills, leadership skills, teamwork
The importance and value of soft skills to the hospitality industry
Soft skills versus hard skills.

**LO2 Plan suitable and relevant work experience in an appropriate service sector organisation**

*Setting development plans, goals and objectives:*
‘SMART’ planning, writing of goals and objectives
Self-assessment of skills and competences.

*Learning and development approaches:*
Visual, auditory, kinaesthetic (VAK) learning styles, Honey & Mumford learning cycle, Kolb’s learning cycle
Different learning approaches e.g. shadowing, in-house courses and on-job training, online learning, formal training, buddying, secondment, coaching and mentoring, job rotation, workshops, conferences.

*Preparation tools and techniques for career development:*
Looking at job applications, CV and interview preparation
Interview and presentation skills
The importance of understanding the appropriate uniform and dress-code for the job role in relation to the interview process
Service sub-sector-specific equipment and requirements.
LO3  **Undertake appropriate work experience to develop professional skills and competences**

*Carry out planned tasks and activities:*

Engagement in tasks e.g. projects, routine duties, operational issues, formal training, legal compliance, process development

People management and leadership

Application of problem-solving, contingency planning, coordinating tasks, teamwork

Professional conduct and behaviours to display whilst working, presenting a brand identity, the importance of uniformity in presentation.

LO4  **Evaluate personal skills and competences developed during practical work experiences.**

*Recording of actions and activities in suitable formats:*

Methodical record of experiences gained during work, linked to skills to be developed

Recorded in appropriate methods e.g. journal, logbook, diary, portfolios, online records

Creation of evidence in appropriate formats.

*Reviewing and evaluating progress:*

Reflection of career development and learning within the work environment e.g. systems, interpersonal skills, problem-resolution, incidents and accidents, teamwork and management practices

Recommendations on how to enhance future development plans e.g. different work context, alternative roles and titles, locations, preparation methods, time management.
## Learning Outcomes and Assessment Criteria

<table>
<thead>
<tr>
<th>Pass</th>
<th>Merit</th>
<th>Distinction</th>
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<tbody>
<tr>
<td><strong>LO1</strong> Investigate the value and benefits of practical work experience for career and personal development</td>
<td><strong>M1</strong> Evaluate a range of different learning theories in practice, to highlight and emphasise the benefits of action-learning for career development</td>
<td><strong>D1</strong> Critically evaluate the benefits of practical action learning to underpin theory and approaches in the work environment</td>
</tr>
<tr>
<td><strong>P1</strong> Explore and discuss different learning theories that could be used to inform a suitable work experience</td>
<td><strong>P2</strong> Examine the benefits of practical work experience for professional skills and career development</td>
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</tr>
<tr>
<td><strong>LO2</strong> Plan suitable and relevant work experience in an appropriate service sector organisation</td>
<td><strong>M2</strong> Devise an in-depth development plan that provides a detailed outline of the approaches, tools and techniques applied to gain appropriate work experience within a service sector organisation</td>
<td><strong>D2</strong> Analyse and interpret actions, activities and approaches adopted within a structured development plan to gain appropriate work experience within a service sector organisation</td>
</tr>
<tr>
<td><strong>P3</strong> Construct a development plan for skills and career advancement within a chosen service sector context</td>
<td><strong>P4</strong> Explain a range of tools and techniques that can be used to acquire appropriate work experience within a service sector organisation</td>
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</tr>
<tr>
<td><strong>LO3</strong> Undertake appropriate work experience to develop professional skills and competences</td>
<td><strong>M3</strong> Examine the development processes within a work context to maximise growth opportunities within the work experience</td>
<td><strong>D3</strong> Critically reflect on development processes within the workplace to establish strengths and weaknesses of the different approaches adopted</td>
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<tr>
<td><strong>P5</strong> Conduct appropriate work experience to develop specific skills for career development whilst producing ongoing evidence of work performance</td>
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<tr>
<td><strong>LO4</strong> Evaluate personal skills and competences developed during practical work experiences.</td>
<td><strong>M4</strong> Produce an evidence-based evaluation of work experiences, making actionable and tangible recommendations for enhanced development processes</td>
<td><strong>D4</strong> Justify the evaluation and recommendations of different approaches to enhance development in practice</td>
</tr>
<tr>
<td><strong>P6</strong> Evaluate skills, performance and career development to identify areas for future advancement</td>
<td><strong>P7</strong> Recommend methods and techniques to enhance development processes within the given service sector work environment</td>
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</table>
Recommended Resources

Textbooks

Web
www.cipd.co.uk Chartered Institute of Personnel and Development
(General reference)
www.mindtools.com Mind Tools
Career Support Resources
(General reference)
www.nationalcareersservice.direct.gov.uk National Careers Service
CVs, Skills Health Check
(General reference)
11 Appendices
Appendix 1: Mapping of HND in Animal Management against FHEQ Level 5

Key

<table>
<thead>
<tr>
<th>Key</th>
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<td>Cognitive Skills</td>
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<td>AS</td>
<td>Applied Skills</td>
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<td>TS</td>
<td>Transferable Skills</td>
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The qualification will be awarded to students who have demonstrated:

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<thead>
<tr>
<th>FHEQ Level 5 descriptor</th>
<th>Animal Management HND Programme Outcome</th>
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<tbody>
<tr>
<td>Knowledge and critical understanding of the well-established principles of their area(s) of study, and of the way in which those principles have developed.</td>
<td>KU1 Knowledge and understanding of the fundamental principles and practices of the contemporary global animal management industry.</td>
</tr>
<tr>
<td>Knowledge and understanding of the external animal industries environment and its impact upon local, national and global levels of strategy, behaviour, management and sustainability.</td>
<td>KU2 Knowledge and understanding of the external animal industries environment and its impact upon local, national and global levels of strategy, behaviour, management and sustainability.</td>
</tr>
<tr>
<td>Understanding and insight into different animal management practices, their diverse nature, purposes, structures and operations and their influence upon the external environment.</td>
<td>KU3 Understanding and insight into different animal management practices, their diverse nature, purposes, structures and operations and their influence upon the external environment.</td>
</tr>
<tr>
<td>A critical understanding of the ethical, legal, professional, and operational frameworks within which the animal industries operate.</td>
<td>KU4 A critical understanding of the ethical, legal, professional, and operational frameworks within which the animal industries operate.</td>
</tr>
<tr>
<td>FHEQ Level 5 descriptor</td>
<td>Animal Management HND Programme Outcome</td>
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<tr>
<td>KU5</td>
<td>A critical understanding of processes, procedures and practices for effective management of products, services and people.</td>
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<tr>
<td>KU6</td>
<td>A critical understanding of the evolving concepts, theories and models within the study of animal management across a range of practical and hypothetical scenarios.</td>
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<tr>
<td>KU7</td>
<td>An ability to evaluate and analyse a range of concepts, theories and models to make appropriate animal management decisions.</td>
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<tr>
<td>KU8</td>
<td>An appreciation of the concepts and principles of CPD, staff development, leadership and reflective practice as methods and strategies for personal and people development.</td>
</tr>
<tr>
<td>Ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context.</td>
<td>CS1</td>
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<td>AS1</td>
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<td>AS2</td>
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<td>AS3</td>
<td>Integrate theory and practice through the investigation and examination of practices in the workplace.</td>
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<tr>
<td>AS4</td>
<td>Develop outcomes for clients/businesses using appropriate practices and data to make justified recommendations.</td>
</tr>
<tr>
<td>CS2</td>
<td>Develop different strategies and methods to show how resources (human, financial and information) are integrated and effectively managed to successfully meet objectives.</td>
</tr>
<tr>
<td>Knowledge of the main methods of enquiry in the subject(s) relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study.</td>
<td>CS3</td>
</tr>
<tr>
<td>CS4</td>
<td>Apply project management tools/techniques for reporting and planning, control and problem-solving.</td>
</tr>
<tr>
<td>KU9</td>
<td>Knowledge and understanding of how the animal industries influence the development of people and businesses.</td>
</tr>
<tr>
<td>CS5</td>
<td>Critique a range of animal management technology systems and operations, and their application, to maximise and successfully meet strategic objectives.</td>
</tr>
<tr>
<td>KU10</td>
<td>An understanding of the appropriate techniques and methodologies used to resolve real-life problems in the workplace.</td>
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<tr>
<td>FHEQ Level 5 descriptor</td>
<td>Animal Management HND Programme Outcome</td>
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<tr>
<td>An understanding of the limits of their knowledge, and how this influences analysis and interpretations based on that knowledge.</td>
<td>TS1  Develop a skill-set to enable the evaluation of appropriate actions taken for solving problems in a specific animal management context.</td>
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<tr>
<td></td>
<td>TS2  Self-reflection, including self-awareness; the ability to become an effective independent student and appreciate the value of the self-reflection process.</td>
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Typically, holders of the qualification will be able to:

<table>
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<tr>
<th>FHEQ Level 5 descriptor</th>
<th>Animal Management HND Programme Outcome</th>
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<tbody>
<tr>
<td>Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.</td>
<td>TS3  Competently use digital literacy to access a broad range of research sources, data and information.</td>
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<td>CS6  Interpret, analyse and evaluate a range of data, sources and information to inform evidence-based decision-making.</td>
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<td></td>
<td>CS7  Synthesise knowledge and critically evaluate strategies and plans to understand the relationship between theory and real-world animal industry scenarios.</td>
</tr>
<tr>
<td>Effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively.</td>
<td>TS4  Communicate confidently and effectively, both orally and in writing, internally and externally, with animal industry professionals and other stakeholders.</td>
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<tr>
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<td>TS5  Communicate ideas and arguments in an innovative manner using a range of digital media.</td>
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<tr>
<td></td>
<td>AS5  Locate, receive and respond to a variety of information sources (e.g. textual, numerical, graphical and computer-based) in defined contexts.</td>
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<tr>
<td></td>
<td>TS6  Demonstrate strong interpersonal skills, including effective listening and oral communication skills, as well as the associated ability to persuade, present, pitch and negotiate.</td>
</tr>
<tr>
<td>FHEQ Level 5 descriptor</td>
<td>Animal Management HND Programme Outcomes</td>
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<tr>
<td>Undertake further training, develop existing skills and acquire new competences that</td>
<td>TS7 Identify personal and professional</td>
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<tr>
<td>will enable them to assume significant responsibility within organisations.</td>
<td>goals for Continuing Professional</td>
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<td>Development to enhance competence to</td>
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<td>practise within a chosen animal</td>
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<td>industries field.</td>
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<td>TS8 Take advantage of available</td>
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<td>pathways for Continuing Professional</td>
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<td>Development through higher education</td>
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<td>and Professional Body Qualifications.</td>
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Holders will also have:

<table>
<thead>
<tr>
<th>FHEQ Level 5 descriptor</th>
<th>Animal Management HND Programme Outcomes</th>
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<tbody>
<tr>
<td>The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision-making.</td>
<td>TS9  Develop a range of skills to ensure effective team working, independent initiatives, organisational competence and problem-solving strategies.</td>
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<tr>
<td></td>
<td>TS10  Reflect adaptability and flexibility in approach to animal management, showing resilience under pressure and meeting challenging targets within given deadlines.</td>
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<td>TS11  Use quantitative skills to manipulate data, evaluate and verify existing theory.</td>
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<td>CS8  Evaluate the changing needs of the animal industries and have confidence to self-evaluate and undertake additional CPD as necessary.</td>
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<tr>
<td></td>
<td>TS12  Emotional intelligence and sensitivity to diversity in relation to people and cultures.</td>
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</table>
## Appendix 2: HNC/HND Animal Management Programme Outcomes for Students

<table>
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<td>Knowledge and Understanding</td>
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<td>Applied skills</td>
<td>Transferable skills</td>
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# Appendix 3: Glossary of terms used for internally assessed units

This is a summary of the key terms used to define the requirements within units.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
</table>
| Analyse        | Present the outcome of methodical and detailed examination either:  
|                | - breaking down a theme, topic or situation in order to interpret and study the interrelationships between the parts and/or  
|                | - of information or data to interpret and study key trends and interrelationships.  
|                | Analysis can be through activity, practice, written or verbal presentation.                                                                                                                                 |
| Apply          | Put into operation or use.  
|                | Use relevant skills/knowledge/understanding appropriate to context.                                                                                                                                      |
| Arrange        | Organise or make plans.                                                                                                                                                                                   |
| Assess         | Offer a reasoned judgement of the standard/quality of a situation or a skill informed by relevant facts.                                                                                                  |
| Calculate      | Generate a numerical answer with workings shown.                                                                                                                                                         |
| Compare        | Identify the main factors relating to two or more items/situations or aspects of a subject that is extended to explain the similarities, differences, advantages and disadvantages.  
|                | This is used to show depth of knowledge through selection of characteristics.                                                                                                                              |
| Compose        | Create or make up or form.                                                                                                                                                                                 |
| Communicate    | Convey ideas or information to others.  
<p>|                | Create/construct skills to make or do something, for example a display or set of accounts.                                                                                                                |
| Create/        | Skills to make or do something, for example, a display or set of accounts.                                                                                                                                  |
| Construct      |                                                                                                                                                                                                           |
| Critically     | Separate information into components and identify characteristics with depth to the justification.                                                                                                        |
| analyse        |                                                                                                                                                                                                           |
| Critically     | Make a judgement taking into account different factors and using available knowledge/experience/evidence where the judgement is supported in depth.                                                      |
| evaluate       |                                                                                                                                                                                                           |</p>
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Define</td>
<td>State the nature, scope or meaning.</td>
</tr>
<tr>
<td>Describe</td>
<td>Give an account, including all the relevant characteristics, qualities and events.</td>
</tr>
<tr>
<td>Discuss</td>
<td>Consider different aspects of a theme or topic, how they interrelate, and the extent to which they are important.</td>
</tr>
<tr>
<td>Demonstrate</td>
<td>Show knowledge and understanding.</td>
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<tr>
<td>Design</td>
<td>Plan and present ideas to show the layout/function/workings/object/system/process.</td>
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<tr>
<td>Develop</td>
<td>Grow or progress a plan, ideas, skills and understanding</td>
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<tr>
<td>Differentiate</td>
<td>Recognise or determine what makes something different.</td>
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<tr>
<td>Discuss</td>
<td>Give an account that addresses a range of ideas and arguments.</td>
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<tr>
<td>Evaluate</td>
<td>Work draws on varied information, themes or concepts to consider aspects, such as:</td>
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<td>• strengths or weaknesses</td>
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<td>• advantages or disadvantages</td>
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<td>• alternative actions</td>
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<td></td>
<td>• relevance or significance</td>
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<td></td>
<td>Students’ inquiries should lead to a supported judgement showing relationship to its context. This will often be in a conclusion. Evidence will often be written but could be through presentation or activity.</td>
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<tr>
<td>Explain</td>
<td>To give an account of the purposes or reasons.</td>
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<tr>
<td>Explore</td>
<td>Skills and/or knowledge involving practical research or testing.</td>
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<tr>
<td>Identify</td>
<td>Indicate the main features or purpose of something by recognising it and/or being able to discern and understand facts or qualities.</td>
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<tr>
<td>Illustrate</td>
<td>Make clear by using examples or provide diagrams.</td>
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<tr>
<td>Indicate</td>
<td>Point out, show.</td>
</tr>
<tr>
<td>Interpret</td>
<td>State the meaning, purpose or qualities of something through the use of images, words or other expression.</td>
</tr>
<tr>
<td>Investigate</td>
<td>Conduct an inquiry or study into something to discover and examine facts and information.</td>
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<tr>
<td>Justify</td>
<td>Students give reasons or evidence to:</td>
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<tr>
<td></td>
<td>• support an opinion</td>
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<td>• prove something is right or reasonable.</td>
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<tr>
<td>Outline</td>
<td>Set out the main points/characteristics.</td>
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<tr>
<td>Plan</td>
<td>Consider, set out and communicate what is to be done.</td>
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<tr>
<td>Term</td>
<td>Definition</td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Produce</td>
<td>To bring into existence.</td>
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<tr>
<td>Reconstruct</td>
<td>To assemble again/reorganise/form an impression.</td>
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<tr>
<td>Report</td>
<td>Adhere to protocols, codes and conventions where findings or judgments are set down in an objective way.</td>
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<tr>
<td>Review</td>
<td>Make a formal assessment of work produced.</td>
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<td>The assessment allows students to:</td>
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<td>• appraise existing information or prior events</td>
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<td>• reconsider information with the intention of making changes, if necessary.</td>
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<tr>
<td>Show how</td>
<td>Demonstrate the application of certain methods/theories/concepts.</td>
</tr>
<tr>
<td>Stage and manage</td>
<td>Organisation and management skills, for example, running an event or a [Sector] pitch.</td>
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<tr>
<td>State</td>
<td>Express.</td>
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<tr>
<td>Suggest</td>
<td>Give possible alternatives, produce an idea, put forward, for example, an idea or plan, for consideration.</td>
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<tr>
<td>Undertake/carry out</td>
<td>Use a range of skills to perform a task, research or activity.</td>
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</tbody>
</table>
This is a key summary of the types of evidence used for BTEC Higher Nationals:

<table>
<thead>
<tr>
<th>Type of evidence</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Case study</td>
<td>A specific example to which all students must select and apply knowledge.</td>
</tr>
<tr>
<td>Project</td>
<td>A large scale activity requiring self-direction of selection of outcome, planning, research, exploration, outcome and review.</td>
</tr>
<tr>
<td>Independent research</td>
<td>An analysis of substantive research organised by the student from secondary sources and, if applicable, primary sources.</td>
</tr>
<tr>
<td>Written task or report</td>
<td>Individual completion of a task in a work-related format, for example, a report, marketing communication, set of instructions, giving information.</td>
</tr>
<tr>
<td>Simulated activity/role play</td>
<td>A multi-faceted activity mimicking realistic work situations.</td>
</tr>
<tr>
<td>Team task</td>
<td>Students work together to show skills in defining and structuring activity as a team.</td>
</tr>
<tr>
<td>Presentation</td>
<td>Oral or through demonstration.</td>
</tr>
<tr>
<td>Production of plan/Business plan</td>
<td>Students produce a plan as an outcome related to a given or limited task.</td>
</tr>
<tr>
<td>Reflective journal</td>
<td>Completion of a journal from work experience, detailing skills acquired for employability.</td>
</tr>
<tr>
<td>Poster/leaflet</td>
<td>Documents providing well-presented information for a given purpose.</td>
</tr>
</tbody>
</table>
## Appendix 4: Assessment methods and techniques for Higher Nationals

<table>
<thead>
<tr>
<th>Assessment technique</th>
<th>Description</th>
<th>Transferable skills development</th>
<th>Formative or Summative</th>
</tr>
</thead>
</table>
| Academic graphic display     | This technique asks students to create documents providing well-presented information for a given purpose. Could be a hard or soft copy. | Creativity  
Written communication  
Information and communications  
Technology  
Literacy | Formative  
Summative |
| Case study                   | This technique present students with a specific example to which they must select and apply knowledge. | Reasoning  
Critical thinking  
Analysis | Formative  
Summative |
| Discussion forum             | This technique allows students to express their understanding and perceptions about topics and questions presented in the class or digitally, for example, online groups, blogs. | Oral/written communication  
Appreciation of diversity  
Critical thinking and reasoning  
Argumentation | Formative |
| Independent research         | This technique is an analysis of research organised by the student from secondary sources and, if applicable, primary sources. | Information and communications technology  
Literacy  
Analysis | Formative |
<table>
<thead>
<tr>
<th>Assessment technique</th>
<th>Description</th>
<th>Transferable skills development</th>
<th>Formative or Summative</th>
</tr>
</thead>
</table>
| Oral/Viva            | This technique asks students to display their knowledge of the subject via questioning. | Oral communication  
Critical thinking  
Reasoning | Summative |
| Peer review          | This technique asks students to provide feedback on each other’s performance. This feedback can be collated for development purposes. | Teamwork  
Collaboration  
Negotiation | Formative  
Summative |
| Presentation         | This technique asks students to deliver a project orally or through demonstration. | Oral communication  
Critical thinking  
Reasoning  
Creativity | Formative  
Summative |
| Production of an artefact/ performance or portfolio | This technique requires students to demonstrate that they have mastered skills and competencies by producing something. Some examples are [Sector] plans, using a piece of equipment or a technique, building models, developing, interpreting, and using maps. | Creativity  
Interpretation  
Written and oral communication  
Interpretation  
Decision-making  
Initiative  
Information and Communications  
Technology  
Literacy, etc. | Summative |
<table>
<thead>
<tr>
<th>Assessment technique</th>
<th>Description</th>
<th>Transferable skills development</th>
<th>Formative or Summative</th>
</tr>
</thead>
</table>
| Project              | This technique is a large scale activity requiring self-direction, planning, research, exploration, outcome and review. | Written communication  
Information  
Literacy,  
Creativity,  
Initiative. | Summative |
| Role playing         | This technique is a type of case study, in which there is an explicit situation established, with students playing specific roles, understanding what they would say or do in that situation. | Written and oral communication  
Leadership  
Information literacy  
Creativity  
Initiative. | Formative |
| Self-reflection      | This technique asks students to reflect on their performance, for example, to write statements of their personal goals for the course at the beginning of the course, what they have learned at the end of the course and their assessment of their performance and contribution; completion of a reflective journal from work experience, detailing skills acquired for employability. | Self-reflection  
Written communication  
Initiative  
Decision-making  
Critical thinking | Summative |
<table>
<thead>
<tr>
<th>Assessment technique</th>
<th>Description</th>
<th>Transferable skills development</th>
<th>Formative or Summative</th>
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</thead>
<tbody>
<tr>
<td>Simulated activity</td>
<td>This technique is a multi-faceted activity based on realistic work situations.</td>
<td>Self-reflection&lt;br&gt;Written communication&lt;br&gt;Initiative&lt;br&gt;Decision-making&lt;br&gt;Critical thinking</td>
<td>Formative&lt;br&gt;Summative</td>
</tr>
<tr>
<td>Team assessment</td>
<td>This technique asks students to work together to show skills in defining and structuring an activity as a team.&lt;br&gt;   All team assessment should be distributed equally, each of the group members performing their role, and then the team collates the outcomes, and submits it as a single piece of work.</td>
<td>Collaboration&lt;br&gt;Teamwork&lt;br&gt;Leadership&lt;br&gt;Negotiation&lt;br&gt;Written and oral communication</td>
<td>Formative&lt;br&gt;Summative</td>
</tr>
<tr>
<td>Tiered knowledge</td>
<td>This technique encourages students to identify their gaps in knowledge. Students record the main points they have captured well and those they did not understand.</td>
<td>Critical thinking&lt;br&gt;Analysis&lt;br&gt;Interpretation&lt;br&gt;Decision-making&lt;br&gt;Oral and written communication</td>
<td>Formative</td>
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</tbody>
</table>

Pearson BTEC Levels 4 and 5 Higher Nationals in Animal Management
Specification – Issue 1 – August 2018 © Pearson Education Limited 2018
<table>
<thead>
<tr>
<th>Assessment technique</th>
<th>Description</th>
<th>Transferable skills development</th>
<th>Formative or Summative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time constrained assessment</td>
<td>This technique covers all assessment that needs to be done within a centre-specified time constrained period on-site.</td>
<td>Reasoning, Analysis, Written communication, Critical thinking, Interpretation</td>
<td>Summative</td>
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<tr>
<td>Top ten</td>
<td>This technique asks students to create a ‘top ten’ list of key concepts presented in the assigned reading list.</td>
<td>Teamwork, Creativity, Analysis, Collaboration</td>
<td>Formative</td>
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<tr>
<td>Written task or report</td>
<td>This technique asks students to complete an assignment in a structured written format, for example, a [Sector] plan, a report, marketing communication, set of instructions, giving information.</td>
<td>Reasoning, Analysis, Written communication, Critical thinking, interpretation</td>
<td>Summative</td>
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## Appendix 5: Transferable skills mapping

### Level 4 Higher National Certificate in Animal Management: mapping of transferable employability and academic study skills

<table>
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<th>Interpersonal Skills</th>
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<td>Problem-solving</td>
<td>Critical Thinking/Analysis</td>
<td>Decision-making</td>
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<td>Interpersonal Skills</td>
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</table>
## Level 5 Higher National Diploma in Animal Management: mapping of transferable employability and academic study skills

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<thead>
<tr>
<th>Skill Sets</th>
<th>Cognitive skills</th>
<th>Intra-personal Skills</th>
<th>Interpersonal Skills</th>
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<tr>
<td></td>
<td>Problem-solving</td>
<td>Critical Thinking/</td>
<td>Plan Prioritise</td>
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<td>Analysis</td>
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<td>Decision-making</td>
<td>Effective Communication</td>
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<td>Digital Literacy</td>
<td>Independent learning</td>
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<td>Numeracy</td>
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<td>Creativity</td>
<td>Team work</td>
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<td>Cultural Awareness</td>
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