Edexcel BTEC Levels 4 and 5 Higher Nationals specification in Equine Management

Contents

Unit 1: Research Project

Unit code: K/601/0941

Level: 5

Credit value: 20

Aim

This unit aims to develop learners' skills of independent enquiry and critical analysis through undertaking a sustained research investigation of direct relevance to their higher education programme and professional development.

Unit abstract

In this unit learners will conduct an in-depth investigation into an aspect of their programme of study. This research may be developed from elements of the programme linked to the learner's individual interests or to areas where they may wish to seek future employment.

Completion of this unit will enhance learners' understanding of the techniques used in the formulation of research projects, typical research methodologies and formats of presentation. Whether the methodology is experimental, observational and/or involves the collection of data from other sources, it will enable the production of significant primary data and encourage learners to be innovative.

This unit will also develop transferable skills in areas such as planning, data collation and handling, data analysis, working safely and communication skills in aspects such as report writing and data presentation.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand how to formulate a research specification

2 Be able to implement the research project within agreed procedures and to specification

3 Be able to evaluate the research outcomes

4 Be able to present the research outcomes.

Unit content

1 **Understand how to formulate a research specification**

Formulate research specifications: rationale for project selection; aims and objectives; research questions and formulation of hypotheses; limitations

Factors affecting selection: methodology for data collection and analysis; literature review; critique of references from primary sources eg pilot studies, questionnaires, interviews; secondary sources eg books, journals, internet; scope and limitations; implications eg equipment and resources, health and safety considerations in practical work – potential hazards, assessment of risk, procedures for minimisation of risk

Critical review: access to key secondary texts, websites and other information sources

Project specification: suitability; skills and knowledge to be gained; aims and objectives; terms of reference; duration; ethical issues; type of research eg qualitative, quantitative, systematic, original; methodology; resources; statistical analyses; validity; reliability; control of variables; sources of error

Research plan: rationale for research questions or hypotheses; milestones; task dates; review dates; monitoring/reviewing process; strategy

2 **Be able to implement the research project within agreed procedures and to specification**

Implement: according to research design and method; health and safety equipment and procedures; test research hypotheses; consider test validity; reliability

Data collection: selection of appropriate tools for data collection; types eg qualitative, quantitative; systematic recording; methodological problems eg bias, variables and control of variables; required repetitions, if appropriate, to establish reproducibility; reliability and validity; correct use of appropriate units

Data analysis and interpretation: qualitative and quantitative data analysis – interpreting transcripts; coding techniques; specialist software; statistical tables; comparison of variable; trends; forecasting

3 **Be able to evaluate the research outcomes**

Results: establish validity; use of correct statistical techniques; sources of error identified

Evaluation of outcomes: overview of the successes and failings of the research project's processes and findings eg planning, aims and objectives, evidence and findings, validity, reliability, benefits, difficulties, conclusion(s)

Implications for future research: significance of research investigation; application of research results; implications; limitations of the investigation; improvements; recommendations and suggested areas for future research

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4 **Be able to present the research outcomes**

Format: professional delivery format appropriate to the audience; use of appropriate media

Written structure: report conforms to appropriate academic format eg includes an abstract, introduction, literature review, methodology, results, discussion, conclusion; references in appropriate format

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand how to formulate a research specification	1.1 formulate and record possible research project outline specifications 1.2 identify the factors that contribute to the process of research project selection 1.3 undertake a critical review of key references 1.4 produce a research project specification 1.5 provide an appropriate plan and procedures for the agreed research specification
LO2 Be able to implement the research project within agreed procedures and to specification	2.1 match resources efficiently to the research question or hypothesis 2.2 undertake the proposed research investigation in accordance with the agreed specification and procedures. 2.3 record and collate relevant data where appropriate
LO3 Be able to evaluate the research outcomes	3.1 use appropriate research evaluation techniques 3.2 interpret and analyse the results in terms of the original research specification 3.3 make recommendations and justify areas for further consideration
LO4 Be able to present the research outcomes	4.1 use an agreed format and appropriate media to present the outcomes of the research to an audience

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Guidance

Links

This unit offers links with several other units from the programme area depending on the research project carried out and the learner's individual interests. *Unit 41: Research Methods for Land-based Industries* is not an essential pre-requisite for undertaking this core unit, but learners may benefit from having completed this unit first. To further enhance learner employability, linking the research project to *Unit 4: Work-based Experience*, may be desirable.

Essential requirements

Access to library resources appropriate to independent academic research at this level is essential. Learners will also need access to the internet and IT facilities, complete with statistical and presentational software packages.

Learners must agree the use of resources with their supervisors to ensure that appropriate apparatus/equipment, training, health and safety considerations and permissions are all in place before beginning any practical activities.

Employer engagement and vocational contexts

Depending on the individual learner's interests and choice of research project, it may be possible for them to undertake research in conjunction with a business, organisation and/or work experience provider. This could enhance the learning experience by increasing the relevance of the research and improving a learner's employability skills.

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Unit 2: Horse Husbandry

Unit code: D/503/1680

Level: 4

Credit value: 15

Aim

This unit aims to develop learners' understanding of the daily needs of horses in relation to their comfort, health and welfare. Learners will develop the ability to manage important, regular routines and the application of welfare standards.

Unit abstract

In this unit learners will develop a broad understanding of the regular routines and high standards of horse welfare which need to be implemented and maintained when caring for horses. Learners will be given opportunities to build on their understanding of horse husbandry and apply it in sound, practical settings.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand how to manage and supervise the daily care of stabled and field-kept horses

2 Understand how to manage and supervise stable routines and the maintenance of yards and equipment

3 Understand horse health and care

4 Be able to manage the preparation of horses for given scenarios.

Unit content

1 **Understand how to manage and supervise the daily care of stabled and field-kept horses**

Handling: how to approach a horse; methods of control and restraint; use of appropriate equipment

Safe practices: suitability of handlers' clothing; in relation to horse behaviour

Fitting: stable equipment eg head collars; stable bandages; rugs eg indoor rugs, outdoor rugs, style and use of rug; measuring for rugs

Routines: grooming methods for stable-kept and field-kept horses and their purpose (comfort, health); purpose and use of different equipment (daily use and maintenance); clips (style, use); maintaining appearance (plaiting, pulling, trimming); health and safety; risk assessment; COSHH; RIDDOR; accident reporting

2 **Understand how to manage and supervise stable and the maintenance of yard and equipment**

Stables: suitability of buildings eg size, ventilation; bedding (types, maintenance, costs, disposal, skipping out, deep litter, disinfecting)

Routines: methods; procedures for cleaning and maintaining stables and yards; types of feed; estimating feed quantity; rules of feeding; preparation of feeds (boiling and soaking, varieties of hay, hay alternatives, haylage, grass nuts); horse feeding needs (shy eater, fussy, obese horse); health and safety; risk assessment; COSHH; RIDDOR; accident reporting

Health and safety around the stable yard: hazard identification, risk assessment procedures; health and safety considerations

3 **Understand horse health and care**

Basic signs: condition scoring; symptoms of health and sickness

Treatments: for health problems and injuries; for weight management; application of dressings, poultices and bandages; use of tubing and hosing; other routine treatments

Foot: structure; care; methods and procedures of shoeing; observation of lameness of a specific limb

Routine medicines: safe use; storage; administration; teeth eg growth, formation, markings in relation to age; contents of vet kit; taking and monitoring TPR

Conformation: abnormalities; stresses to limbs; effects on movement

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4 **Be able to manage the preparation of horses for given scenarios**

Horses working equipment: eg saddles, bridles and equipment for exercise, driving harness set, exercise sheets, bandages and boots; safe fitting and use of equipment; use and fitting of the double bridle; functions and fitting of bits

Exercise: procedures for fittening and roughing off; preparation for lungeing; alternative methods of providing exercise from the ground eg long reining

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand how to manage and supervise the daily care of stabled and field-kept horses	1.1 critically compare methods of horse control and restraint to ensure safe handling 1.2 evaluate horse grooming procedures to promote correct muscular development and to ensure horse health and well-being
LO2 Understand how to manage and supervise stable routines and the maintenance of yards and equipment	2.1 analyse food, hay and water requirements for stabled and field-kept horses 2.2 critically compare the feeding needs and behaviour of given horses – fussy eater – shy eater – obese 2.3 evaluate methods and procedures for maintaining bedding 2.4 propose appropriate strategies to minimise risks and hazards in stable and yard environments 2.5 justify the management of muck heaps, barns and surrounding areas
LO3 Understand horse health and care	3.1 explain how health assessment and TPR monitoring can diagnose abnormalities 3.2 relate the structure of the horse's foot and abnormalities to the need for specialist care remedial shoeing 3.3 evaluate routine preventative medicines and the primary and secondary treatment of injuries 3.4 explain how abnormalities may influence horse health, soundness and movement 3.5 analyse the formation and structure of teeth and the ageing of the horse through dental markings
LO4 Be able to manage the preparation of horses for given scenarios	4.1 manage the fitting and care of tack and equipment to ensure the safety and comfort of horse and rider

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Guidance

Links

This unit links with:

Unit 9: Principles of Animal Health

Unit 10: Animal Nutrition

Unit 11: Animal Behaviour

Unit 24: Management of the Performance Horse.

This unit provides underpinning knowledge, understanding and skills that can be used in preparation for British Horse Society Stage 3 examinations and for relevant National Occupational Standards at levels 4 and 5 (if applicable).

Essential requirements

Learners need appropriate provision, and of regular access to, a range of horses and equipment. Horses studied must be of different ages, breeds, types and temperaments. Equipment provided must include saddles, snaffle bridles, double bridles, martingales, bits, lungeing equipment, head collars, stable bandages, indoor and outdoor rugs, grooming equipment, general yard equipment, farriery tools and first aid and medical equipment.

Access could in part be through work experience or guest lectures, alongside centre-based facilities. Tutors with industry-standard competence in, and experience of, handling horses will also be required.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Delivery of this unit could be enhanced through links with employers. For example, local yard owners, horse producers, vets and/or farriers could provide opportunities for practical learning. Learners could visit a number of different types of yards or events, including sales and shows, to observe different working practices and routines.

Learners would also benefit from undertaking work experience in a variety of yard environments to develop their practical skills and build confidence.

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Unit 3: Animal Health and Welfare

Unit code: D/503/1565

Level: 5

Credit value: 15

Aim

This unit aims to develop learner understanding of animal health and welfare. Learners will explore the factors which can affect the health of animals, the causal agents of animal disease and disease transmission and the measures which can be adopted to minimise the risks of disease and/or injury.

Unit abstract

With an increasing emphasis on animal welfare and health, it is important that learners develop the ability to analyse the clear link between how animals are kept and maintained and the effects this may have on their health. This unit explores common animal diseases, and gives learners the opportunity to research and evaluate the effects, causal agents and aetiology of these diseases. Learners will investigate the importance of reviewing animal welfare conditions and how this impacts on animal health.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the effect of husbandry on animal health

2 Understand causative agents and routes of transmission for disease

3 Understand methods for the control and prevention of common diseases

4 Be able to assess welfare conditions for animals.

Unit content

1 **Understand the effect of husbandry on animal health**

Husbandry: feeding correct type; quality and quantity of food; cleaning and disinfection routines; providing exercise and enrichment; minimisation of stress; social interaction with other animals; provision of prophylaxis and preventative care; staff training; codes of practice for the animals and husbandry routines

Health and disease: examples of common animal diseases and ill heath (definition, identification, treatment, prevention) eg worms; clinical terminology used; significance of health in relation to management; production; economics; current relevant legislation eg Animal Welfare Act, Zoo Animals Act, Animal Health Act, Public Health (control of disease) Act; practitioners' roles and responsibilities; zoonoses; notifiable diseases

Health monitoring: invasive and non-invasive techniques for monitoring; observation and frequency of monitoring; signs of health – normal and abnormal for species; information source; stock knowledge; health recording; diagnostic techniques

2 **Understand causative agents and routes of transmission for disease**

Causative agents: micro-organisms; bacteria; fungi; viruses; spread; structure and replication

Helminths and Protozoa: cestodes; nematodes; trematodes; structure; life cycle; symptoms

Ectoparasites: insects; lice; fleas; dipteran flies; arachnids; mites; ticks; importance of in veterinary work

Routes of transmission: direct; indirect; horizontal; vertical; sites of entry; sites of exit

3 **Understand methods for the control and prevention of common diseases**

Hygiene and housing in disease control and prevention: use of chemical disinfectants and antiseptics; effectiveness; environmental awareness; pollution control; isolation and quarantine; disease prevalence of area and animal unit

Vaccination: live vaccines; attenuated; killed; effectiveness; current vaccines; adjuvants; passive immunity

Chemotherapy: selective toxicity; spectrum of activity; adverse reactions; drug metabolism; administration; modes of action; drug resistance and toxicitiy

4 **Be able to assess welfare conditions for animals**

Animal welfare assessment: factors affecting welfare; limitations of assessment practices; invasive and non-invasive techniques and effects on results; controlled environment experiments; range of viewpoints; public perception; producer and consumer conflicts

Environmental appraisal: environmental conditions; specific-purpose and keeping requirements/restraints for different groups of animals; public health and safety; economics; accommodation and agriculture appraisal; potential improvements; behavioural and environmental enrichment

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Regulation and related organisations: relevant UK, international and European welfare legislation; codes of practice and conduct; related guidelines, legal enforcement procedures and penalties eg animal passports, horse passports; relevant governmental and non-governmental animal health and welfare organisations

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the effect of husbandry on animal health	1.1 evaluate the factors that contribute to good husbandry practice 1.2 explain techniques available for monitoring the health of animals 1.3 assess the suitability of animal husbandry techniques in relation to animal health
LO2 Understand causative agents and routes of transmission for disease	2.1 explain the structure and replication of bacteria, viruses and fungi 2.2 assess the importance of helminth and protozoa life cycles to veterinary practice 2.3 examine the veterinary importance of ectoparasites 2.4 explain the importance of different routes of disease transmission
LO3 Understand methods for the control and prevention of common diseases	3.1 evaluate the disease potential of a named animal facility 3.2 recommend valid measures that could be taken to prevent disease transmission 3.3 explain the role of vaccination and chemotherapy in disease prevention
LO4 Be able to assess welfare conditions for animals	4.1 undertake a valid animal welfare assessment for given animal units 4.2 undertake a valid environmental appraisal for given animal units 4.3 recommend animal enrichment improvements for given animal units 4.4 review animal welfare regulations relevant to given animals

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Guidance

Links

This unit introduces learners to animal health and welfare and links to the following units:

Unit 2: Horse Husbandry

Unit 9: Principles of Animal Health.

Essential requirements

Learners need to assess the condition of a minimum of two animal units, such as stud yards, veterinary facilities and/or research facilities. Learners must have access to the internet as well as to up-to-date literature on animal health and welfare. Laboratory equipment should be made available for learners to analyse animal health, for example access to equipment to carry out faecal egg counts and parasite analysis. Microscopes are essential items of equipment for this unit.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Delivery of this unit would be enhanced by the visits from relevant experts such as veterinary professionals and/or personnel from agencies such as Defra and environmental health departments. Learners would benefit from off-site visits to, for example, the Veterinary Laboratories agency (VLA), as well as animal rescue centres, boarding establishments and/or animal testing laboratories to evaluate different types of husbandry and welfare of animals kept in controlled situations. Discussion on how learners' own animals are kept could also be a starting point for the evaluation and analysis of animal health and welfare. Vaccinations and potential alternatives could be discussed and personnel from animal medical companies could be a useful source of information.

Learners could also benefit from carrying out practical activities such as analysing faeces for parasite infestations, analysing skin scrapes and hair/fur samples for signs of abnormalities. It may be useful for a veterinary professional, for example a veterinary nurse, to lead these exercises.

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Unit 4: Work-based Experience

Unit code: A/601/0998

Level: 5

Credit value: 15

Aim

This unit aims to enable learners to experience the scope and depth of learning which takes place in a work-based context by planning, monitoring and evaluating work experiences.

Unit abstract

A significant amount of learning can be achieved by carrying out practical activities in a workplace. Learning may be enhanced by taking a more formal approach to work-based activities – by planning, carrying out the activities and reflecting on the benefits of the activities to the organisation, business and learner.

Learners will have the opportunity, supported by their supervisors, to negotiate and perform activities which will enable them to achieve work related understanding and skills. They will recognise the scope of what they have achieved by recording evidence of carrying out different activities. Learners will gain maximum benefit by reflecting on, and evaluating of, the work they undertake.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to negotiate industry experience

2 Understand the specific requirements of the placement

3 Be able to undertake work experience as identified

4 Be able to monitor and evaluate own performance and learning.

Unit content

1 **Be able to negotiate industry experience**

Suitable organisation and location: types of establishments for placement eg industry-related work for a client brief at college, existing work environment, different department within current employer's business; other appropriate industry-related organisations or businesses

Negotiation: methods of contacting organisations; methods of undertaking negotiations

Nature of duties: type of undertaking eg routine duties and tasks, project work, development of new procedures/protocols

Supervisors: roles and responsibilities of academic and industrial mentors

Expectations of learning: aims eg proficiency in new tasks and procedures, time management and problem-solving skills; reflection; discussing progress with others; teamwork

Business constraints: consideration of possible limitations eg need to be fully trained, adherence to quality systems, health and safety considerations, supervision time, workload, customer satisfaction, limited staffing, cost of materials

2 **Understand the specific requirements of the placement**

Tasks: details of activities eg specific hourly, daily, weekly routine and non-routine tasks; breakdown of a project into stages; new procedures/protocols; adherence to health and safety practices

Prioritise: reasons for rationalising the order of tasks; methods of prioritising work

Plan for the work experience: methods used to develop detailed plan with schedule of tasks; proposed dates for reviews; expected input from supervisors

Benefits to organisation and learner: advantages to business eg allowing more routine tasks to be carried out, allowing procedures/techniques to be developed, increasing responsiveness, identifying cost saving measures; advantages to learner eg understanding how a business operates, understanding importance of teamwork, learning new techniques, development of problem-solving and time management skills

3 **Be able to undertake work experience as identified**

Carry out the planned activities: realisation eg carrying out tasks and project work according to relevant legislation, training, health and safety measures and codes of practice; developing new procedures or protocol

Record activities in the appropriate manner: systematic and appropriate recording of relevant activities eg logbook, diary, portfolio, spreadsheets, databases; list of resources

Revise the initial plan as required: methods used to review activities at the appropriate time to see if they meet requirements; make alterations as needed

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4 **Be able to monitor and evaluate own performance and learning**

Evaluation of the quality of the work undertaken: meeting industry standards and evaluating own performance against original proposal; comments/testimony from supervisors; adherence to health and safety measures

Account of learning during the work experience: details of experience gained eg new procedures, interpersonal skills, time management, problem solving, teamwork; details of evidence eg portfolio of evidence, scientific report, management report

Recommendations on how the learning experience could have been enhanced: alternative ideas eg different location(s), different brief, different time period, more/less support, better time management, better preparation

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to negotiate industry experience	1.1 research and evaluate suitable organisations that could provide industry experience 1.2 negotiate with work and academic supervisors a proposal for the work experience 1.3 recognise the business constraints on the work experience offered
LO2 Understand the specific requirements of the placement	2.1 agree and prioritise the tasks and responsibilities involved in the work experience 2.2 produce a plan for the work experience 2.3 analyse the benefits of the proposed activities to the business and the learner
LO3 Be able to undertake work experience as identified	3.1 fulfil specified requirements of placement conforming to all related codes of practice 3.2 produce systematic records of work undertaken 3.3 revise the initial plan as required 3.4 make suggestions for improvement and review these with appropriate supervisor
LO4 Be able to monitor and evaluate own performance and learning	4.1 monitor progress against original proposal 4.2 evaluate the quality of own performance 4.3 analyse the learning which has taken place during the work experience using suitable reflections 4.4 make recommendations on how the experience could have been enhanced

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Guidance

Links

This unit links with other units in the qualification such as *Unit 32: Business Environment*, *Unit 38: Project Management for Land-based Industries*, *Unit 36: Small Business Enterprise* and *Unit 33: Employability Skills*. Other units that could enhance the learner's experience during placements are *Unit 3: Animal Health and Welfare*, amongst others, depending on the learner's interests and placement selection. There may also be scope for *Unit 1: Research Project*, to be undertaken in collaboration with placement providers to further enhance the learner's experience and prospects for employment.

Essential requirements

Learners must undertake a minimum of 450 hours work experience in a professional work environment. Given the work-based nature of the unit, the majority of resources used will be those available to the learner in the workplace. Work will normally be planned to be achievable within the resource constraints of the employer. Therefore knowledge of company structures and daily routines and expectations is essential.

Learners should have access to a wide range of research facilities including careers library and/or careers services.

Tutor support and guidance are essential. Learners should remain in contact with tutors during their work experience – email is a good way but some centres may have access to a virtual learning environment where learners can share information and experiences with each other and the tutor.

Employer engagement and vocational contexts

Learners might find it beneficial to describe their placement experiences to peers on completion. Whether this is informal, or as part of an assessment, hearing about each other's placements will broaden the vocational context of the programme area for all learners. Learners may also wish to collect photographs, videos and other materials whilst undertaking their placements to enhance their presentations.

The unit is designed to allow flexibility of study for part-time and full-time learners. It is expected that learners will be supervised in the workplace in addition to the supervision provided by their centre supervisor.

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Unit 5: Enterprise and Financial Management for Land-based Industries

Unit code: M/503/1053

Level: 5

Credit value: 15

Aim

This unit aims to develop understanding of the management of land-based industries, as learners plan and evaluate business performance.

Unit abstract

This unit allows learners to understand concepts of the management of the land-based business, from the performance at enterprise level through to overall financial performance and stability of an entire business.

Learners will identify sources of finance and learn how management principles can be used to analyse, organise, plan and control the business. The techniques used will be referred to in the context of the latest business and environmental initiatives.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand sources of finance available for land-based businesses

2 Understand principles of land-based business and resource management

3 Understand the management of physical and financial information in order to control the performance of land-based businesses

4 Be able to plan and evaluate the performance of a land-based business.

Unit content

1 **Understand sources of finance available for land-based businesses**

Sources: proprietor's capital; retention of profits; creditors; grants and loans; the use of different sources to meet business needs; membership subscriptions; charitable donations

Capital cycle: retained profit; allowance for finance charges; capital repayments; taxation, drawings; repayment of creditors' capital; relationships between the trading profit, net profit, continued growth in capital

Sources of credit: long-term, medium-term, short-term finance; purpose of loans; criteria for each loan type; repayment terms; security; relevant finance organisations eg Agricultural Mortgage Corporation (AMC) ; Leasing; Eurocurrency; Syndicate Credit Schemes

Interest rate protection: hedging; level of protection; risk analysis; fixed interest rate products; option-based products; cost of protection

2 **Understand principles of land-based business and resource management**

Resources: land; labour; capital and finance

Principles: effective use of the resources; identification and application of good husbandry; best practice

Environmental issues: sustainability; waste disposal; energy use; recycling; welfare and traceability

Objectives: strategic, eg longer term, vision/mission; business structure, future direction

Planning cycles: making plans, making decisions, monitoring and controlling, evaluation of plans against objectives set for the business, SMART targets

3 **Understand the management of physical and financial information in order to control the performance of land-based businesses**

Physical information: performance records; employee records; health and safety records, legal and statutory records, visual records eg maps, plans etc, maintenance records

Financial information: sales and purchase records; quotes; financial monitoring records

Procedure: office; storage and retrieval; accuracy; legal constraints; Data Protection Act 1998; role of computers and available software

Performance factors: physical eg quality, growth rates, response to treatments; quality factors eg weights, food conversion ratio, mortality, birth data, feeding rates, feed inputs

Financial indicators: eg added value, quality and value, market, subsidies, replacement costs, cost of inputs, quality of inputs, variable cost analysis and comparison

Analysis and evaluation: enterprise studies; gross margins; comparative analysis; bench marking

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4 **Be able to plan and evaluate the performance of a land-based business**

Performance: physical and financial

Factors affecting viability: tax status; profitability; feasibility; competitors; consumer demands; economic climate

Future planning: SWOT analysis; resource limitations; competencies and capabilities; institutional limits and financial restrictions

Planning methods: core competency analysis; cash flow; variance analysis; capital investment; appraisal methods; labour and machinery planning methods; succession planning

Evaluate financial structure: balance sheet analysis; stability; viability; ratios; liquidity; gearing; landlord and tenant's capital; rate of return

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand sources of finance available for land-based businesses	1.1 evaluate different sources and uses of business capital 1.2 assess how the capital cycle operates in two land-based businesses 1.3 examine sources of credit in relation to a given business 1.4 assess methods available to provide a business with interest rate protection
LO2 Understand principles of land-based business and resource management	2.1 examine resources available to a given land-based business 2.2 explain environmental issues surrounding the use of resources in a business 2.3 define the role of objectives in the strategic development of a business 2.4 evaluate the objective planning cycle for a given business
LO3 Understand the management of physical and financial information in order to control the performance of land-based businesses	3.1 evaluate physical and financial information 3.2 examine the management of information utilised within a business 3.3 evaluate the performance factors which highlight the efficiency of an enterprise 3.4 critically evaluate the performance of a business: – □physical information – □quality processes – □financial indicators
LO4 Be able to plan and evaluate the performance of a land-based business	4.1 assess factors affecting the viability of a business 4.2 relate past business performance to future planning 4.3 use planning methods to establish resources and develop business opportunities 4.4 evaluate the financial structure of the business

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Guidance

Essential requirements

Resources should include visits and case studies based on a variety of businesses, appropriate management software, industrial representatives for additional input and access to the internet.

Guest speakers from the land-based Industry could offer an insight into relevant business practices. This would help to contextualise the unit and current issues facing the industry.

Learners must keep up to date with any current issues that influence business management within land-based industries. They must be encouraged to engage in regular research through a variety of sources, eg reading quality newspapers and industry specific journals, watching TV news and current affairs programmes.

Employer engagement and vocational contexts

A team of employers could be identified to help to support delivery of this unit. Employers could help tutors with, for example, the planning of programmes of learning, visits, guest speakers and mentors. They could also help to design assessment activities

The delivery of this unit would be enhanced by employer engagement involving, for example, employers with knowledge of business management (eg relating to a real organisation that the learner may research/visit where they carry out work experience).

The learning experience would be enhanced if theory is applied to a local business with which the learner can engage. For example the learner can complete a SWOT analysis for this business to help them inform future decisions.

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Unit 6: Human Resource Management

Unit code: K/601/1264

Level: 4

Credit value: 15

Aim

The aim of the unit is to provide an understanding of the personnel function of management through the consideration of systems and frameworks which create and sustain the employment relationship within the organisation.

Unit abstract

Human resources are the most important investment any business or organisation can make. The efficient and effective management of these resources is therefore vital to the success of any enterprise. This unit will enable learners to understand the principles and practices of modern human resource management including the recruitment, selection and retention of staff. Through the study of local land based enterprises, learners will also be able to appreciate the impact of human resource management on workplace culture and practices.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the difference between personnel management and human resource management

2 Understand how to recruit employees

3 Understand how to reward employees in order to motivate and retain them

4 Know the mechanisms for the cessation of employment.

Unit content

1 **Understand the difference between personnel management and human resource management**

The role and function of human resource management: models of personnel management (Tyson and Fell); personnel as a specialist function; personnel policies, strategies and operating plans; personnel roles and responsibilities (manager, supervisor, worker); contribution to organisational purposes

Legal and regulatory framework: the influence of relevant national and international legislation; the influence of relevant codes of practice

2 **Understand how to recruit employees**

Human resource planning: definition; reasons for; processes; limiting factors in the land based sector; stages of planning human resources

Recruitment and selection: legislative framework; recruitment policy; recruitment procedure; job analysis and description; personnel specification; recruitment methods and media; selection methods and procedures; offers of employment; evaluation and comparison of processes

3 **Understand how to reward employees in order to motivate and retain them**

Performance appraisal: purpose of appraisal; team appraisal; individual appraisal; appraisal procedures and techniques; the appraisal interview; following up appraisals; influence on remuneration

Reward management: motivational and reward theory; purpose and methods within a land based enterprise; factors determining pay; payment system; incentive schemes; legislative framework on pay and benefits; effectiveness of different reward systems

Discipline and grievance procedures: definition; model disciplinary procedure; ACAS code of practice; disciplinary interviews; grievance procedures; evaluating effectiveness of procedures

Human resource management information systems: personnel records and statistics; the use of statistics; computerised systems; legislative framework eg Data Protection Act (1984)

4 **Know the mechanisms for the cessation of employment**

The legal framework on employment protection: dismissal – wrongful, unfair and justified; role of industrial tribunals; impact of legal and regulatory framework

Termination of employment: reasons eg retirement, resignation, termination of contract

Exit procedures in land based enterprises: procedure for dismissal; notice of dismissal; exit interviews; counselling and re-training; evaluation and comparison of procedures

Redundancy: definition; legislative framework; selection for redundancy; procedures for handling redundancy; dealing with redundancy – outplacement, redeployment, retraining

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the difference between personnel management and human resource management	1.1 distinguish between personnel management and human resource management 1.2 assess the function of human resource management in contributing to organisational purposes 1.3 evaluate the role and responsibilities of line managers in human resource management 1.4 analyse the impact of the legal and regulatory framework on human resource management
LO2 Understand how to recruit employees	2.1 analyse the reasons for human resource planning in organisations 2.2 outline the stages involved in planning human resource requirements 2.3 compare the recruitment and selection process in two organisations 2.4 evaluate the effectiveness of the recruitment and selection techniques in two organisations
LO3 Understand how to reward employees in order to motivate and retain them	3.1 assess the link between motivational theory and reward 3.2 evaluate the process of job evaluation and other factors determining pay 3.3 assess the effectiveness of reward systems in different contexts 3.4 examine the methods organisations use to monitor employee performance
LO4 Know the mechanisms for the cessation of employment	4.1 identify the reasons for cessation of employment with an organisation 4.2 describe employee exit procedures used by two organisations 4.3 consider the impact of the legal and regulatory framework on employment cessation arrangements

Guidance

Links

This unit links with the following units:

Unit 5: Enterprise and Financial Management for Land Based Industries

Unit 32: Business Environment

Unit 36: Small Business Enterprise.

Essential requirements

In order to fulfil the assessment criteria, the learners will require access to a variety of up-to-date texts, journals and papers on the principles and practices of human resource management. Learners will also require access to the current national and international legislation and codes of practice relating to all aspects of human resource management. Learners must undertake study of at least one land-based enterprise when fulfilling the assessment criteria.

Employer engagement and vocational contexts

Centres delivering this unit will need firm links with local land based industries. Such links will enable learners to experience the working culture and practices within the sector and to identify and evaluate specific recruitment and retention issues in their local area.

Links with national and international professional bodies such as the Society of Human Resource Management and the Chartered Institute of Personnel and Development will also help learners to access current developments within the profession.

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Unit 7: Biological Principles

Unit code: J/503/1057

Level: 5

Credit value: 15

Aim

This unit aims to develop learners' understanding of the biological principles that underpin the management of biological systems. Learners will improve their scientific understanding of the fundamental processes within living organisms and familiarise themselves with basic cell structures and function intrinsic to the existence of living organisms.

Unit abstract

Biological principles are the key to an understanding of the basis of life and are core to learners exploration of living organisms they work with. This will enable learners to understand and interpret a wide range of biological evidence essential to making informed scientific decisions.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the relationship between the structure and function of plant and/or animal cells and tissues

2 Understand the organisation of cells and tissues into organ systems in plants and/or animals

3 Understand the importance and role of homeostasis in plants and/or animals

4 Be able to investigate fundamental biological principles in plants and/or animals

5 Understand basic biochemical principles in plant and/or animals.

Unit content

1 **Understand the relationship between the structure and function of plant and/or animal cells and tissues**

Cellular structure and functions: eukaryotic cell structures (plasma membrane, centrosome, cytoskeleton, peroxisome, mitochondria, lysosome, golgi apparatus, ribosomes, nucleus, rough and smooth endoplasmic reticulum), specialist eukaryotic structures (chloroplasts, cell wall, vacuole, plasmodesmata, cilia, microvilli, flagella) prokaryotic cell structures (nucleoid, ribosomes, plasma membrane, flagella, cell wall, capsule, fimbriae); process of protein production

Tissue structure: key cell and tissue types in plants (eg parenchyma, collenchymas, sclerenchyma, xylem, phloem, dermal tissue, epidermis, cuticle, cork cambium, periderm) and/or animals (eg simple, stratified and pseudostratified epithelial tissue, fluid, dense, irregular and regular connective tissue, smooth, cardiac and skeletal muscle tissue, nervous tissue)

2 **Understand the organisation of cells and tissues into organs systems in plants and/or animals**

Organs and organ systems: key systems in plants (eg stems, meristems, roots, shoots, leaves, reproductive organs) and/or animals (eg peripheral, central, somatic and sympathetic and parasympathetic nervous systems, endocrine, autocrine and paracrine, respiratory and circulatory, digestive system, urinary, musculoskeletal, reproductive, immune, integumentary)

3 **Understand the importance and role of homeostasis in plants and/or animals**

Changing environments: oxygen, carbon dioxide, pH, waste products, temperature, osmolarity, energy source (eg blood glucose and dietary availability), macro and micronutrients (eg lipids, vitamins, minerals)

Mechanisms: feedback loops (negative, positive; set points, acclimatisation; sensors, stimulus, response; end product inhibition; alterations in enzyme activity, gene transcription, intracellular (cascades, second messengers eg calcium, cyclic AMP, cyclic GMP, protein kinases, IP3) and extracellular signalling (hormonal and nervous)

4 **Be able to investigate fundamental biological principles in plants and/or animals**

Planning and carrying out investigations: null hypotheses, predictions based on previous knowledge and observation; selection and competent use of appropriate techniques, randomisation; independent, dependent and confounding variables, use of controls, sampling

Analyses of investigation results: application of relevant statistical tests, potential sources of experimental error, accuracy and validity of experiments; drawing relevant conclusions from data

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5 **Understand basic biochemical principles in plants and/or animals**

Chemical structure: functional groups (hydroxyl, carbonyl, carboxyl, amino, sulfhydryl, phosphate, methyl); acids and bases; structures of carbohydrates (monosaccharides, disaccharides, polysaccharides); lipids; proteins (primary, secondary, tertiary, quaternary); nucleic acids

Biochemical reactions: chemical bonding (ionic, covalent, hydrogen, van der Waals); properties of water (polarity, specific heat capacity, solvency, insulation, evaporative cooling); free energy, equilibrium constant, activation energy; catalysts, enzymes; oxidation and reduction; strength, pH and buffering of acids and bases

Transport into and out of cells: diffusion, osmosis, passive and active transport, transporter types (symport, uniport, antiport); vesicle-mediated transport; endocytosis and exocytosis

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the relationship between the structure and function of plant and/or animal cells and tissues	1.1 examine the structure and function of major cell organelles 1.2 explain the differences between prokaryote and eukaryote cells 1.3 explain the process of protein production in the cell 1.4 evaluate the structure of cells as related to their function and arrangement within various tissues
LO2 Understand the organisation of cells and tissues into organ systems in plants and/or animals	2.1 discuss the co-ordination of tissues to form organs 2.2 examine the structure and function of two organ systems in plants and/or animals
LO3 Understand the importance and role of homeostasis in plants and/or animals	3.1 discuss the homeostatic control of major body systems 3.2 explain the mechanisms of action of homeostasis
LO4 Be able to investigate fundamental biological principles in plants and/or animals	4.1 plan practical experiments to investigate a given proposal 4.2 use appropriate techniques to investigate a given proposal 4.3 make appropriate recommendations, based on findings, to inform decisions 4.4 justify recommendations made based on findings
LO5 Understand basic biochemical principles in plants and/or animals	5.1 examine the basic chemical structure of different molecules 5.2 explain basic chemical reactions relevant to biology 5.3 explain the transport of molecules into and out of cells

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Guidance

Links

This unit links with the following units in this qualification:

Unit 8: Anatomy and Physiology

Unit 10: Animal Nutrition

Unit 21: Equine Exercise Physiology.

Essential requirements

A well-equipped science laboratory is essential in which learners can plan and carry out practical experiments. Learners must have access to supporting materials including higher level biology and chemistry textbooks.

Employer engagement and vocational contexts

Organisations involved in scientific research, such as industrial or academic laboratories, could enable learners to experience scientific investigation in a range of contexts.

Producers of feed products may be able to provide an industrial context for determining the nutritional content of feed stuffs using chemical methods, which would be valuable for all learners.

Links with producers and retailers may also provide useful experience for learners as well as a source of material for examination. Visits to abattoirs or butchers may help learners to learn the form and function of organ systems in animals.

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Unit 8: Anatomy and Physiology

Unit code: K/503/1682

Level: 4

Credit value: 15

Aim

This unit aims to develop learner understanding of physical support and movement in animals, body transport systems, the acquisition of materials and removal of waste, and animal reproduction.

Unit abstract

In this unit learners will develop understanding of the structure, function and maintenance of the animal body.

They will develop understanding of how animal bodies are supported physically and achieve movement, using bones and muscles. Learners will examine the different systems within the animal body and how they contribute to metabolism and waste excretion to maintain health. Learners will also research how new animals are produced through study of reproductive anatomy and physiology.

The unit helps learners to apply understanding of environmental requirements, effective monitoring of animal health and successful animal management.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand how animals achieve physiological support and movement

2 Understand body transport systems

3 Understand how animals obtain raw materials for metabolism and excrete waste

4 Understand animal reproductive processes.

Unit content

1 **Understand how animals achieve physiological support and movement**

Support: functions and types of bones; types, structure and composition of bone tissue; ossification and bone growth; bone homeostasis; hydrostatic skeleton, exoskeleton, endoskeleton, axial skeleton, appendicular skeleton; types of joint (fibrous, cartilaginous, synovial), characteristics of synovial joints, movements at synovial joints

Movement: functions and general characteristics of muscle tissue; types, structure and composition of muscle tissue (skeletal, smooth, cardiac); muscle nerve supply; muscle contraction in different muscle types (eg initiation, sliding filament theory, excitation-contraction coupling, role of calcium); adaptations to different types of movement (eg swimming, flying, hopping)

2 **Understand body transport systems**

Blood: composition and functions of blood; blood plasma; structure and functions of erythrocytes; Bohr effect; structure and functions of leucocytes eg neutrophils, eosinophils, basophils, lymphocytes, monocytes, macrophages; platelets; haemostasis

Cardiovascular system: structure and functions of the heart; origin and conduction of the heartbeat; cardiac cycle; structure and functions of blood vessels; circulatory physiology (blood flow, peripheral resistance, blood pressure, capillary exchange); circulatory pathways (pulmonary circulation, systemic circulation, coronary circulation)

Lymphatic system: lymphatic vessels; formation and transport of lymph; structure, location and functions of lymph nodes; lymphoid tissues/organs

3 **Understand how animals obtain raw materials for metabolism and excrete waste**

Metabolism and waste: catabolism and anabolism; effect of accumulation of waste products

Respiratory system: structure and function of the respiratory tract; ventilation of lungs; gaseous exchange; transport of respiratory gases (plasma, haemoglobin); features of respiratory surfaces

Digestive system: structure and functions of the organs of the digestive tract; phases of digestion and absorption; digestive enzymes; neural and hormonal control of digestion

Urinary system: basic layout of the urinary system; structure and functions of the kidney; roles of ADH and aldosterone; urine formation; pH regulation

Liver: structure of the liver and biliary tract; functions of the liver (eg bile production, synthesis, detoxification, storage, metabolism)

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4 **Understand animal reproductive processes**

Reproductive system: structure and functions of the male and female reproductive systems; reproductive cycles; hormonal control; spermatogenesis and oogenesis

Reproductive stages as appropriate: sexual maturity and modes of reproduction (eg heterosexual, hermaphroditic, parthenogenetic); fertilisation; implantation/egg and shell production; embryonic development to parturition/hatching

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand how animals achieve physiological support and movement	1.1 explain the structure and function of different types of bone and muscle 1.2 explain the general structure of the skeleton 1.3 examine the characteristics of the different types of joint and movements 1.4 explain how the contraction of skeletal muscle is brought about
LO2 Understand body transport systems	2.1 discuss the composition and functions of blood 2.2 explain the structure of the cardiovascular system 2.3 explain how the cardiovascular system functions to transport materials around the body 2.4 explain the structure and functions of the lymphatic system
LO3 Understand how animals obtain raw materials for metabolism and excrete waste	3.1 examine the structure of the respiratory, digestive and urinary systems 3.2 explain the movement of respiratory gases into, around and out of the body 3.3 explain how the digestive system functions and is controlled 3.4 explain how the kidney functions to produce urine and maintain homeostasis
LO4 Understand animal reproductive processes	4.1 explain the structure and functions of the male and female reproductive systems 4.2 examine the hormonal control of reproduction 4.3 explain how fertilisation occurs and the subsequent development of offspring

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Guidance

Links

This unit links to, and is underpinned by, *Unit 7: Biological Principles*. There are also links with other units such as *Unit 3: Animal Health and Welfare* and *Unit 10: Animal Nutrition*, *Unit 11: Animal Behaviour* and *Unit 21: Equine Exercise Physiology*.

These links may enable for an integrated approach to the delivery and assessment of these units.

Essential requirements

Learners will need access to library facilities with scientific textbooks suitable for level 3 and above and access to the internet.

Access to use of laboratory facilities is needed to enable learners to carry out practical investigations.

Employer engagement and vocational contexts

A working understanding of equine anatomy and physiology is essential in a variety of fields within equine management, including veterinary work, racing, veterinary pathology laboratories and riding yards. Employers could be invited to discuss their work to put the unit into a vocational context for learners.

Veterinary surgeries, veterinary laboratories and clinical laboratories would give learners useful experience of putting theory into practice, especially if they are able to follow clinical cases through. The learning experience would be greatly enhanced if learners could compare healthy and unhealthy specimens from a range of animals and organs.

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Unit 9: Principles of Animal Health

Unit code: F/503/1686

Level: 5

Credit value: 15

Aim

This unit aims to develop learners' understanding of animal health. Learners will have the opportunity to investigate the nature of the disease process and examine the relationship between the host and the infective agent.

Unit abstract

Animal health and welfare are important to owners and professionals working in animal management and learners need to understand the mechanisms of disease and immunity, and how they can be adjusted and manipulated to maintain the animal health and welfare.

The unit covers scientific aspects of animal health and ill-health and the management of specific diseases and injuries as well as the use of veterinary medicines to treat and prevent ill health.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the role of the immune system in animals

2 Understand the nature and process of disease and the relationship between the host and the infective agent

3 Understand the appropriate management of specific diseases and injuries in animals

4 Understand the safe use of veterinary medicines.

Unit content

1 **Understand the role of the immune system in animals**

Disease and immunity: structure of the immune system*;* T-cells; B-cells; natural killer cells; phagocytes; platelets; thymus; spleen; interaction between different immunities; compromised immunity (causes and effects)

Innate and adaptive immunity: exterior defences; complement and interferons; inflammation; antibodies; antigens; integrated defence mechanisms

Cellular immunity: T-cell functions; antigen presenting cells; cell mediated cytotoxicity; macrophages; lymphokines

Humoral immunity: antigen-antibody binding; affinity and avidity; methods of action

2 **Understand the nature and process of disease and the relationship between the host and the infective agent**

Epidemiology: reservoirs; host resistance; host susceptibility; control strategies; epidemiological methods

Diagnosis: sample collection; haematology; biochemistry; microscopic examination; bacterial examination; immunological examination; interpreting results against benchmarks

Host-pathogen relationships: host properties; pathogen properties; consequences of exposure; spread of infection; mechanisms of tissue injury

3 **Understand the appropriate management of specific diseases and injuries in animals**

Diseases and conditions: causal agents; aetiology; signs; effects; prognosis; prevention and treatment; metabolic diseases; diet-related conditions; ectoparasites and endoparasites; lifecycle; signs; effects; prognosis; prevention and treatment; haemorrhage; wounds; sprains; strains; dislocations; fractures; head, internal and limb injuries; zoonoses; anthroponotics; notifiable diseases; contagious diseases; management of a disease outbreak

First aid: roles and limitations; conditions necessitating first aid; first aid procedures; first aid kits; wound management and bandaging techniques

Nursing techniques: disinfection; asepsis and sterilisation; isolation and quarantine; barrier nursing; nursing practices; veterinary referral; ethical treatments; euthanasia; disposal of cadavers and clinical waste

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4 **Understand the safe use of veterinary medicines**

Legislation: Medicines Act 1968; Misuse of Drugs Act 1971; Misuse of Drugs Regulations 1985; Medicines Regulations 1994; Health and Safety at Work Act 1974; COSHH

Pharmacology: categories; classes and schedules of drugs; pharmacological terminology; dose calculations; contraindications; risks (toxic effects, lethal doses, storage, handling); therapeutic index; methods and routes of administrating medication; safe storage; handling; administration and disposal of medication

Alternative therapies: homeopathy; osteopathy; chiropracty; physiotherapy; acupuncture; aromatherapy; shiatsu; reiki; herbalism

Supply of veterinary medicines: role of the veterinary surgeon, veterinary nurse and other suitably qualified persons (SQP's) in the control and supply of veterinary medicines; restrictions on the SQP e.g. supply of POM-VPS, NFA-VPS and AVM-GSL only; role of AMTRA; CPD requirements of AMTRA; premises registration and requirements for supply of veterinary medicines; role of AMI (Animal Medicines Inspectorate); Veterinary Medicines Regulations 2005

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the role of the immune system in animals	1.1 describe the structure of the immune system 1.2 explain the difference between innate and adaptive immunity 1.3 summarise the roles of humoral and cellular immunity during and after infections 1.4 discuss the interaction between cellular and humoral immunity during infection
LO2 Understand the nature and process of disease and the relationship between the host and the infective agent	2.1 discuss the epidemiological aspects of important veterinary infections 2.2 interpret the results from different diagnostic procedures accurately 2.3 explain the outcome of different host-parasite relationships
LO3 Understand the appropriate management of specific diseases and injuries in animals	3.1 explain the cause, effect, prevention and treatment of common animal diseases 3.2 discuss the management of zoonotic, anthroponotic and notifable disease outbreaks 3.3 evaluate the effect of common endo- and ectoparasites in relation to animal health, to include life-cycles, prevention and treatment 3.4 discuss appropriate first aid treatment for a range of trauma conditions and their subsequent management techniques 3.5 critically review nursing techniques available for a range of given animal health scenarios
LO4 Understand the safe use of veterinary medicines	4.1 review the legislation relating to the use of veterinary medicines 4.2 evaluate the role and risks of pharmacology in the treatment of disease 4.3 discuss the increasing use of alternative therapies

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Guidance

Links

This unit links to the following units in this qualification:

- *Unit 3: Animal Health and Welfare*
- *Unit 7: Biological Principles*
- *Unit 8: Anatomy and Physiology*
- *Unit 10: Animal Nutrition.*

Essential requirements

Learners need access to laboratory equipment such as microscopes, and examples of diagnostic techniques, as well as appropriate up-to-date literature and journals. Access to veterinary equipment (whether in use or not) is also essential to introduce learners to the different methods used in first aid and veterinary pharmacology.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Delivery of this unit would benefit from guest speakers from the veterinary and pharmacological sector who could discuss the analysis of results from diagnostics, the role of the immune system and potential disruption of the natural immunity, and demonstrate some common first aid techniques used on animals in 'real-life' situations.

Visits to veterinary surgeries and laboratories involved with vaccinations and analysing diagnostic tests could also be beneficial.

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Unit 10: Animal Nutrition

Unit code: D/503/1677

Level: 4

Credit value: 15

Aim

The unit aims to develop learner understanding of the nutritional needs of a variety of animal species and factors that are important in designing appropriate feeding regimes. Learners will develop the practical skills needed to determine appropriate animal-feeding regimes.

Unit abstract

This unit is concerned with the nutrition of production, collection and companion animals. A sound knowledge of the theoretical, as well as the practical, aspects of nutrition is essential to ensure the health and welfare of animals.

The unit focuses on the physical and chemical properties of dietary constituents and the application of this information to ration formulation. Learners will examine the methods commonly used for the analysis of foodstuffs, and their limitations to the nutritionist, along with dietary calculations for different feedstuffs.

The unit will promote an awareness of the dietary needs of a variety of animal species in a range of circumstances. Learners will investigate factors affecting the nutritional requirements of a range of animals and the effects of not meeting an animal's requirements, in terms of health, welfare and performance.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the chemical composition and roles of macro and micronutrients

2 Understand the principles of animal food analysis

3 Understand the nutritional requirements of animals

4 Understand the role of nutrition in animal health and diet-related diseases.

Unit content

1 **Understand the chemical composition and roles of macro and micronutrients**

Carbohydrates: simple and complex structures; sugars; starches; glycogen, non-starch polysaccharides; sources and functions

Protein: primary, secondary, tertiary and quaternary structure; sources; functions; essential amino acids

Lipids: structures, sources and functions (fats, oils, phospholipids, steroids, triglycerides); saturated, mono- and poly-unsaturated; essential fatty acids

Water: structure, functions, sources

Vitamins: structures, sources and functions; water-soluble, fat-soluble; bioavailability

Minerals: macro-minerals; micro-minerals; structures, sources and functions

2 **Understand the principles of animal food analysis**

Methods: dry matter; proximate analysis (ether extract, ash, crude fibre, nitrogen-free extract), bomb calorimetry, amino acid analysis, atomic absorption spectrophotometry, chromatography; high performance liquid chromatography (HPLC) for mycotoxins; automated analytical equipment

Digestibility: apparent digestibility; true digestibility; digestion trials; species variation

Energy: partitioning; measurement of DE and ME

Dietary calculations and nutritional labelling: dry matter; energy content; protein content

3 **Understand the nutritional requirements of animals**

Factors of and effects on nutritional requirements: condition; age; work; health; species; breed; environmental temperature; gestation and lactation as appropriate

Ration formulation and dietary calculations: feed intake; palatability; requirements for energy; amino acids; minerals; vitamins; dry matter; protein content

4 **Understand the role of nutrition in animal health and diet-related diseases**

Metabolic processes: catabolism; anabolism; energy production; amino acid interconversion

Nutrients: normal balances and reserves

Diet-related disease: presence of common mycotoxins and plant toxins; metabolic disorders; excesses and deficiencies; causes of deficiencies (poor intake, poor bioavailability, presence of antagonistic compounds); common diseases related to nutrition (eg coronary heart disease, kidney disease, obesity, laminitis)

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the chemical composition and roles of macro and micronutrients	1.1 determine the chemical structure of macronutrients 1.2 examine the chemical and physical properties of macronutrients 1.3 justify dietary sources of macro and micronutrients in relation to given animals 1.4 explain the uses and functions of macro and micronutrients in the body
LO2 Understand the principles of animal food analysis	2.1 examine the methods available for food analysis 2.2 evaluate the digestibility of different feeds 2.3 examine the partition of energy in nutrition 2.4 calculate dietary requirements for a variety of animal feeds
LO3 Understand the nutritional requirements of animals	3.1 discuss the factors affecting animal nutrient requirements in a range of production, collection and companion circumstances 3.2 determine the energy requirements for animals in a range of circumstances 3.3 critically assess the formulation of rations for animals in a range of circumstances
LO4 Understand the role of nutrition in animal health and diet-related diseases	4.1 analyse the relationship between diet and animal health 4.2 evaluate factors affecting incidences of diet-related animal diseases

Guidance

Links

This unit links with *Unit 3: Animal Health and Welfare*, as well as *Unit 7: Biological Principles*, *Unit 8: Anatomy and Physiology, Unit 17: Manage Foaling and Care of the Foal* and *Unit 18: Manage the Rearing of Equine Youngstock, Unit 19: Plan and Implement an Early Training Programme for Horses* and *Unit 20: Develop and Implement a Training Programme for a Performance Horse.*

Essential requirements

Learners will need access to the internet and specialist animal nutrition textbooks at level 3 and above.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Any professional involved in maintaining animal health and welfare will be involved in animal nutrition, which gives learners scope to see the importance of understanding nutrition in a range of fields. This will include the production and manufacturing of animal feed, veterinary surgeons, and all those who own animals for pleasure or those who own animals for commercial purposes such as meat, milk or egg production, or those maintaining animal collections.

Feed manufacturers and retailers are often prepared to provide specialist visiting speakers who may help learners to make the link between the physiological importance of nutrients and the formulation of rations. Learners could work with farmers or collection owners to investigate nutritional requirements of animals in a range of circumstances, taking into account the factors that can affect nutrition, animal health and welfare.

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Unit 11: Animal Behaviour

Unit code: M/503/1683

Level: 5

Credit value: 15

Aim

This unit aims to develop learner understanding of the relationship between environmental and evolutionary pressures on resulting behaviours in a variety of contexts eg animal collections, production livestock and conservation programmes. The unit will include a historical overview of a range of controlled behavioural studies enabling students to differentiate and recognise the relationship between ethology and behavioural physiology and provide an applied basis for animal training.

Unit abstract

The ability to interpret and understand animal behaviour is a valuable skill when working with animals. An applied knowledge of animal behaviour is a crucial element in understanding how to appropriately manage animals, both in captivity (ex situ) and the wild (in situ). This unit will include a historical overview of a range of controlled behavioural studies enabling students to differentiate and recognise the relationship between ethology and behavioural physiology and understand the subsequent impact on animal welfare requirements. This unit will introduce the learner to the theoretical principles of motivation and stimulus response sequences and the development of practical assessment skills. Learners will be able to use a range of underpinning concepts in an applied context eg training.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the scientific basis for controlling animal behaviour

2 Understand the principles and practice of animal behaviour assessment

3 Understand the importance of functional behaviour to social interaction, feeding and reproduction in a range of species

4 Understand the implications of animal behaviour for animal welfare, husbandry and management.

Unit content

1 **Understand the scientific basis for controlling animal behaviour**

Historical interpretation of controlling animal behaviour: Niko Tinbergen (proximate and ultimate questions); changing trends in the study of behaviour and key protagonists (behaviourism, cognitive psychology, Skinner, Lorenz, Lashley); the ethological approach; the experimental psychology approach

Neuro-physiological control of behaviour: stimulus – response sequences; detection, perception and senses; stimuli; neurophysiological co-ordination; reflex responses; motivation as a feature of abnormal behaviours; orientation behaviours

Genetic control and evolutionary significance of behaviour in animals: gene pools; speciation, islandisation; genetic drift; natural selection

Theories of conditioning and learning in animal species: non-associative learning (sensitization, habituation), associative learning (classical conditioning, operant conditioning), social learning, insight learning

2 **Understand the principles and practice animal behaviour assessment**

Animal behavioural assessment: preference, aversion and motivation testing; ethological verses experimental approaches, ethograms

Sampling Stragtegies: Continuous, Instantaneous, Ad. Libitum, Focal, Scanning, Zero-one

Animal behavioural studies: statistical analysis; graphical representation; significance of comparative time budgets; evaluation and application eg assessment of qualitative/quantitative behavioural changes to indicate abnormal behaviours

3 **Understand the importance of functional behaviour to social interaction, feeding and reproduction in a range of species**

Roles of communicative behaviour in animals: methods of communication, medium, modality, benefits & limitations of each; intraspecific; interspecific; honest signals; evolutionary deceits

Concepts of altruism and symbiotic associations: kin selection, co-evolution, modelling eg 'The Prisoners Dilemma'

Theories of predation and feeding: optimality theory, predator-prey cycling; defence behaviour; Batesian and Mullerian mimicry; territoriality

Reproductive behaviour: reproductive strategies; sexual selection; copulation; gestation; parturition; nursing; infanticide

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4 **Understand the implications of animal behaviour for animal husbandry and management**

Application of learning theory to training: positive & negative reinforcement; positive & negative punishment; flooding; counter-conditioning; schedule of re-inforcement

Practical significance of applied ethology: welfare; conservation; exploitation; training; management

Motivation and the development of abnormal behaviours: the relationship between ex-situ management systems and the development of stereotypes

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the scientific basis for controlling animal behaviour	1.1 explain, with reference to key researchers how approaches to the study of animal behaviour have changed over time 1.2 discuss the neuro-physiological control of behaviour 1.3 critically review the effect of genetic and environmental interactions in relation to evolutionary behaviour 1.4 discuss the theories of conditioning and learning in animal species
LO2 Understand the principles and practice of animal behaviour assessment	2.1 explain the practical applications and limitations of a range of assessment strategies 2.2 select appropriate sampling and recording techniques for the practical assessment of behaviour in a named animal species 2.3 evaluate experimental observations and use as a basis for management recommendations
LO3 Understand the importance of functional behaviour to social interaction, feeding and reproduction in a range of species	3.1 evaluate the roles of communication in animals 3.2 discuss the concepts of altruism and symbiotic associations 3.3 critically review the theories of predation and feeding in a range of animal species 3.4 critically review and compare the reproductive behaviours of animal species
LO4 Understand the implications of animal behaviour for animal husbandry and management	4.1 explain the practical significance of applied ethology in a range of contexts 4.2 apply principles of learning theory to the development of potential training regimens 4.3 review the significance of motivation in the development of abnormal behaviours in ex situ environments

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Guidance

Links

This unit is closely linked to *Unit 2: Horse Husbandry*, *Unit 3: Animal Health and Welfare* and *Unit 9: Principles of Animal Health*.

Essential requirements

Learners must have access to a range of animals in a range of environments to ensure they can study a range of animals and their behaviours over a period of time. The centre's own animal facility could provide opportunities to study animal behaviour on a regular basis but visits to a range of animal collections will enable learners to understand the effects of management systems on animal behaviour.

Access to appropriate behaviour monitoring equipment, for example video cameras, is essential along with access to specialist books, journals and periodicals to develop higher level and independent study skills.

Employer engagement and vocational contexts

Appropriate employers could be linked with to support the delivery of this unit. Employers could help tutors in the development of the programme of learning, provision of guest speakers or in the design of assessment activities.

Learners should be encouraged to use their own experience and circumstances to observe animals and investigate behaviour. Visiting speakers and visits to a wide range of animal collections are an essential part of the delivery of this unit, so learners can gain industry-standard experience from professionals working within the field of animal behaviour.

Sustained links with animal collections may support other units within the qualification as well as work placements.

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Unit 12: Health and Safety in the Land-based Workplace

Unit code: D/503/1100

Level: 4

Credit value: 15

Aim

The aim of this unit is to develop learners' understanding about their responsibilities in ensuring the health and safety of the land-based workplace and the people within it.

Unit abstract

Health and safety is an essential consideration for all persons working within the land-based sector and this unit will enable learners to develop an understanding of the importance of continually monitoring the implementation of health and safety legislation and policies within a land-based setting.

Learners will gain a clear understanding of the implications of relevant legislation for their own role and the implementation of policies and systems in their own workplace. The importance of record keeping, monitoring and review health and safety policies and procedures will also be considered.

Elements of this unit should be contextualised, where possible, to an appropriate setting relevant to learners' workplace within the land-based sector.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand how health and safety legislation is implemented in a land-based workplace

2 Understand how health and safety requirements impact on a land-based workplace

3 Understand the monitoring and review of health and safety in a land-based workplace.

Unit content

1 **Understand how health and safety legislation is implemented in a land-based workplace**

Concept of risk, safety and security: minimum risk, zero risk; risk for employees, customers, general public, visitors, trespassers ; public liability; hazard; accident prevention; first aid; security; machinery, equipment and implements; animals; plants; substances; risk and COSHH assessments; safe codes of practice; equipment; premises; storage; national occupational standards.

Systems, policies and procedures for communicating information: exemplar pro-formas; training; organisational culture; use of different media; exchange of information; record keeping; enforcement; compliance

Responsibilities for management of health and safety: organisational responsibilities (employers; employees including casual and fractional staff; external agencies; contractors; sub-contractors; external suppliers and service providers) monitoring and evaluating processes; auditing; inspecting the workplace; management structure and representation

Legislative requirements: current legislation, regulations and codes of practice relevant to health and safety in a land-based industry setting eg Health and Safety at Work Act 1974, Health and Safety (First Aid) Regulations 1981, Management of Health and Safety Regulations 1999, Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, Control of Substances Hazardous to Health 2002, Manual Handling Operations Regulations 1992, Food Safety Act 1990, Food Safety (General Food Hygiene) Regulations 1995, Workplace (Health, Safety and Welfare) Regulations 1992, Disability Discrimination Act 1995, Food and Environment Act (FEPA) 1985; Health and Welfare at Work(Control of Vibration) Regulations 2006; Working at Height Regulations 2005; Control of Noise at Work Regulations 2005; Provision and Use of Work Equipment Regulations 1998; Health and Safety (Consultation with Employees) Regulations 1996, Pressure Systems Safety Regulations 2000, Lifting Operations and Lifting Equipment Regulations 1998

Training and implementation: pesticides storage and use; machinery including chainsaws, brushcutters, diggers, and ground maintenance machinery; manual handling; poisonous and hazardous plants; risk assessments; safe working practices; induction training; management and supervisor training including IOSH and NEBOSH; provision of personal protective equipment

2 **Understand how health and safety requirements impact on a land-based workplace**

Work place planning: static and mobile workplaces and teams; meeting needs of business; ensuring safety; principles of good practice; maintenance and monitoring procedures; staff training

Dilemmas: risk-benefit analysis; risk to self and others; resource implications; differing priorities between stakeholders; differences in priorities within both permanent and temporary work places

Implications of non-compliance: financial; legal; moral; physical; health; reputation

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3 **Understand the monitoring and review of health and safety in a land-based workplace**

Monitor and review: active and reactive monitoring; audit of risks; review of practice; learning from experience; updating and implementation of policies and procedures; health surveillance; consultation.

Positive health and safety culture: individuals; teams; managers; organisational levels

Own contributions: responsibilities; compliance; training; practices; interactions with individuals, groups, agencies, contractors and sub-contractors

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand how health and safety legislation is implemented in a land-based workplace	1.1 review systems, policies and procedures for communicating information on health and safety in a land-based workplace in accordance with legislative requirements 1.2 assess the responsibilities in a specific land-based workplace for the management of health and safety in relation to organisational structures 1.3 analyse health and safety priorities appropriate for a specific land-based workplace
LO2 Understand how health and safety requirements impact on a land-based workplace	2.1 analyse how information from risk assessment informs planning for individuals and organisational decision-making 2.2 analyse the impact of one aspect of health and safety policy on land-based practice 2.3 discuss how dilemmas encountered in relation to implementing systems and policies for health, safety and security may be addressed 2.4 analyse the effect of non-compliance with health and safety legislation in a land-based workplace
LO3 Understand the monitoring and review of health and safety in a land-based workplace	3.1 explain how health and safety policies and practices are monitored and reviewed 3.2 analyse the effectiveness of health and safety policies and practices in the workplace in promoting a positive, healthy and safe culture 3.3 evaluate own contributions to ensuring the health and safety needs of individuals

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Guidance

Links

Within this unit there are direct links to the land-based professional bodies and national occupational standards and professional guidance that they oversee and implement which include the following areas and industries: horticulture, agriculture, equine; arboriculture, countryside management, floristry and animal management.

This unit has links with all of units as health and safety forms a key component within all of them.

Essential requirements

Tutors must be conversant with the application of health and safety legislation in relevant settings.

The learner's evaluative account of one aspect of health and safety in the workplace must be validated. This could be in the form of a witness statement from a workplace supervisor, or an observation record from their assessor.

Learners must be given the opportunity to carry out a risk assessment within the workplace.

Ideally this would be in a setting relevant to their occupational sector, but if this is not possible a simulation of the setting will suffice. Access to IT, internet facilities, library resources including occupational magazines is also required.

Employer engagement and vocational contexts

Visiting speakers from relevant settings and health and safety specialists would help learners to understand of legislative requirements and their management – especially for those learners undertaking a simulated risk assessment. Also work placements within the students chosen field should also be encouraged which will them to undertake risk assessments within an industrial setting but also give them scope for further research and investigation.

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Unit 13: Estate and Yard Maintenance

Unit code: A/503/2108

Level: 4

Credit value: 15

Aim

This unit gives learners the practical supervisory skills and theoretical understanding necessary for the maintenance of equestrian facilities.

Unit abstract

This unit gives learners the necessary supervisory and practical skills for broadening their role as yard manager to one that also encompasses basic yard maintenance.

Regular maintenance of equipment and facilities is essential at all equestrian establishments. In this unit learners will develop practical, theoretical and technical understanding of both maintenance and construction projects required to keep facilities in good working order. Health and safety and environmental issues are embedded in the unit.

Evaluating construction requirements and costs for a specific project will allow learners to gain valuable experience which can help to prepare for future employment opportunities.

Learners will gain the skills required to operate a tractor with a range of associated equipment to enable them to play an active role in estate and yard maintenance. This is an extremely useful vocational unit for all learners who wish to work directly in the horse industry.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to manage others in routine yard maintenance

2 Be able to plan the construction of fences and gates for horses

3 Be able to evaluate construction requirements and costs for equine facilities

4 Understand the use of machinery and associated equipment in equine establishments.

Unit content

1 **Be able to manage others in routine yard maintenance**

Schooling areas: maintenance of a variety of surfaces; levelling; harrowing; drainage; irrigation systems (installation, generation and maintenance); equipment maintenance

Waste management: legislation; methods; costs; environmental impact; manure handling; drainage; recycling; health and safety

Watering systems: troughs; automatic waterers; piping; connections; maintenance

Electrical and hydraulic: yard lighting; schools lighting; horse walkers; treadmill; infra-red lamps

Management of others: identifying maintenance requirements; prioritising work; supervisory skills; record keeping; risk assessment

2 **Be able to plan the construction of fences and gates for horses**

Construction: fencing types; gates; identification of appropriate tools and equipment; planning a fencing project

Suitability: materials; size of area to be fenced; purpose of fencing; mixed grazing; specialist needs eg youngstock, stallions; permanent or temporary fencing; access; security

Costs: sources of fencing materials; material requirements; accurate measurements; costings of material and labour; timescales

3 **Be able to evaluate construction requirements and costs for equine facilities**

Project: equine facilities eg muck heap, feed room, tack room, horse walker, firm ride, gallops; outdoor arena; planning requirements; construction processes and materials; sustainability; specifications; construction contracts; guarantees; penalty clauses

Costs: professional services; sources of materials; material requirements; accurate measurements; costings of material and labour; timescales

Stabling: purpose built; conversions; internal stabling; American Barns; youngstock pens; materials – wooden, brick, concrete block

4 **Understand the use of machinery and associated equipment in equine establishments**

Tractor operation: safety codes and checks; attachment of trailers, levellers and harrows; safe manoeuvring

Legal requirements: relevant legislation; minimum age; qualifications

Mechanisation requirements and opportunities: sources of new and second-hand machinery; owning; leasing; contractors; costs

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to manage others in routine yard maintenance	1.1 effectively manage the maintenance of riding areas 1.2 review methods of yard waste management 1.3 manage the use and maintenance of watering systems 1.4 facilitate the safe maintenance of electrical and hydraulic equipment
LO2 Be able to plan the construction of fences and gates for horses	2.1 plan the construction of boundary fencing for a given site 2.2 explain the suitability of associated materials for the fencing plan 2.3 calculate detailed costs for materials and labour for a given project
LO3 Be able to evaluate construction requirements and costs for equine facilities	3.1 plan and schedule work for a specific construction project 3.2 calculate construction costs for a variety of equine facilities 3.3 evaluate a variety of methods for the construction of horse stabling
LO4 Understand the use of machinery and associated equipment in equine establishments	4.1 explain the safe operation of tractors with a range of appropriate equipment 4.2 explain the safety and legal requirements of tractor driving 4.3 examine mechanisation requirements for a given equine establishment

Guidance

Links

This unit links with the other vocational units such as *Unit 25: Grassland Management* and *Unit 27: Event Management for Land-based Industries*.

Essential requirements

Access to the centre estate is essential so that learners can construct of perimeter fencing. While construction projects are taking place, it is imperative that learners have access to the right type and number of appropriate tools and equipment.

Suitable tractors and equipment for maintenance of arena surfaces or paddocks are required to allow learners to gain practical skills in operating a tractor.

Access to multimedia computers, specialist software packages and suitable library resources of an adequate standard is necessary to cover this unit.

Employer engagement and vocational contexts

Learners should be encouraged to visit equine establishments and compare their estate and yard maintenance in order to develop a better understanding of the range of practices that operate within the industry.

Employers could help with providing visits and design of assessment activities. Learners could, for example, plan and schedule work for a specific construction project following a visit to a local yard or estate.

Relevant guest speakers will enhance and confirm knowledge and maintain current information.

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Unit 14: Principles of Stud Management

Unit code: F/503/2109

Level: 5

Credit value: 15

Aim

This unit enables learners to develop understanding of equine stud management and to give them the knowledge to work within the equine breeding industry.

Unit abstract

This unit encourages learners to gain a realistic understanding of the tasks involved in the management of equine breeding enterprises. It will examine various breeding systems in current use and assess their varying advantages and levels of efficiency. Management programmes for breeding horses in a wide variety of situations will be planned and evaluated using 'real life' examples. Particular reference will be made to resource management, personnel requirements and documentary administration.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand horse breeding studs

2 Understand the organisation and management of activities found on a stud

3 Understand marketing opportunities available to stud enterprises

4 Understand effective management of stud records and documentation.

Unit content

1 **Understand horse breeding studs**

Establishments: public, private, mare only breeding studs, stallions standing at stud; stabling stud layout; teasing and covering areas; physical resources (isolation boxes, foaling boxes, stallion boxes, veterinary facilities, office, feed room, hay storage, muck heaps, lorry parks); mare and foal turnout areas, stallion paddocks; health and safety

Staff: annual and seasonal labour requirements; experience and qualifications required; staff training; accommodation, facilities; responsibilities of employer and employees

Machinery: types of equipment needed (bedding and feed moving, muck handling, grass maintenance, ie toppers, safe use)

Constraints: land use and properties; production costs, profitability of various breeding enterprises; geographical factors; climatic factors; planning laws; environmental issues

2 **Understand the organisation and management of activities found on a stud**

Stud management: duties including teasing and covering by stallion and provision for sitting up, foaling, handling of foals and youngstock, weaning, feeding regimes; routine health and vaccination programmes; assessment of individuals; conformation analysis; foot evaluation, corrective farriery; health and safety issues and safe handling

Management of mares: mares (out of training, maiden mares, barren mares, in foal mares with and without foal at foot); feeding programmes; condition scoring of mares and stallions; safe handling for mares and foals

Stallion management: in and out of breeding season; exercise programmes; teasing and covering; disease and safety control

Sale preparation: safe and correct handling and presentation; entry procedure

Management of horses out of training: convalescence, rehabilitation of injured or resting horses

Comparison of management requirements: between thoroughbred and non-thoroughbred enterprises including the facilitation of artificial insemination

3 **Understand marketing opportunities available to stud enterprises**

Sociological perspective: investment criteria; breeding performance statistics; stud fee mechanisms; international market; fiscal advantage

Pedigree research methodology: tabulation of pedigrees; breeding theories and strategies; performance statistics

Advertising and public relations: press coverage; buyer hospitality; vendor reputation and success statistics

Selling: auction houses; the selling year; classification of sales; selling by private treaty; legal aspects of selling horses; leasing and syndication; market forces and fashion

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4 **Understand effective management of stud records and documentation**

Maintenance of records and documentation: registration documents; blood typing; passports; records of teasing and covering foaling, veterinary and farriery treatments; monitoring of fitness; growth and weight gain; staff hours worked; work sheets and overtime hours; stock control; purchase of feed; fodder and bedding; invoicing for services; records of payment

Required by controlling bodies: passports; horse identification; ownership; authority to act; syndication and leasing agreements; nomination agreements; contracts (certificates, foal share agreements); behavioural forms; health and vaccination certificates

Computer and paper recording systems: available software packages; uses of filing systems

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand horse breeding studs	1.1 examine the different types of horse-breeding studs in current use 1.2 explain the resources and facilities necessary to breed horses 1.3 establish the natural and financial constraints affecting a stud 1.4 assess the suitability of a particular stud for a desired use
LO2 Understand the organisation and management of activities found on a stud	2.1 examine the organisation and management of youngstock from foaling to three years including pre-training 2.2 explain the organisation and management of adult breeding stock 2.3 explain the sale of youngstock and breeding stock by public auction and private treaty 2.4 evaluate the convalescence and rehabilitation process of injured and resting horses 2.5 compare management requirements on thoroughbred and non-thoroughbred enterprises
LO3 Understand marketing opportunities available to stud enterprises	3.1 analyse capital investment in horses 3.2 evaluate pedigree and performance records to establish market price 3.3 examine the effectiveness of marketing agents and media for a given stud enterprise 3.4 explain the marketing roles of public auction and private treaty

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Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO4 Understand effective management of stud records and documentation	4.1 examine the documentary requirements of the controlling organisations and regulatory bodies of horse breeding 4.2 evaluate systems available for efficient maintenance of stud records 4.3 analyse information relating to a given stud enterprise: – registration/passport documents – veterinary treatments – equine feeds and health – human resources 4.4 explain the correct maintenance of records and documentation required in a stud enterprise

Guidance

Links

This unit links with *Unit 15: Develop and Implement an Equine Breeding Policy*, *Unit 24: Management of the Performance Horse* and *Unit 21: Equine Exercise Physiology*.

Essential requirements

Learners need sufficient library resources including case studies. Access to IT facilities for data presentation and analysis is essential.

Learners will need supervised access to practical demonstrations and stable management sessions with suitable mares, foals and youngstock to gain the underpinning knowledge for this unit. The handling of stallions will not be required, however learners should be able to see stallion handling demonstrated to give them breadth of experience and observation opportunities.

Ideally, learners should have access to financial and management systems and data from stud enterprises that centres may run or use. This will allow learners to gain a better understanding of industry practice and procedures.

Relevant articles from journals, magazines and newspapers will provide additional information.

Employer engagement and vocational contexts

Learners should be given the opportunity to gain experience in local studs where they will have the opportunity to handle mares and foals and be fully involved with the daily running of a stud, preferably within the thoroughbred-breeding industry. Work experience is particularly important for those learners who have not progressed to this unit from previous study within the breeding and stud units in lower levels.

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Unit 15: Develop and Implement an Equine Breeding Policy

Unit code: T/503/2110

Level: 5

Credit value: 15

Aim

This unit is for those who are involved with stud-management and policy-making decisions. It is about the developing, implementation and evaluation of stud management policy and the selection, promotion, use, and day to day management and feeding of brood mares, foals, youngstock and/or stallions.

Learners involved in this unit are also made aware of new and innovative approaches to equine rearing to enable them to gain a balanced and holistic view of the subject.

Unit abstract

This unit introduces learners to the many aspects of developing and implementing the breeding policies of equines and the analysis of the current and future market trends and needs of horse breeding.

Learners will be introduced to transferable skills that can be used in the industry, such as monitoring and evaluating and developing and analysing policies.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the principles of equine breeding and rearing policy

2 Be able to manage equine breeding and rearing.

Unit content

1 **Understand the principles of equine breeding and rearing policy**

Principles of developing and implementing a breeding policy: the horse breeding industry (development and methods of analysing future trends); pedigrees and the selection of mares and stallions for intended use; breeding and registration schemes; breeding policies for minority breeds; National and international thoroughbred breeding policies; structure of the breeding organisations; foal and young stock sales and auctions

Breeding assistance: assistive reproductive techniques; artificial insemination; embryo transfer

Legislation and codes of practices: Welfare of Horses, Ponies, Donkeys and their Hybrids under animal welfare act; horse passports; movement of horses; animal welfare act

Stud terms: policies on disclosure of information; fees and methods of payment; the nomination form; how to formulate insemination policy according to the needs of the mare and stallion

Regulations and legislation regarding: vaccination, swabbing and venereal diseases; importance of establishing and keeping records for both personnel and organisation; IT systems of record keeping

Yard management: dietary and exercise requirements of mares, stallions and young stock; castration of young stock; handling of mares, foals, young stock and stallions; the role of the veterinary surgeon in effective stud management

2 **Be able to manage equine breeding and rearing**

Breeding and rearing policies: ensuring that the aims and objectives of the policy conform to legislative requirements and current best practice governing the breeding and rearing of horses.

Implementation of the breeding policy: stallion and mare selection; stallion and mare production and use; stallion, mare and young stock management to include foaling, weaning and behavioural management; feeding; working and exercise; vaccinations; hoof care; veterinary input; when to call in the experts and who to consult; dental care; selection and preparation for sale of young stock

Evaluating the breeding and rearing policy: analysis of future trends; evaluating needs of the market, stud farm and owners; making the policy available to relevant personnel including stable staff; owners; clients; veterinary personnel; supervising others when implementing the plan to ensure efficiency, effectiveness and safety; the importance of systematic reviews at agreed intervals and ensuring that policy modifications are implemented and disseminated promptly through formal meetings with staff and clients

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the principles of equine breeding and rearing policy	1.1 explain the structure and organisation of the Thoroughbred breeding industry 1.2 examine equine pedigree analysis in relation to the selection of mares and stallions 1.3 examine the use of equine breeding policy to ensure continual improvement 1.4 assess the importance of equine breeding and rearing trend analysis 1.5 explain the application of codes of practice and legislative requirements governing the breeding and rearing of horses
LO2 Be able to manage equine breeding and rearing	2.1 formulate equine breeding and rearing policy for a given work-related scenario 2.2 manage the implementation of equine breeding and rearing policy for a given work-related scenario 2.3 evaluate equine breeding and rearing policy against aims and objectives at appropriate intervals 2.4 recommend suitable improvement of equine breeding and rearing policy in line with aims and objectives at appropriate intervals

Guidance

Links

This unit links to the following units:

Unit 18: Manage the Rearing of Equine Youngstock.

This unit provides underpinning knowledge, understanding and skills that may be used in preparation for British Horse Society Stage 4 examination.

Essential requirements

It is essential for this unit that learners are involved in the practical stud work with horses, especially thoroughbreds, to allow them to understand and implement the policies involved. Learners need access to up-to-date literature on breeding horses, as well as access to the internet to allow them to carry out research and for general interest in equine management.

Employer engagement and vocational contexts

Delivery of this unit could be enhanced by learners having regular and unbiased access to guest lecturers from equine stud farms, horse breeders and trainers, members of related industries such as equine veterinary professionals and representatives from companies dealing with equine peripherals and equipment. Organised visits to Thoroughbred studs, young stock sales and race courses would also enhance the learner's understanding of the industry and increase awareness of possible career opportunities available within the sector.

Learners should be involved in practical stud work, through vocational work experience or employment at local studs. This would give them a 'hands on' approach to the many aspects of stud work and give them an opportunity to to be involved with the various industries that service it.

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Unit 16: Manage the Breeding of Horses

Unit code: A/503/2111

Level: 4

Credit value: 10

Aim

This unit is for those who are involved with stud management and policy-making decisions. It is about the formulation and evaluation of stud management policy and the selection and management of mares and/or stallions.

This unit involves organising and overseeing covering, including mare and stallion selection, briefing and controlling staff and determining yard policy, for example veterinary practice.

Unit abstract

This unit gives learners a broad understanding of the routines and high standards needed in the management of the breeding of horses. Learners are given the opportunity to gain and build knowledge of breeding policy, covering, selection of breeding stock, stallion and mare reproductive anatomy, and record keeping within a stud enterprise. The application of this knowledge takes place in a sound, practical setting.

Achievement of this unit will contribute to a learner's success within the equine industry, whether in a private or professional capacity.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to manage the breeding programme according to agreed policies

2 Understand the policies and procedures for controlling and organising the breeding of horses.

Unit content

1 **Be able to manage the breeding programme according to agreed policies**

Breeding policy: formulation; ongoing evaluation; record keeping; defining and recording handlers' responsibility and limits of authority; encouraging individuals to make suggestions on how procedures could be improved

Covering: teasing; covering eg natural covering, use of artificial vagina; management of covering eg resolution of problems encountered during covering; seeking specialist advice, arranging further coverings, consulting owner; obtaining feedback from handlers on the progress of coverings

Selection and assessment of breeding stock: suitability of breeding stock eg temperament, pedigree, performance, progeny, conformation, age, reproductive soundness; management of sub-fertility eg mare sub-fertility, stallion sub-fertility, resolution of sub-fertility

2 **Understand the policies and procedures for controlling and organising the breeding of horses**

Stallion: reproductive system; semen quality; implications of overuse of stallion; causes of sub-fertility; treatment of sub-fertility; causes of infertility; treatment of infertility; suitability as breeding stock; physical and psychological wellbeing

Mare: reproductive system; hormonal control of the cycle; detection of oestrus; manipulation of oestrus cycle; causes of sub-fertility; treatment of sub-fertility; causes of infertility; treatment of infertility; methods and timing of pregnancy testing; suitability as breeding stock

Breeding assistance: assistive reproductive techniques; artificial insemination; embryo transfer

Sexually transmitted diseases: sexually transmitted diseases eg Contagious Equine Metritis (CEM), Equid Herpes Virus (EHV), Equine Viral Arteritis (EVA); detection; prevention; treatment

Record keeping: maintenance and organisation of stud records

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to manage the breeding programme according to agreed policies	1.1 determine suitability of stallions and/or mares for selection in accordance with agreed policy 1.2 effectively manage the breeding programme for a given enterprise
LO2 Understand the policies and procedures for controlling and organising the breeding of horses	2.1 explain the importance of conformation, pedigree, value and past performance in the selection of breeding stock 2.2 analyse conformation, pedigree, value and past performance in the selection of breeding stock 2.3 compare the breeding potential of stallions and mares 2.4 evaluate the maintenance of physical and psychological wellbeing in given stallions

Guidance

Links

This unit links with the following units:

Unit 8: Anatomy and Physiology

Unit 14: Principles of Stud Management

Unit 15: Develop and Implement an Equine Breeding Policy.

This unit provides underpinning knowledge, understanding and skills that may be used in preparation for the British Horse Society Stage 4 examination (if applicable).

Essential requirements

Learners will require appropriate provision and regular access to a variety of breeding stock, including brood mares and stallions.

Equipment provided must include handling and restraint equipment, teasing and covering equipment, stud records, PPE and first aid and medical equipment.

Tutors with industry-standard competence and experience in the handling of breeding stock will also be required.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

The delivery of this unit would be enhanced through employer engagement. For example, representatives from local studs, vets and farriers could give practical guest lectures. The involvement of these equestrian professionals in the day-to-day running of the centre-based facilities could be utilised in the teaching of this unit. Learners could visit a number of different studs in order to observe different working practices and routines.

Learners would also benefit from undertaking work experience across within a stud environment to develop their practical skills and achieve industry-standard competence.

All sites should be checked for health and safety before any visits.

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Unit 17: Manage Foaling and Care of the Foal

Unit code: F/503/2112

Level: 4

Credit value: 10

Aim

This unit is for those who are involved with stud-management and policy making decisions. It is about the formulation and evaluation of stud-management policy and the selection and management of foaling mares, foals and youngstock.

This unit involves organising and overseeing foaling, including briefing and controlling staff and assisting with difficult foaling.

Unit abstract

This unit gives learners a broad understanding of the high standards which are needed when managing foaling and caring for foals and brood mares. Learners are given the opportunity to gain and build on their knowledge of foaling and care of foals and brood mares, applying this in a sound, practical setting.

Achievement of this unit will contribute to a learner's success within the equine industry, whether in a private or professional capacity.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to manage the foaling process and subsequent care of the foal

2 Understand the foaling process and subsequent care of the foal

3 Understand the problems that can occur during the foaling process.

Unit content

1 **Be able to manage the foaling process and subsequent care of the foal**

Foaling: preparation; monitoring eg closed circuit television, foaling alarms, mare alarms; signs of foaling; stages of labour; signs of difficult or abnormal foaling; when to seek help; procedures during parturition; procedures immediately following parturition; obtaining and acting on feedback on the progress of mare and foal; encouraging individuals to make suggestions on how procedures could be improved; record keeping

Foal: care of new-born foal; signs of health in new-born foal; foal health problems and care eg abnormal presentation, suckling, meconium retention, septicaemia, haemolytic jaundice, growth deformities, orphan foals, rejected foals; dietary requirements; exercise requirements

Mare: signs of health in mare eg prior to foaling, during foaling, after foaling; Caslick's procedure; retention of placenta; acceptance of the foal; dietary requirements; exercise requirements

2 **Understand the foaling process and subsequent care of the foal**

Foaling: preparation; monitoring eg closed circuit television, foaling alarms, mare alarms; signs of foaling; stages of labour; signs of difficult or abnormal foaling; when to seek help; procedures during parturition; procedures immediately following parturition; obtaining and acting on feedback on the progress of mare and foal; encouraging individuals to make suggestions on how procedures could be improved; record keeping

Foal: care of new-born foal; signs of health in new-born foal; foal health problems and care eg abnormal presentation, suckling, meconium retention, septicaemia, haemolytic jaundice, growth deformities, orphan foals, rejected foals; dietary requirements; exercise requirements

Mare: signs of health in mare eg prior to foaling, during foaling, after foaling; Caslick's procedure; retention of placenta; acceptance of the foal; dietary requirements; exercise requirements

Travelling procedures: road, sea and air travel for mares and foals

3 **Understand the problems that can occur during the foaling process**

Health: mare health problems and their treatment eg retention of placenta, prolapsed uterus; colostrum eg importance of colostrum, ensuring foal obtains sufficient colostrum; signs of health in new born foals; foal health problems and their treatment eg meconium retention, septicaemia, haemolytic jaundice, suckling, deformed foals, common growth problems, orphaned foals, rejected foals, fostering foals; substitution of mare or foal

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to manage the foaling process and subsequent care of the foal	1.1 effectively manage the foaling process 1.2 determine appropriate care of the new-born foal 1.3 manage any problems with foaling appropriately
LO2 Understand the foaling process and subsequent care of the foal	2.1 explain the stages of labour 2.2 examine labour scenarios that may require additional help 2.3 compare the different care requirements during and following parturition 2.4 examine problems associated with foaling 2.5 explain the procedures for travelling mares and foals by road, sea and air
LO3 Understand the problems that can occur during the foaling process	3.1 examine mare and foal health problems and their treatments 3.2 explain the appropriate management of foals with different requirements

Guidance

Links

This unit links with the following units:

Unit 8: Anatomy and Physiology

Unit 13: Estate and Yard Maintenance

Unit 15: Develop and Implement an Equine Breeding Policy

Unit 16: Manage the Breeding of Horses.

This unit provides underpinning knowledge, understanding and skills that can be used in preparation for the British Horse Society Stage 4 examination (if applicable).

Essential requirements

Learners will require appropriate provision and regular access to a variety of breeding stock, including brood mares and foals. Equipment provided must include handling and restraint equipment, closed circuit television, foaling alarms, mare alarms, PPE, stud records and first aid and medical equipment.

In order to observe and manage foaling, learners will be required to undertake work outside of normal college hours, for example at night and during the weekend. Access could be provided in part through work experience and guest lectures, alongside centre-based facilities.

Learners are required to work with others in order to obtain and act on feedback on the progress of mare and foal, and to encourage individuals to make suggestions on how procedures could be improved.

Tutors with industry-standard competence and experience in the handling of breeding stock are a requirement.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

The delivery of this unit would be enhanced through employer engagement. For example, representatives from local studs, vets and farriers could give practical lectures. The involvement of these equestrian professionals in the day-to-day running of the centre-based facilities could be utilised in the teaching of this unit. Learners could visit a number of different studs in order to observe different working practices and routines.

Learners would also benefit from undertaking work experience within a stud environment to develop their practical skills and achieve industry-standard competence.

All sites should be checked for health and safety before any visits take place.

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Unit 18: Manage the Rearing of Equine Youngstock

Unit code: J/503/2113

Level: 4

Credit value: 20

Aim

This unit is for those who are involved with stud-management and policy making decisions. It is about the formulation and evaluation of stud-management policy and the selection and management of foaling mares, foals and youngstock.

This unit involves organising and overseeing the rearing of young stock, including briefing and controlling staff and monitoring the growth and development of youngstock.

Unit abstract

Rearing young equine stock is an interesting and complex area for those involved within the stud industry. This unit focuses on those involved with running and rearing young equine stock and aims to introduce them to managing personnel that form part of the rearing programme. Strong knowledge and understanding of factors that may influence the success of an equine rearing programme is paramount for the basis of a good stud farm.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to manage the rearing programme

2 Understand the factors influencing the rearing of equine youngstock

3 Understand normal and abnormal growth and development patterns in the young horse

4 Understand how to manage the sale of horses.

Unit content

1 **Be able to manage the rearing programme**

Managing the rearing programme: Mare and foal care pre and post partum; planning for weaning; implementing different rearing and weaning methods; monitoring progress of the foal and the mare; monitoring weanlings; health care plans; routine health care for young stock; timing of monitoring; providing feedback on the progress of mare and weanlings to relevant parties; diet; worming and vaccination regime; hoof care; monitoring weight and growth; fostering; comparing weight and growth to benchmarks; recording keeping; abiding by legislation

2 **Understand the factors influencing the rearing of equine youngstock**

Factors influencing rearing of young stock: analysing care regimes; planning and implementing changes to routines to improve care of foals, mares and weanlings; recording health care procedures and changes/ outcomes; diet planning; quantity, mix and type of diet; influence of diet on growth of the foal and health of the mare; advantages and disadvantages of fostering foals; encouraging others to make suggestions on how to improve health care procedures

Development problems: diet and weaning problems; development and signs of orthopaedic disease; viral infections of foal; Tetanus; equine influenza; strangles; herpes virus; symptoms; treatments; behavioural problems

Health care: health care regimes; timing and frequency of routine and non routine treatments; potential reactions to treatments; when to seek expert advice; health checking; early signs of common problems and diseases

3 **Understand normal and abnormal growth and development patterns in the young horse**

Normal growth and development: young horses, process of bone growth, ossification, fat deposition and muscle growth, rates of growth experienced under different management regimes

Growth abnormalities: causes, prevention, treatment, and recovery rates, diseases in young horses, problems experienced in horses under six months, flexural and angular deformities, congenital and developmental

Injuries and ailments: working immature horses, causes, prevention, treatment and recovery rates, conditions of bone, periostitis, splints, third metacarpal, pedal osteitis, sessamoiditis, (epi)physitis, fractures, tendon and ligament injury, conditions of joints, OCD, bone cysts, enlarged joint capsules (bog and joint spavins), osteoarthritis (DJD)

Nutritional demands of young horses: before and during training, matching demand to required performance, problems encountered in feeding for growth and training at the same time

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4 **Understand how to manage the sale of horses**

Selling: auction houses; the selling year; classification of sales; selling by private treaty; legal aspects of selling horses; leasing and syndication; market forces and fashion; entry procedure

Management: Organisation of presentation of horses for sale; plan and confirm arrangements for the sale of individual horses; briefing of relevant personnel on events leading up to sale including owners, stable staff and transport staff

Relevant health documentation: registration documents; blood typing; passports; horse identification; ownership; authority to act; health and vaccination certificates

Training and education of horses: safe and correct handling in preparation for selling; preparation of horses to include fitness, grooming, diet and farriery

Organisation of transport and accommodation for horses being sold: confirm bookings; practice loading young horses safely; preparations for travel and practical aspects of stabling horses on day of sale

Presentation: supervision of showing of horses to prospective clients for public and private sales; how to present horses to optimum effect; fitting and use of specialist equipment; safety awareness

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to manage the rearing programme	1.1 formulate the weaning policy for youngstock 1.2 implement the weaning policy for youngstock 1.3 monitor the health care regime for youngstock 1.4 recommend appropriate improvements to a given youngstock health care regime
LO2 Understand the factors influencing the rearing of equine youngstock	2.1 determine the dietary requirements of the mare and foal to optimise growth 2.2 examine common developmental problems in young equine stock and their related treatments 2.3 explain the advantages and disadvantages of fostering
LO3 Understand normal and abnormal growth and development patterns in the young horse	3.1 explain growth patterns in young horses 3.2 examine the causes, prevention and treatment of important growth abnormalities 3.3 monitor the growth and development of a selected number of young horses over a specified time period
LO4 Understand how to manage the sale of horses	4.1 examine arrangements required for the sale of horses 4.2 evaluate UK and European methods of selling horses 4.3 explain legal and veterinary requirements for selling horses 4.4 explain methods of educating and preparing horses for sale 4.5 explain how to prepare and present horses for sale taking full account of safety procedures to be followed 4.6 evaluate the sale of a given young horse

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Guidance

Links

This unit introduces learners to managing the rearing of young equine stock, and therefore has links to the following units:

Unit 2: Horse Husbandry

Unit 3: Animal Health and Welfare

Unit 9: Principles of Animal Health.

Unit 15: Develop and Implement an Equine Breeding Policy.

Essential requirements

It is essential for this unit that learners are able to have access to an equine breeding unit to be able to analyse and implement rearing policies that they will be involved in developing. Learners must also have access to up to date literature on rearing of young equine stock and the internet to carry out research.

Tours or visits to foal and young stock sales would greatly enhance the understanding of this unit. Auctions selling horses in and out of training (such as the Ascot Horse Sales) and large sales of performance horses (such as The Malvern Sales) would also be of benefit and widen the learner's knowledge.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Delivery of this unit would be enhanced with learners having regular access to a stud farm, and having experts in the field of equine breeding and rearing and breaking young stock delivering guest lectures and demonstrations.

It would enhance the unit if learners were given guided industry experience in the field, and were able to analyse and reflect upon current and new and innovative practices within the stud industry and make suggestions to improve working practices.

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Unit 19: Plan and Implement an Early Training Programme for Horses

Unit code: L/503/2114

Level: 5

Credit value: 20

Aim

This unit is for those who are involved in the planning and implementing of programmes to train and educate young horses – often referred as 'breaking in'. All aspects of the breaking process from briefing the handlers to the introduction of training equipment, ground work, working towards the actual backing of the horse or hitching up to a driving vehicle.

Unit abstract

This unit focuses on the initial training of the horse. Learners will investigate all aspects of producing and training young horses from developing a plan for individual animals, briefing the handlers, through to implementing the training programme and evaluating its effectiveness and making modifications where necessary.

The impact of training and working on the horse's physiological and psychological development will be explored and discussed.

Thorough planning will ensure the learner is able to control and co-ordinate the successful training of the horse to include all necessary risk assessments for ground-work in preparation for riding or driving. The importance of monitoring and evaluating the training programme and analysing the progress of the horse is highlighted throughout.

This unit has a practical focus that enables learners to develop the knowledge, skills and techniques required by employers within the equine industry.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand how to produce early training/'breaking in' programme for horses

2 Understand how to train horses from the ground

3 Be able to plan and develop an early training programme/'breaking in' programme for horses

4 Be able to manage a training programme for horses.

Unit content

1 **Understand how to produce early training/'breaking in' programme for horses**

Identification and analysis of resources: tack and equipment; suitable training areas and surfaces; selection of assistants/handlers; personal protective equipment for handlers of horses

Training programme outcomes: discipline or intended use of horse; selection of appropriate methods e.g. 'Traditional', 'Parelli' and 'Monty Roberts'

Physiological and psychological effects: principles of training from eight months to backing; consequences of over-intensive training; problems encountered when training mishandled or difficult horses. Risk assessments

Evaluation of effectiveness: suitability of programme; individual horse performance; comparing progress against objectives; strengths of programme; areas for development; implementing changes to programme when necessary

Effects of introducing horses to training: consideration of horse's age, type, breed, conformation and temperament; fitness; care and feeding; working in company with other horses; outside influences such as weather conditions, time of year, noise and traffic

2 **Understand how to train horses from the ground**

Own role and responsibilities: planning; ensuring safety of horse, handler/assistant; maintaining horse welfare; selection of suitable training methods

Consequences of training immature horses: conformation and development; common causes of injury; lameness; long term effects; psychological issues including effects of changes in environment

Training from the ground in preparation for further work, discipline or intended use of horse: ground work including lungeing and long-reining; backing and early ridden work or preparation for driving; horses response to training and adaptation of programme to suit individual horses

Difficult, nervous or mishandled horses: identifying problems; evaluation of remedial training methods; ensuring safety of horse, handler and assistant

3 **Be able to plan an early training/'breaking in' programme for horses**

Identify training outcomes: discipline or intended use of horse; time scale; time of year; age, type, conformation and temperament of horse

Plan and develop a training programme: producing a plan; timing and number of sessions; content of sessions; identifying and preparing a suitable training area; preparing equipment; briefing relevant personnel and confirming their understanding

Implement a training programme: to include – introducing horse to equipment, leading, lungeing, long reining in preparation to riding or driving

Control and co-ordinate successful training: planning and preparation; management; communication with owner of horse and handler/assistant

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4 **Be able to manage a training programme for horses**

Monitoring and evaluation of training programme: briefing handlers and confirm their understanding of process and goals; horse's response to training; regular reviews and observations followed by discussions and feedback from assistants; identifying strengths and areas for improvement

Review and revision of training programme: adjustments to programme where necessary; assessment of training outcomes have achieved; areas for improvement

Responsibilities: relevant animal health and welfare codes of practice, health and safety legislation

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand how to produce early training/ 'breaking in' programme for horses	1.1 analyse resources relevant to an early training programme 1.2 analyse the physiological and psychological effects that breaking, training activities and the environment may have on the horse 1.3 explain how the training programme is intended to enable the horse to achieve the required outcome 1.4 discuss the importance of evaluating the effectiveness of the training programme 1.5 evaluate the effects of introducing horses to training
LO2 Understand how to train horses from the ground	2.1 examine own role and responsibilities in relation to training horses from the ground 2.2 discuss the consequences of training immature horses 2.3 explain how training from the ground prepares the horse for further work 2.4 evaluate methods and safety procedures for training difficult, nervous or mishandled horses
LO3 Be able to plan and develop an early training /breaking in programme for horses	3.1 identify the required training outcomes for an individual horse 3.2 plan a training/ 'breaking in' programme for an individual horse to include training from the ground 3.3 co-ordinate and demonstrate the successful training of an individual horse
LO4 Be able to manage a training programme for horses	4.1 implement an early training programme in preparation for backing 4.2 evaluate the training programme at regular intervals analysing the progress of the horse 4.3 review and revise the training programme as necessary

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Guidance

Links

This unit will link with other units in the program, particularly *Unit 18: Manage the Rearing of Equine Youngstock*.

This unit provides underpinning knowledge, understanding and skills that may be used in preparation for British Horse Society Stage 4 examination (where applicable).

Essential requirements

Tutors experienced with the practical, theoretical and managerial process of 'breaking in' a variety of horses within the Equine industry.

Appropriate provision and regular access to a variety of horses, with sufficient individuals to take full account of animal welfare. Initially learners should show their competence at lungeing and long reining mature, quiet horses so that limited risk is put on young or inexperienced horses. This could be provided in part through the learner's own experience or centre-based facilities. Access to practical resources for training young stock e.g. lungeing ring, arena, indoor school.

Learners must have access to a range of specialist equipment used when breaking and training horses which reflects current practices within the industry.

Access to multimedia computers, specialist software packages and suitable library resources of an adequate standard to cover this unit.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Tutors could establish links with a variety of yards and training centres. The delivery of the programme should include yard visits and demonstrations by experts so that learners can be encouraged to consider a range of approaches to the training of the young horse and see these in action.

Sustained links with employers may support work placement opportunities enabling learners to gain work experience and further develop their practical competence with young horses.

It would also be beneficial for learners to visit thoroughbred sales and sports horse/pony sales to extend their understanding of the industry and increase awareness of possible career opportunities available within the sector.

Guest speakers such as horse breeders and trainers and those involved in producing young horses would enhance delivery.

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Unit 20: Develop and Implement a Training Programme for a Performance Horse

Unit code: R/503/2115

Level: 4

Credit value: 20

Aim

This unit is for learners who are involved in managing the training programmes for performance horses. Learners will know and be able to design a training programme by evaluating the horse's current condition and performance, formulate goals, select appropriate training methods and, through observation and feedback, review and adapt the training programme accordingly in order to optimise the horse's potential.

Unit abstract

Training a performance horse is a complex though rewarding task. To enable someone to train a performance horse, it is vital that they understand the factors that need to be included in the training plan, how to develop and communicate this plan to others and the implementation of the plan itself to a realistic end result.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand how to develop and implement an equine training programme

2 Be able to develop and implement a training programme

3 Be able to monitor and evaluate the training programme.

Unit content

1 **Understand how to develop and implement an equine training programme**

Developing, implementing and evaluating a training programme: reasons for training the performance horse; objectives and rationale of the training programme according to the specified discipline; advantages and disadvantages of different training methods; the principles of exercise physiology for horses and sports medicine

Resources needed: suitable working surfaces, dressage arenas and/or poles/jumps; time management

Equipment: tack; spurs, whips and bits

How to establish accurate performance records of individual horses: passports; registrations for specified competitions; vaccination programmes; blood testing, weighing and interpretation of results; limitations of owners, riders, grooms and horses

Factors affecting the horse's performance and their impact on the training programme: diet; condition of horse; rider performance; seasonal and environmental effects on specific activities; length and number of sessions; psychological and physical affects of the programme on the horse during and at the end of its career

Importance of briefing relevant personnel on all aspects of the training programme including alterations; importance of feedback from all those involved in implementing the training programme and the consequences of error; evaluating the programme relating to the original aims and objectives; assessing condition, performance and fitness of the horses

Risk assessments: all sections of the training programme

2 **Be able to develop and implement a training programme**

Develop and implement a training programme: training and schooling methods (both established and innovative); formulate measurable training goals and methods based on the agreed objectives, training needs and resources to achieve the greatest potential for achieving optimum fitness and performance; appropriate training programme adaptation; developing the programme for individual horses

Communication: briefing the requirements of the proposed training programme to all those involved in its implementation and the intended end performance of the horse; giving and receiving feedback with all those involved so that prompt modification of the programme can take place

Responsibilities: relevant animal health and welfare and health and safety legislation/codes of practice

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3 **Be able to monitor and evaluate the training programme**

Monitoring and evaluating the training programme: agreed objectives for individual horses with riders and owners; yard managers regarding stable management and feeding routines according to training needs of the horse

Recording and reporting results: the suitability and safety of facilities and equipment; the horse's athletic ability and readiness to compete; deciding on a competitive campaign strategy

Modification of the plan: ensuring modification takes into account the availability and effective use of resources; *factors which may affect the training programme* including injury of horse/rider; weather conditions; cancellations of events; action to take when evaluating training and schooling methods against aims

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand how to develop and implement an equine training programme	1.1 evaluate the factors affecting the horse's performance including breeding, conformation and condition 1.2 discuss different training methods to meet the objectives of a training plan 1.3 explain equine blood testing and weighing 1.4 discuss the management of physical and psychological effects which training may have on the horse 1.5 explain the importance of reviewing and evaluating training programmes 1.6 explain how to assess condition and fitness of the horse 1.7 analyse the factors which may prompt a review of potential performance
LO2 Be able to develop and implement a training programme	2.1 evaluate the current performance and condition of the horse and identify the horse's training needs 2.2 develop objectives based on the discipline or competitive performance which the horse is required to achieve 2.3 formulate training goals and methods based on the agreed objectives, training needs and resources 2.4 implement the training programme to improve the horse's performance utilising the available resources
LO3 Be able to monitor and evaluate the training programme	3.1 monitor and evaluate the training programme at regular intervals 3.2 review and modify the training programme taking into account the potential and desired performance of the horse

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Guidance

Links

This unit has links with the following units:

Unit 19: Plan and Implement an Early Training Programme for Horses

Unit 21: Equine Exercise Physiology

Unit 22: Equine Sports Medicine.

This unit provides underpinning knowledge, understanding and skills that may be used in preparation for British Horse Society Stage 4 examination and the British Horse Society Intermediate Teaching Certificate (where applicable).

Essential requirements

It is essential that learners have regular access to a training yard with up-to-date resources and equipment to enable them to put into practice the knowledge they gain from the unit.

Learners need access to up-to-date literature on performance horse training methods, and access to the internet for research.

DVDs showing demonstrations by experts within the chosen area of performance should be available in the absence of actual observations at clinics or demonstrations.

Employer engagement and vocational contexts

Delivery of this unit would be enhanced through guest lecturers and industry professionals giving information on the different methods and techniques used in specific performance horse training. It would be beneficial for learners to allow them access to industry professionals with different views and who use different techniques to give learners a balanced view of all areas. Visits to performance horse training yards, including periods of vocational experience, would also enhance delivery of the unit as it would introduce the learners to a 'hands on' approach to the training programmes currently in use, and would also introduce them to evaluation of the skills and techniques used.

Regular observations of trainers and riders in action within the chosen sphere of performance should be undertaken by visiting competitions, clinics and demonstrations.

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Unit 21: Equine Exercise Physiology

Unit code: Y/503/2116

Level: 4

Credit value: 15

Aim

This unit aims to give an understanding of the physiological effect of exercise and training on the different body systems.

Unit abstract

This unit gives detailed knowledge of the physiological effect of exercise and training on the different equine body systems. An understanding of fittening techniques and principles will be covered, these are vital to production of successful performance horses. Evaluating methods of fittening the horse and studying the science of biomechanics, gait and conformation will develop learners' appreciation of factors that may affect performance. Finally, learners will examine how performance can be enhanced through understanding correct nutrition and the potential of neutraceuticals.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the physiological effect of exercise and training upon different equine body systems

2 Understand the science of biomechanics, gait and conformation

3 Understand different fittening programmes and methods of monitoring fitness

4 Understand how performance can be enhanced.

Unit content

1 **Understand the physiological effect of exercise and training upon different equine body systems**

Response to exercise of the musculo-skeletal, articular, cardiovascular and respiratory systems: differences between exercise and training; bone remodelling; muscle ultrastructure; muscle fibre recruitment and hypertrophy; effects on stroke volume, blood parameters and volume, capillarisation; splenic reserve; effects on ventilation, lung volumes; gaseous exchange

Energy production: aerobic and anaerobic pathways; energy production and utilisation of ATP by anaerobic and aerobic respiration; oxygen uptake, oxygen debt

Physiological basis of fatigue: depletion of substrate, lactic acid build up; factors affecting ATP production; electrolyte imbalance; calcium metabolism; temperature; acid-base balance

Measurement of performance potential: recovery rate; heart rate; muscle biopsy; blood analysis; carbon dioxide output

2 **Understand the science of biomechanics, gait and conformation**

Biomechanics: definitions; variables, standard units; kinetic versus kinematic measurement

Biomechanical effects of exercise and exercise-induced injuries: musculo-skeletal adaptations; mechanical versus traumatic tissue failures; soft tissue problems

Locomotion and gait analysis: treadmill testing; force plates, force shoes; strain gauges; accelerometers, GPS systems; electromyography, motion analysis systems, high speed video, goniometry; step and stride parameters of the walk, trot, canter, gallop and jump

Conformation: subjective versus objective measurement of static conformation; common conformational problems

3 **Understand different fittening programmes and methods of monitoring fitness**

Different regimes for getting horses fit: conventional training; endurance training; interval training; speed training; strength training; swimming; jumping; phases of fitness programmes; example fitness programmes for racehorses, eventers, show jumpers, endurance horses, dressage horses

Heart and respiratory rate to monitor fitness: recovery rates; limitation of using blood profiles and muscle biopsy as indicators of fitness; gas analysis; effects of training on oxygen uptake, lactate threshold, slow component

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4 **Understand how performance can be enhanced**

External factors affecting athletic performance: foot balance, conformation; weight carrying, rider balance; surface properties; tack

Rations for performance horses: energy, carbohydrate, protein, fat, macro and micro minerals, electrolytes, and vitamins

Dietary manipulation to benefit the performance horse: time of feeding; insulin response; neutraceuticals and ergogenic aids

Administration of exogenous substances to enhance or limit performance: drug administration and testing; regulation of prohibited substances

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the physiological effect of exercise and training upon different equine body systems	1.1 examine the response to exercise of the musculo-skeletal, articular, cardiovascular and respiratory systems 1.2 explain how energy is produced and utilised by anaerobic and aerobic respiration in the athletic horse 1.3 examine the physiological basis of fatigue 1.4 analyse measurements taken for the evaluation of performance potential
LO2 Understand the science of biomechanics, gait and conformation	2.1 explain definitions and variables of measurement in biomechanics 2.2 discuss the biomechanical effects of exercise and exercise-induced injuries 2.3 analyse locomotion and gait 2.4 explain the quantification and qualification of static conformation
LO3 Understand different fittening programmes and methods of monitoring fitness	3.1 compare different regimes for getting horses fit 3.2 assess fitness instructions for horses competing at different levels in a range of disciplines 3.3 explain how to use heart and respiratory rate to monitor fitness 3.4 examine the limitation of using blood profiles and muscle biopsy as indicators of fitness 3.5 determine oxygen uptake and its components
LO4 Understand how performance can be enhanced	4.1 examine external factors affecting athletic ability 4.2 assess rations for given performance horses 4.3 explain how the diet can be manipulated to benefit the performance horse 4.4 explain how the administration of exogenous substances can enhance or limit performance

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Guidance

Links

There are opportunities for cross-referencing and integrating work between units. Tutors should seek to integrate this unit with others to underpin the relevance of the issues being studied.

This unit links with the following units:

Unit 7: Biological Principles

Unit 8: Anatomy and Physiology

Unit 10: Animal Nutrition

Unit 22: Equine Sports Medicine

Unit 24: Management of the Performance Horse.

It is recommended that *Unit 8: Anatomy and Physiology* is studied as a co-requisite and that learners study the sections on the relevant body systems before embarking on the content for learning outcome 1 in this unit.

This unit provides underpinning knowledge, understanding and skills that can be used in preparation for British Horse Society Stage 3 examinations and for relevant National Occupational Standards at Level 5 (if applicable).

Essential requirements

Learners must have access to heart rate monitors and performance horses on which they should practise measuring heart rates before, during and after exercise. Access to a range of other useful profiling data should be provided (eg muscle biopsy, blood profiles and gas analysis data). A way for learners to measure and analyse horse locomotion and conformation should be provided (ie video/digital camera, simple video analysis software, measuring stick).

Employer engagement and vocational contexts

A team of employers could be identified to support this unit. Employers could help tutors with, for example the planning of programmes of learning, or with the provision of visits, guest speakers and mentors. They could also help to design assessment activities.

A range of guest speakers to present on specific discipline fitness testing and training programmes would be beneficial. Access to veterinary surgeons who could provide real muscle biopsy or blood profiling data for analysis would be invaluable.

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Unit 22: Equine Sports Medicine

Unit code: D/503/2117

Level: 5

Credit value: 15

Aim

This unit enables learners to develop an understanding of the stresses to which the modern performance horse is subject and the effect that they may have on health and performance.

Unit abstract

This unit enables learners to develop an appreciation of the physical and environmental stresses to which the modern performance horse is subject and the effect that they may have on health and performance. The unit gives learners the knowledge to minimise the risks to the performance horse, recognise injury and take the most appropriate action should problems occur. An understanding of conventional and alternative therapies will learners knowledge of how equine athletes might be returned to previous levels of performance.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand factors predisposing the performance horse to injury and performance-related problems

2 Understand the mechanisms of injury and repair related to the musculo-skeletal system

3 Understand treatment and rehabilitation following injury

4 Understand complementary and alternative therapies available.

Unit content

1 **Understand factors predisposing the performance horse to injury and performance-related problems**

Specific discipline demands: physical demands relating to speed, endurance, jumping effort, repetitive work; competitive demands; role of sports therapy for performance horses

Environmental factors: stabling, husbandry practices; exercising environment; travelling

Environmental induced disorders: recurrent airway obstruction (RAO); small airway disease; heat stroke

Metabolic factors: feeding and exercise regimes

Metabolic induced disorders: exertional myopathies; polysaccharide storage myopathies; colic; laminitis

2 **Understand the mechanisms of injury and repair related to the musculo-skeletal system**

Physiology, causes and symptoms: main causes and risk factors for muscle, tendon and ligament injuries; injury incidence data; muscle damage and repair mechanisms; tendon and ligament injuries and repair

Bone and joint disorders: fractures; epiphysitis; periostitis; ostitis; osteoarthritis; developmental orthopaedic diseases (including osteochondrosis)

Diagnosis: radiography; ultra-sound; scintigraphy; thermography

Repair process: wound healing; improving the repair process

3 **Understand treatment and rehabilitation following injury**

First aid of performance-related injuries: first-line treatment; importance of early assessment

Role of the veterinary surgeon: role and veterinary treatment available

Treatment aids: ultrasound; radiograph; thermography; hydrotherapy; laser; massage; physiotherapy; 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

4 **Understand complementary and alternative therapies available**

Role of alternative and complementary therapies: their position in relation to conventional medicine; considerations when using ‘natural’ remedies

Evidence supporting therapies: magnotherapy; acupuncture; herbalism; aromatherapy; massage; physiotherapy; chiropractic; osteopathy, homeopathy; nutritional supplements

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand factors predisposing the performance horse to injury and performance-related problems	1.1 evaluate the equine athlete's environment in relation to performance 1.2 assess the impact of training programmes on the health of the horse 1.3 examine discipline specific demands on the horse 1.4 compare feeding regimes for the performance horse
LO2 Understand the mechanisms of injury and repair related to the musculo-skeletal system	2.1 explain exertional myopathies and muscle regeneration 2.2 examine tendon and ligament injury in horses 2.3 review bone and joint disorders and injuries 2.4 evaluate diagnostic aids available in equine sports injuries
LO3 Understand treatment and rehabilitation following injury	3.1 explain the role of the veterinary surgeon 3.2 discuss care and treatment of the horse following injury 3.3 examine the use of aids available for diagnosis and treatment 3.4 recommend an appropriate planned programme of rehabilitation
LO4 Understand complementary and alternative therapies available	4.1 examine the use of complementary and alternative therapies 4.2 explain instances when the use of complementary and alternative therapies is indicated 4.3 recommend the use of different therapies in relation to given equine health situations

Guidance

Links

This unit links with other units in the programme for example *Unit 21: Equine Exercise Physiology*. This unit provides underpinning knowledge, understanding and skills that may be used in preparation for British Horse Society Stage 3 examinations and for relevant National Occupational Standards at Level 5 (if applicable).

Essential requirements

Learners will need to access detailed case studies of common injuries, treatment and recommended rehabilitation programmes. Relevant data to accompany the text will be needed to fully understand the potential outcomes of various treatments.

Learners should have access to relevant journal papers to fully appreciate the evidence behind the treatments and therapies available.

Employer engagement and vocational contexts

A team of employers could be identified to support this unit. Employers could, for example, help tutors with the planning of programmes of learning, or provision of visits, guest speakers and mentors. They could also help to design assessment activities.

Formalised access to rehabilitation facilities (eg solarium, swimming pool, water treadmill) would enable learners to develop a better understanding of the specialist resources used by the industry.

Access to specialist speakers (eg veterinary surgeon, therapeutic farrier, physiotherapist, chiropractor, osteopath) will give learners the opportunity to discuss current industry developments and practices.

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Unit 23: Animal Husbandry Management

Unit code: K/503/1620

Level: 5

Credit value: 15

Aim

This unit aims to develop learners' skills in the practical management of animals to give them the opportunity to apply practical competence in the direct handling and management of animals and to understand the relationship between husbandry and disease prevention in a range of routine and non-routine situations.

Unit abstract

This unit promotes the keeping of animals in environments which promote their mental and physical health, giving learners an insight into the legislation relevant to, and management records needed to, manage animals effectively. Learners will also develop an understanding of the relationship between good animal husbandry, disease prevention and health.

Learners will research practical animal management techniques to develop their skill and confidence in supervising the management of a wide range of animal species. They will develop confidence in handling and all tasks related to the animal husbandry, their health and accommodation.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the importance of good animal husbandry practice

2 Be able to use appropriate animal management techniques

3 Understand how to manage animal accommodation

4 Be able to manage the administrative requirements of animal husbandry.

Unit content

1 Understand the importance of good animal husbandry practice

Signs of health: monitoring and recording; recognition and interpretation of physiological and behavioural indicators; diagnostic techniques (invasive and non-invasive)

Principles of good husbandry practice: relationship between environment and health status; disinfection and sterilisation; isolation and barrier nursing techniques; import and export health certification; quarantine systems and alternatives; five needs; duties of care; effects of diet on animal health; prophylactic treatments and veterinary care; safe storage; handling; administration and disposal of medicants; reasons for and methods of euthanasia; disposal of cadavers and clinical waste; relevant legislation eg Control Of Substances Hazardous to Health Regulations (COSHH), Health and Safety at Work Act and other legislation in relation to routine healthcare

2 **Be able to use appropriate animal management techniques**

Animal handling: consideration of animal behaviour; physiological state; approach methods; toxic and/or dangerous species; selection of handling technique; correct capture and restraint methods in a range of situations; use of PPE and handling equipment; preparation of animals for transit in line with legislative and welfare guidelines; movement of animals

Animal husbandry: assessment of physical and mental condition; appreciation of species; breed and individual characteristics; grooming and preventative healthcare; routine healthcare and stock tasks; provision of appropriate exercise opportunities; dietary formulation and preparation; food assessment; storage and disposal; consideration of species' feeding behaviour; feeding regimes

3 **Understand how to manage animal accommodation**

Accommodation requirements: consideration of function; five needs; species specificity; siting; space; materials; ventilation; drainage; temperature; hygiene; safety; security; substrate/bedding; furnishings; enrichment; legislation

Provision of accommodation: design; preparation; maintenance and appraisal of animal accommodation appropriate to the industry (eg aquaria, vivaria, aviaries, cages, kennels, cat pens, stables, paddocks, fields and other large animal accommodation)

Prepare and maintain suitable accommodation: livestock management during maintenance**;** daily, weekly and periodic cleaning and maintenance tasks; cleaning regime; use of PPE; safe use of appropriate cleaning chemicals; health and safety; environmental impact

4 **Be able to manage the administrative requirements of animal husbandry**

Data management: importance of animal management record keeping; identification of required data; observation and recording of animal welfare data; information storage and retrieval (manual and computerised); analysis and utilisation of data; information networks; stock identification; legislative requirements for record keeping

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the importance of good animal husbandry practice	1.1 examine factors relevant to safe and effective animal handling and management 1.2 critically evaluate the assessment of animal health/ill health 1.3 examine animal health monitoring and recording 1.4 compare the range of available animal diagnostic techniques 1.5 evaluate dietary formulation and provision for a range of animal physiological requirements
LO2 Be able to use appropriate animal management techniques	2.1 carry out appropriately selected animal handling and restraint techniques 2.2 correctly assess animals' physical and mental conditions 2.3 carry out dietary management to suit a range of physiological requirements
LO3 Understand how to manage animal accommodation	3.1 critically evaluate the provision of animal accommodation for a variety of circumstances and settings 3.2 recommend appropriate improvements to the provision of animal accommodation
LO4 Be able to manage the administrative requirements of animal husbandry	4.1 manage animal observation, recording and welfare assessment 4.2 analyse information in the routine management of animals 4.3 explain the importance of record keeping related to given animals 4.4 outline the legislative requirements relevant to record keeping for given animals

Guidance

Links

The learning outcomes in this unit are closely linked to *Unit 2: Horse Husbandry* and *Unit 3: Animal Health and Welfare*.

Essential requirements

To support them in achieving in this unit, learners must be given the opportunity to manage animals on a regular basis. A wide range of health and husbandry-related tasks, at a supervisory level, must be provided for learners to develop competence and confidence. The centre should provide all physical resources needed to enable regular access to a range of animals or make alternative arrangements to give learners this access.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Learners should have access to relevant books, journals and periodicals relating to animal husbandry and management to develop academic, vocational and independent study skills.

Employer engagement and vocational contexts

A team of employers could be identified to help to support the different units in the qualification. Employers could help tutors in developing the programme of learning, provide guest speakers or in design assessment activities.

Delivery of this unit would be enhanced by learner visits to a variety of animal collections to view a wide range of animal accommodation and study animal husbandry techniques in a range of different settings. Sustained links with animal collections could support further units as well as work placements

Guest speakers from a variety of sectors, zoos, farm parks, sea life centres etc, would add value to this unit in enabling learners to discuss differing techniques related to animal health and husbandry.

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Unit 24: Management of the Performance Horse

Unit code: H/503/2118

Level: 5

Credit value: 20

Aim

This unit aims to develop learners' understanding and practical skills in the monitoring and management of everyday performance horse needs during preparation and in transit.

Unit abstract

This unit focuses on the care and management of the performance horse. Learners will investigate all aspects of preparing horses for competition, including training and feeding, to achieve maximum performance. This will involve considering the individual and specialist needs of a range of performance horses.

The impact of conformation on soundness, ability and performance will be explored. Learners will apply scientific knowledge in a practical context to the management of the performance horse with emphasis on health and therapeutic care.

This unit has a practical focus that enables learners to develop the knowledge, skills and techniques required by employers within the equine industry. Learners will demonstrate practical ability in producing performance horses to a high standard, providing pre- and post-competition care and preparing horses for transit.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand feeding appropriate to the maintenance of equine health and performance

2 Be able to undertake the preparation and training of horses for performance

3 Be able to provide health and therapeutic care to enhance equine performance

4 Be able to manage the preparation and provision for horses in transit.

Unit content

1 **Understand feeding appropriate to the maintenance of equine health and performance**

Feeding: assessment of feed and forage for specific goals; preparing dried, compound and cooked feeds; feeding supplements, additives and herbal remedies, awareness of prohibited substances for competition; daily feed requirements; specialist needs of individuals; adjusting diets; compiling easy-to-follow feed charts for other staff; storage of feeds; recognition of quality

2 **Be able to undertake the preparation and training of horses for performance**

Fitting: specialist equipment; training aids; gadgets; fitting and use

Types of bits: action; alternatives; usage; regulations for competition use

Preparation: clipping techniques and procedures; styles and types of clip; suitability; competition requirements; breed types and standards; trimming; plaiting for different disciplines; bathing horses; presentation

Exercise: fittening programmes for different disciplines; type and level of exercise; maintaining fitness; symptoms of stress and injury; dangers of repetitive actions; protection during exercise; methods of bandaging; studding

3 **Be able to provide health and therapeutic care to enhance equine performance**

Symptoms of good and poor health: changes; abnormalities observed; significance

Lameness: trotting-up procedures to determine lameness; relating lameness to a specific limb; corrective or specialist shoeing

Conformation: skeletal form; identification of good and poor conformation; affect on soundness, action, performance and ability; limitations associated with poor conformation; competition injuries

Treatments and therapies: types; uses – stimulate repair, enhance performance; contraindications; drug regulations pertaining to a variety of equine activities; pre and post competition healthcare; minimising injury and stress

4 **Be able to manage the preparation and provision for horses in transit**

Fitting of equipment: for all forms of travel

Travel: legislation – vehicle, driver, horse; health checks and requirements; movement of horses; safety checks on trailers and lorries; checklists for provisions and equipment; changes to diet and exercise prior to and after travel; time tabling; route planning of journey

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand feeding appropriate to the maintenance of equine health and performance	1.1 explain the daily feed requirements of a range of horses, catering for the specialist needs of individuals 1.2 examine the preparation of soaked and cooked feeds 1.3 explain the use of feed supplements, additives and appropriate herbal remedies 1.4 critically assess provision of feed in relation to individual performance targets 1.5 explain adjustments to equine health and performance: – diet and exercise – the use of electrolytes – the sympathetic time tabling of journeys to minimise stress
LO2 Be able to undertake the preparation and training of horses for performance	2.1 demonstrate the appropriate fitting of specialist equipment 2.2 improve appearance by daily routines of grooming and care, including clipping and trimming to performance specification 2.3 manage the final preparations of bathing and plaiting for the purpose of presentation and performance 2.4 detail exercise routines that maintain fitness and training for a variety of performance activities
LO3 Be able to provide health and therapeutic care to enhance equine performance	3.1 carry out routine health checks so that abnormalities are observed and dealt with quickly 3.2 instruct others in 'trotting up' procedures to locate lameness of a specific limb 3.3 discuss conformation and its influence on the horse's action and physical ability 3.4 describe treatments and therapies available to stimulate repair and enhance performance 3.5 detail pre and post competition healthcare to ensure regulations are met and injuries and stress are kept to a minimum

continued

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO4 Be able to manage the preparation and provision for horses in transit	4.1 manage the safe fitting of a range of travel equipment suited to individual horses 4.2 manage safety checks on vehicles prior to journeys 4.3 detail equipment and provisions to be packed for long and short journeys to shows and competitions and explain their inclusion

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Guidance

Links

This unit has links with other units in the program, particularly *Unit 7: Biological Principles* and *Unit 2: Horse Husbandry*.

Essential requirements

Tutors with specialist knowledge and skills, backed by industrial qualifications, are essential.

Appropriate provision and regular access to stabled horses at an approved commercial establishment is essential. This could be provided in part through the learner's own experience or centre-based facilities. Learners must have access to a range of specialist equipment used when training and during competition and travelling which reflects current practices within the industry.

Access to multimedia computers, specialist software packages and suitable library resources of an adequate standard to cover this unit is necessary.

Animal welfare requirements must be paramount at all times. Animals must not be subjected to stress or overuse during delivery of this unit.

Employer engagement and vocational contexts

Tutors could establish links with a variety of competition yards and training centres. The delivery of the programme should include as many yard visits as possible so that learners can be encouraged to consider a range of approaches to the training and management of the performance horse. This, along with visits to affiliated competitions, will increase awareness of career opportunities available within the sector.

It would be beneficial for learners to visit a rehabilitation or veterinary centre to enable them to observe treatments and therapies in common use.

Guest speakers such as competition grooms, yard managers and equine therapists would enhance delivery.

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Unit 25: Grassland Management

Unit code: K/503/1133

Level: 4

Credit value: 15

Aim

This unit gives the learner the knowledge to assess the suitability of grassland and to improve any inadequacies. The unit also provides an overview of forage production and routine maintenance of grassland.

Unit abstract

This unit focuses on the management of grassland, one of the prime components of the British landscape. Learners will learn to identify and assess different types of grassland, evaluate their potential and make recommendations for their improvement. They will explore practical aspects of grassland management and improvement and will investigate the production of forage crops.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the contribution of different plant species in a variety of sward types

2 Understand factors contributing to sward quality

3 Be able to improve grassland quality

4 Understand techniques used in producing conserved forages suitable for a selected animal species.

Unit content

1 **Understand the contribution of different plant species in a variety of sward types**

Plants and plant communities: different sward types eg permanent, temporary, ley; desirable and undesirable plants; field identification of grasses and forbs

Pattern of grass growth: seasonality; environmental influences on growth patterns; implications of growth patterns on forage production

Seed mixtures: composition; factors influencing the choice of seed mixture eg intended use, soil type, climate, local ecology; seed provenance

2 **Understand factors contributing to sward quality**

Soil properties: soil texture; soil structure; organic matter content; pH and nutrient status; drainage potential; field techniques for assessing soil properties

Age of grasses: structural alterations occurring as grass matures; grass digestibility and nutrient content

Stocking rates and densities: for different swards; for different animal species; impact of different animal species eg defecating habits, grazing habits; reasons for adjusting rates and densities; environmental impacts

3 **Be able to improve grassland quality**

Evaluation of swards: sampling techniques eg. sward density, soil texture, soil nutrient status; conditions leading to deterioration; methods to calculate sward productivity

Sward improvement: implications of renovation, rejuvenation or replacement of swards: methods for improving soil nutrient status and drainage potential; costs of improvement, environmental impacts of improvement; legislative constraints eg Sites of Special Scientific Interest, Heritage sites

Fertilise use: planning fertiliser programmes; cost/benefit of fertiliser use; types of fertilisers; application techniques; timing of applications; environmental and sustainability considerations of fertiliser use

Drainage: need for drainage, methods determining drainage requirements; suitability of drainage systems eg mole drains, pipe drains, ditches; cost/benefit of drainage; drainage management planning; environmental impact of drainage operations

Pasture management programme: objectives of sward management; management techniques eg zero grazing, rotation, use of electric fencing; assessing the environmental impact of programmes

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4 **Understand techniques used in producing conserved forages suitable for a selected animal species**

Comparison of forages: types of forage eg hay, silage; evaluation of types eg nutrient values, cost/benefits, storage potential

Production methods: techniques and equipment; production costs; environmental impacts

Factors affecting forage quality: nutrient losses during production; storage potential

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the contribution of different plant species in a variety of sward types	1.1 compare different sward types 1.2 categorise key plant species identified 1.3 differentiate between desirable and undesirable plants 1.4 explain the pattern of grass growth throughout the year 1.5 explain the use of specific seed mixtures for different situations
LO2 Understand factors contributing to sward quality	2.1 evaluate the influence of soil on sward quality 2.2 examine the structural changes that take place in plants as they mature 2.3 examine the nutrient value and digestibility of grass at different stages of growth 2.4 compare stocking densities with reference to different animal species and sward condition 2.5 explain the effects that grazing animals have on grassland condition
LO3 Be able to improve grassland quality	3.1 evaluate the condition of a sward 3.2 propose a plan of improvement including soil analysis, fertiliser and drainage requirements 3.3 assess financial and environmental implications of action 3.4 assess any limitations imposed by current legislation 3.5 plan a grazing management programme
LO4 Understand techniques used in producing conserved forages suitable for a selected animal species	4.1 discuss the relative merits of producing different forage types 4.2 explain the production of common forages for a selected animal species 4.3 determine the costs involved in forage production

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Guidance

Links

This unit links with *Unit 2: Horse Husbandry*.

Essential requirements

In order to fulfil this unit, learners will require access to different sites where forage is produced. This will enable learners to compare different sward types and qualities, and to understand the practical implications of sward management and improvement operations.

In order to undertake practical activities, learners will need equipment to assess sward density, plant species, soil texture, drainage potential and soil pH.

Learners should have access to relevant, up-to-date texts, journals, papers and legislation relating to grassland improvement, manage and conservation.

Employer engagement and vocational contexts

Learners will gain most from this unit where the centre has firm links with people and organisations responsible for the management of different swards under different regimes. Such managers might include local graziers, small holders, the managers or owners of country estates, urban farms and national organisations such as the National Trust.

Learners will also benefit from links with professional organisations such as the National Farmers Union, the British Grassland Society and the local Smallholders Association.

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Unit 26: Genetics and their Application

Unit code: L/503/1559

Level: 5

Credit value: 15

Aim

This unit aims to provide learners with knowledge and understanding of the structure, transmission and function of genetic material so that they can gain a deeper understanding of the principles and implications of biotechnology.

Unit abstract

Genetics is one of the fastest developing areas of science; emerging techniques and technologies continue to offer huge benefits but do not come without potential risk. Learners will gain a fundamental understanding of the principles behind genetics, and the application of a range of genetic techniques. Such an understanding is essential to producing and monitoring successful breeding programmes as well as the evaluation of emerging technologies. Learners will understand the use of such techniques and review the range of opinions that surround their use.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the structure of genetic material and the cellular mechanism of heredity

2 Understand the mechanism of heredity at the organism, population and species level

3 Understand a variety of genetic manipulation techniques and their application to industry

4 Understand the potential impacts of biotechnology.

Unit content

1 **Understand the structure of genetic material and the cellular mechanism of heredity**

Structure of genetic material: DNA, double helix, major and minor grooves, sugar-phosphate backbone, base pairing including differentiating between purines and pyrimidines, nucleosomes, looped domains, chromosomes; RNA, mRNA, rRNA, tRNA; Genome size and organisation, transposable elements

Cellular mechanism of heredity: semiconservative mechanism of DNA replication, components of the replication fork and their function, antiparallel elongation, proofreading and repairing, telomeres; transcription initiation, elongation, termination and post transcriptional modification; splicing of mRNA, translation initiation, elongation, termination; protein folding and post translational modifications; stages of meiosis and mitosis, including events that result in non-Mendelian inheritance (e.g crossing over) and epigentics

2 **Understand the mechanism of heredity at the organism, population and species level**

Organism level: monohybrid and dihybrid, crosses; sex determination; dominance, co-dominance; pleiotrophy; epistasis; multifactorial traits; imprinting; hybridisation

Population and species level: Pedigree analysis, including dominant, recessive and sex linked inheritance; gene pools, allele frequencies, Hardy-Weinburg equilibrium (principle and application); effects of genetic drift, gene flow, mutation (missense, nonsense, samesence and frameshift mutations), migration and selection; founder and bottleneck effects

3 **Understand a variety of genetic manipulation techniques and their application to industry**

Techniques: bacterial transfection and cloning; PCR; genomic sequencing; cloning higher organisms; stem cell technologies; gene therapy; genetic screening; synthesis of pharmaceutical products in model organisms; ‘knock-out’ and ‘knock-in’ models

Application: to include disease treatment, genetic screening, synthesis of pharmaceutical products, traceability of inputs and outputs, design and monitoring of breeding programmes, production of resistant organisms. The use of additional subject specific examples (eg pedigree disputes, disease resistant organisms, tracing feedstuffs)

4 **Understand the potential impacts of biotechnology**

Impacts: positive and negative impacts eg health, welfare, diversity, environmental, economic, social; public opinion including the influence of a range of organisations eg academia, industry, government agencies, NGOs, charities and consumer groups

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the structure of genetic material and the cellular mechanism of heredity	1.1 examine the structure of genetic material 1.2 explain the mechanism of replication and protein synthesis 1.3 explain the main stages of meiosis and mitosis
LO2 Understand the mechanism of heredity at the organism, population and species level	2.1 analyse the results of monohybrid and dihybrid crosses including gene linkage 2.2 analyse the results of crosses involving sex linkage 2.3 analyse the effects of family pedigrees on inheritance 2.4 discuss the factors affecting gene frequency
LO3 Understand a variety of genetic manipulation techniques and their application to industry	3.1 explain the use of molecular biology techniques for important DNA manipulations 3.2 review the uses of gene cloning in industry and land based industries
LO4 Understand the potential impacts of biotechnology	4.1 compare the positive aspects of new genetic technologies 4.2 assess the potentially harmful aspects of new genetic technologies 4.3 evaluate public opinion, nationally and internationally to new genetic technologies

Guidance

Links

This unit links with other units in this specification:

Unit 15: Develop and Implement an Equine Breeding Policy

Unit 16: Manage the Breeding of Horses.

Essential requirements

Learners will need access to a range of media to enable them to review and research the application of genetic manipulation techniques, including textbooks, newspapers, websites and scientific journals.

Employer engagement and vocational contexts

Centres would benefit from links with organisations which research, evaluate and/or use genetic technologies. These may include universities, research institutes, pharmaceutical companies and/or biotechnology companies.

Commercial animal or plant breeders would be useful contacts as would producers and organisations using genetic techniques to support conservation or environmental monitoring programmes.

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Unit 27: Event Management for Land-based Industries

Unit code: R/503/1093

Level: 4

Credit value: 15

Aim

This unit focuses on effective and efficient event management. Learners will develop the ability to analyse the potential of existing facilities and plan a suitable event for the location. They will be involved in all stages of event organisation, from the initial planning to the final review.

Unit abstract

This unit considers the management, promotion and marketing of events. It also investigates legislation applying to the organisation of events. Learners are required to plan each stage of an event. This includes evaluating the suitability of a specific facility to hold an event, identifying the type of event appropriate for the facility and considering technical, resource and staff requirements. Through the practical application of underpinning knowledge, this unit will develop learner's team-building skills and leadership qualities.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to analyse the potential of facilities

2 Be able to plan and manage an event

3 Be able to prepare marketing for an event

4 Be able to comply with relevant legislation and best practice for event organisation.

Unit content

1 **Be able to analyse the potential of facilities**

Strengths, weaknesses, opportunities and threats (SWOT analysis): location; range; standard of facilities; suitability for different events and/or competitions; reputation; capacity; demand for local, regional, national events in various disciplines/classes; affiliated and unaffiliated events and organisations

Availability: under utilisation and untapped potential; need for market research

Staff requirements: skills profile of available individuals; need for specialists and/or officials; constraints eg planning restrictions, local competition

2 **Be able to plan and manage an event**

Requirements for chosen event: facilities; labour; resources and equipment; technical planning and organisation; construction and distribution of schedules in context of chosen event; organising teams for selected tasks; setting and meeting objectives; timescales; work distribution

Preparation of facilities: efficiency and safety; manning the event on the day; technical aspects; supporting activities; financial aspects; post event review and evaluation including assessment of own and group's performance

3 **Be able to prepare marketing for an event**

Marketing strategy: production of a promotional plan in context of the event objectives; target audience; budget allocation

Advertising: definition; purpose; objectives; different techniques eg press, radio, television, posters, word of mouth; analysis of success; customer response; loyalty cost effectiveness

Sponsorship: advantages and disadvantages; involvement of sponsors in event eg schedules, rosettes, prizes, trade stands

4 **Be able to comply with relevant legislation and best practice for 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 eg first aid, paramedics, doctors

Legal: current relevant domestic and European legislation eg Health and Safety at Work Act 1974; accident report forms; RIDDOR; rules on protective equipment; appointment of health and safety officer; hazard analysis; risk minimisation

Evaluation: factors contributing to success

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to analyse the potential of event facilities	1.1 perform a SWOT analysis for a particular facility 1.2 identify an appropriate event to be organised at a particular facility 1.3 evaluate technical, resource and staff requirements for the event 1.4 estimate the commercial return to be achieved from the event
LO2 Be able to plan and manage an event	2.1 plan an event to meet prescribed objectives 2.2 prioritise work and allocate workloads within a set timescale effectively 2.3 work as a member of a team managing the event 2.4 evaluate the success of the event in the context of stated objectives
LO3 Be able to prepare marketing for an event	3.1 develop a marketing strategy for a specific event 3.2 produce a promotional plan in the context of event objectives and budget allocation 3.3 select appropriate advertising techniques 3.4 analyse the success of advertising techniques 3.5 research sponsorship opportunities available to the organisers of an event
LO4 Be able to comply with relevant legislation and best practice for event organisation	4.1 comply with the technical regulations and expected standards for an equine event 4.2 provide appropriate standards of customer care at an event 4.3 recognise requirements of health and safety legislation in the context of event organisation 4.4 undertake the necessary actions to comply with legislative requirements

Guidance

Links

This unit links with:

Unit 36: Small Business Enterprise

Unit 38: Project Management for Land-based Industries.

Essential requirements

Learners must be involved in the complete organisation of at least one event, including all aspects of pre- and post-event administration. This includes the evaluation of a particular facility for an event, access to financial records and the event budget, participation in all aspects of marketing and meeting any legislative or technical requirements. Access to equipment necessary to host the event, including facilities and technical equipment where appropriate, is also required.

Employer engagement and vocational contexts

The delivery of this unit would be enhanced through engagement with event professionals. The organisers of different types of equine events could give guest lectures or host visits to their own events. This would provide learners with a frame of reference and enhance their learning experience.

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Unit 28: Riding Horses on the Flat

Unit code: A/601/0359

Level: 3

Credit value: 10

Please note this Level 3 practical unit is part of Edexcel's Level 3 BTECs in Horse Management and is available to download from
http://www.edexcel.com/quals/nationals10/horse/Pages/default.aspx

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Unit 29: Riding Horses over Fences

Unit code: T/601/0361

Level: 3

Credit value: 10

Please note this Level 3 practical unit is part of Edexcel's Level 3 BTECs in Horse Management and is available to download from
http://www.edexcel.com/quals/nationals10/horse/Pages/default.aspx

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Unit 30: Teaching a Specialist Subject

Unit code: K/500/9925

Level: 4

Credit value: 15

Aim

This unit enables learners to develop the knowledge and understanding required when teaching a specialist subject.

Unit abstract

This unit gives learners the opportunity to identify the techniques and approaches to teaching and learning that are particularly relevant to a specialist area. Exploring the range of philosophical approaches to teaching and learning will demonstrate the importance of adapting approaches when planning, in order to achieve specific learning objectives required for a specialist area.

Learners will have an opportunity to explore the specific range of delivery techniques and resources suited to a particular specialist area, identifying good practice and using this in the design and planning of learning objectives. The unit also highlights the importance of adopting an inclusive approach through selecting methods that meet learners' needs in order to engage them in the learning activities with the use of appropriate specialist resources.

The unit focuses on the current curriculum requirements and the need for updating in the specialist subject area, including opportunities to incorporate new and emerging technologies and review their importance in relation to meeting individual and subject needs.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the aims and philosophy of education and training in own specialist area

2 Understand the aims and structure of a range of courses and qualifications available to learners in own specialist area

3 Understand principles of inclusive learning and teaching and key curriculum issues in own specialist area

4 Understand how to use a range of specialist resources for inclusive learning and teaching

5 Understand and demonstrate how to work with other teachers and trainers within own specialist area

6 Understand how to evaluate, improve and update own specialist knowledge and skills.

Unit content

1 **Understand the aims and philosophy of education and training in own specialist area**

Specialist area aims: accessing subject specific, up-to-date information from appropriate professional and vocational bodies; recognising the needs of current professional and/or vocational standards; current local/national legislation issues; major changes in standards relating to specialist subject or area; rights and responsibilities of specialist area; policies and procedures such as awarding body; issues associated with specific learner requirements

Philosophical issues: researching background of specialist area to establish underlying philosophical principles and how these inform professional standards and practice associated with subject specialism; professional values and visions and how these inform teaching and learning in the specialist area; approaches to teaching specialist knowledge to suit content, eg encouraging independent research, didactic or pedagogic approaches for delivery; approaches to encourage learner practice of skills eg experiential, kinaesthetic principles, practice; opportunities to engage learners in developing reasoning eg debate, discussion

2 **Understand the aims and structure of a range of courses and qualifications available to learners in own specialist area**

Structure of specialist area: explore organisational policies and provision, eg equal opportunity and access to courses, association with vocational and awarding bodies; organisational provision and marketing of courses in specialist area, eg prospectus and course handbooks; awarding body regulations and specifications/standards, eg National Occupational Standards, National Vocational Qualifications, unit assessment, curriculum requirements; scheme of work, syllabus, linking to assessment strategy and content requirements; learning outcomes and assessment criteria requirements; unitary, modular or holistic approach

Planning and preparation in specialist area: programme planning; team working; establishing learners' needs in terms of specific achievement goals; planning varied approaches to engage learners in achieving specialist goals, eg teacher centred and learner-centred teaching and learning, blended learning, bite-size chunks; clear and appropriate subject/specialist specific aims and objectives, suitable range of approaches and activities to ensure variety of approaches to the specialist area and engagement of learners, use of specialist resources and assessment activities to suit both the subject specialism and the needs of learners

3 **Understand principles of inclusive learning and teaching and key curriculum issues in own specialist area**

Inclusive approach in specialist area: design programme to ensure equality of opportunity in specialist area, eg all learners can access learning at appropriate level; specialist language accessible to learners; group and individual specialist activities to engage all learners, eg subject/area specialism reflected through collaborative working and/or team teaching, demonstration, role play, games, discussion, visits, distance learning, online learning,

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research, experimentation, work-based and workshop-based learning where appropriate to specialist teaching, supported or independent study, appropriate level of challenge

Approaches in specialist area to include key curriculum: awareness of new approaches to teaching and learning; incorporating different learners' needs and styles; variety of specialist methods to engage and motivate learners – addressing their needs; incorporating specialist learning activities; use of subject specialists for specific delivery and opportunities to incorporate a realistic, specialist learning environment, eg visits, simulations; preparing for employment through incorporating the relevance of the specialist area and teaching; appropriate use of new specialist technologies, eg materials developed for interactive white boards, PowerPoint, internet/intranet, VLE (virtual learning environment, eg Moodle); flexible/blended learning approaches to encourage learner responsibility and interest

4 **Understand how to use a range of specialist resources for inclusive learning and teaching**

Range of resources in specialist area: range of appropriate specialist resources, eg handouts design, format to meet the needs of a wide range of learners, case studies, notes, summaries, specialist materials – videos, textbooks, artefacts, models, exemplar materials, adaptation of existing and commercial packages to match specialism to learners' needs, specialist new and emerging technologies – audio and visual aids, personal computers and range of software packages, CD ROM, specialist internet/intranet, adapting and developing specialist areas of virtual learning environment (VLE), specialist materials developed for activeboard/ interactive board; encouraging development of subject specific areas in learning centres

Inclusiveness in resource design in specialist area: adopting a range of specialist teaching and learning resources; awareness of group and individual needs; emphasis on the use of resources so that learners can be actively involved – encouraging interaction, eg through simulation; avoidance of over-use of technology to avoid learners tuning out and becoming bored; variation of use of resources, handouts, 'the Real Thing', using the internet and intranet for learner and teacher research for subject/specialist area updating to increase flexibility of approach, access to teacher-devised specialist learning packages to engage variety of learners' needs, subject/specialist learning networks

5 **Understand and demonstrate how to work with other teachers and trainers within own specialist area**

Opportunities for liaison in specialist area: core team meetings; individual researching and sharing experiences and good practice; team building; cross curriculum teams for sharing wider skills and experiences; use of staff development and in service training (INSET); incorporation of opportunities for engagement with external agencies – vocational and professional specialists, awarding body subject specialist meetings/networking and updating/specialist training; work shadowing/placement; emailing and online for sharing of experience, mail shots, awarding body online updating, maintaining networking contacts; establishing and maintaining good relations with external verifier/examiner as way of keeping up with changes in specialist area/awarding body standards

Impact of liaison in specialist area: sharing good practice, eg team meetings for the purpose of cascading/dissemination of information reflecting subject/area updating, develop alternative strategies for teaching and learning appropriate to the specialist area and learners' needs, collaboration in design of programme incorporating different skills and experiences, sharing practice in design and evaluation of resources, value and respect for

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experienced team members, incorporation of skills, knowledge and experiences from workplace/industry, linking community needs to specialist area

6 **Understand how to evaluate, improve and update own specialist knowledge and skills**

Strengths and development needs: evaluation of specialist personal skills required for teaching and learning in specific programme/syllabus or curriculum area, formal and informal processes for personal evaluation of subject/area specific curriculum to meets learners' needs for inclusion; using reflective practice in evaluating own approaches to teaching knowledge, skills and understanding; using feedback from others in evaluating personal skills and attributes in planning specific subject/area teaching and learning programme, eg learners, peers, line manager, team, observations; recording of positives and negatives of own practice in specialist area for actioning; responsiveness to learners and colleagues in specialist area

Developing and updating specialist knowledge/skills: plan/take up opportunities to improve own specialist practice, eg employ Personal Development Journal/Reflective Journal to plan for own learning opportunities; individual research into current specialist curriculum developments and updating current developments in own specialist knowledge, skills and understanding; specialist staff development opportunities; identifying opportunities for INSET provision with appropriate bodies; specialist higher level qualification opportunities, eg higher degrees/Masters/PhD; professional – specific academic or professional practice; specialist vocational updating; secondment, work shadowing or work placement

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the aims and philosophy of education and training in own specialist area	1.1 review key aims of education and training in own specialist area 1.2 discuss key philosophical issues relating to education and training in own specialist area
LO2 Understand the aims and structure of a range of courses and qualifications available to learners in own specialist area	2.1 summarise the aims and structure of a range of key courses and qualifications in own specialist area 2.2 justify how own approach to the planning and preparation of a particular course or qualification in own specialist area enables the identified aims to be met
LO3 Understand principles of inclusive learning and teaching and key curriculum issues in own specialist area	3.1 discuss the inclusiveness of own approach to the planning and preparation of a particular course or qualification in own specialist area 3.2 justify how own approach to the planning and preparation of a particular course or qualification in own specialist area takes account of key curriculum issues, including the role of new and emerging technologies
LO4 Understand how to use a range of specialist resources for inclusive learning and teaching	4.1 review a range of learning and teaching resources, including new and emerging technologies, discussing their effectiveness in meeting individual learning needs 4.2 explain and justify the inclusiveness of own use of a range of resources
LO5 Understand and demonstrate how to work with other teachers and trainers within own specialist area	5.1 review a range of opportunities for liaison with other teachers and trainers within own specialist area 5.2 review the impact of liaison with other teachers and trainers within own specialist area on own practice
LO6 Understand how to evaluate, improve and update own specialist knowledge and skills	6.1 review own approaches, strengths and development needs in relation to own specialist knowledge and skills 6.2 discuss ways to develop and update own specialist knowledge and skills

Guidance

Essential requirements

Access to specialist tutors who understand the techniques and resources best suited to the specialist delivery which in this case is likely to be riding and/or stable management instruction. Opportunities for discussion with more experienced colleagues, and access to specialist tutors, will provide an essential source of support and guidance. It is important that among the teaching practice observations a number are conducted by a subject specialist, aware of the specific skills, knowledge and understanding appropriate to the specialism.

Access to up-to-date specialist background knowledge and information is essential in order to support the planning and development of specialist teaching techniques and advanced learning activities that are appropriate to the specific learning outcomes and different learners' needs. It is also essential for learners to have access to background reading to cover the philosophical principles and models that can be related to the specialist area.

Access to multimedia computers, specialist software packages, normal photocopying facilities and other reprographic arrangements need to be available together with ICT access and presentational equipment (preferably including video and PowerPoint).

Employer engagement and vocational contexts

Developing relationships with employers through work related experience will allow learners access to opportunities to undertake teaching practice for example in riding schools and training centres. It would also be beneficial to develop links with relevant awarding bodies for example the British Horse Society to ensure up to date information is available on the range of qualifications available in the specialist areas.

It would be valuable for learners to observe teaching and coaching sessions delivered by qualified teachers/instructors in a range of different settings.

Guest speakers with expertise in using specialist resources such as a VLE would enhance delivery.

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Unit 31: Visitor Attraction Management

Unit code: R/601/1758

Level: 4

Credit value: 15

Aim

This unit aims to give learners an understanding of the range and importance of visitor attractions in the land-based sector, factors affecting their successful establishment and development, and the impact of management techniques on their sustainability.

Unit abstract

Visitor attractions are an increasingly significant feature within the land-based sector, especially as public interest in the environment, conservation and sustainability continues to develop.

This unit gives learners a broad understanding of the nature, development and management of visitor attractions within the sector. The unit highlights the range of visitor attractions within the land-based sector, their importance at a local, regional, national and sometimes international level, and the potential conflicts between the different reasons underpinning their existence.

Learners will investigate the different types of visitor, their needs and motivations, and the impacts of visitors on different types of attraction, as well as gaining an understanding of the relevant tourism theories. The unit also enables learners to explore the development process for establishing a new visitor attraction.

Learners will review the techniques available to managers of visitor attractions and the impact of these techniques on the sustainability of the attraction.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the scope and importance of visitor attractions

2 Understand visitor types, impacts and tourist motivation theories

3 Understand issues affecting the development process in visitor attraction management

4 Understand the application of management techniques and their impact on sustainability.

Unit content

1 **Understand the scope and importance of visitor attractions**

Scope: purpose built attractions, eg zoo, botanical gardens, farm park, countryside centre; built or established with another primary purpose that have become visitor attractions, eg historic estates and gardens, forests and woodland; natural attractions, eg coastal areas, National Parks, lakes and rivers; purpose of attraction eg educational, entertainment, recreational, conservation, species protection, cultural development, for health and wellbeing, community engagement; overlaps of scope and/or purpose, eg a natural attraction that includes a purpose built feature, attractions which have multiple purposes; tensions between purposes, eg conservation and recreation

Importance: for conservation purposes (locally, regionally, nationally, internationally); educational benefits; cultural and heritage; to the local, regional and national economy; to the local community, eg employment opportunities, changes to transport routes, business opportunities, attracting tourism

2 **Understand visitor types, impacts and tourist motivation theories**

Visitor types: market segmentation, eg demographic, geographic, socio economic; special interests, characteristics and profile; individuals and groups (organised, eg clubs, societies, schools, interest groups; ad hoc eg family, friends)

Visitor needs and motivations: facilities required, eg access, transport and parking, hospitality, signage and interpretation; reasons for visiting, eg entertainment, recreation, education, special interest; motivation theories eg 'responsible tourism' (Goodwin, 1998), the 'smart consumer' (Voase, 2002)

Impact of tourism: negative impacts, eg congestion, pollution, increased risk of accidents, damage or disturbance to flora and fauna, overcrowding, erosion, increased demand for facilities, requirement for maintenance, effects of visitors on captive animals, birds or aquatic species; positive impacts eg income, increased public awareness, opportunities for support, source of potential volunteers

3 **Understand issues affecting the development process in visitor attraction management**

Issues: location eg natural, aesthetics, existing amenities; opportunities; incentives, transport routes, access, catchment areas, restrictions on land use; land and reclamation; technology; legislation; pollution eg air, water, land, visual, noise; health and safety implications; funding eg private sector, public sector (local, regional, UK, EU), grants, loans, membership schemes; stakeholders; attraction management; tourism consultants; local authorities; local communities; tourist boards; private enterprise; public sector; pressure groups; organisations eg National Trust, English Heritage, Natural England, The Forestry Commission, Environment Agency, Department for Environment, Food and Rural Affairs (Defra), British Waterways, Sport England

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Development Process: processes eg project management, feasibility study, market research, design, local community involvement, planning applications, construction period, landscaping, establishment of plants and animals, planning visitor routes and walkways, access and signposting, information and educational facilities, facilities and amenities, recruitment, training, marketing, opening event, customer care, crowd management, reservations and ticketing, internal and external communication

4 **Understand the application of management techniques and their impact on sustainability**

Supply: services eg visitor flows, flexible capacity (extended opening hours, peak strategies – specific time slots, differentiated pricing, increased staff levels, additional tills/eating area, identified routes within attraction, use of zoning, multi-skilling of staff); increasing capacity (additional buildings/attractions/facilities); security, health and safety

Demand: influence the number, characteristics or behaviour of visitors including price incentives, loyalty discounts/season tickets, payment structure (eg all inclusive ticket, payment for different parts of the attraction, payment according to time required), marketing, interpretation, education

Renewal: product life cycle, visitor expectations, passive and active modes of delivery; innovation eg new adventure, new theme, new area; addition of extra facilities and services, eg concerts and plays in historical gardens, 'behind the scenes ' experiences in zoos and animal parks

Sustainability: economic (international, national, regional, local); visitor expectations (negative impacts result in lack of repeat business); social eg heritage, culture, lifestyle; environmental eg conflict between conservation and recreation, conflict between visitor numbers/access and preservation of natural attraction; visitor education to promote sustainability within the attraction eg use of recycling, avoiding flash photography, use of public transport, use of recognised walkways, involvement in maintenance of the attraction through volunteer work

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the scope and importance of visitor attractions	1.1 discuss the overlap of visitor attractions to particular types of attraction 1.2 analyse the importance of different visitor attractions
LO2 Understand visitor types, impacts and tourist motivation theories	2.1 evaluate the needs and motivations of different visitor types 2.2 evaluate impacts of tourism on visitor attractions 2.3 analyse the effect of different theories of tourist motivation on the management of visitor attractions
LO3 Understand issues affecting the development process in visitor attraction management	3.1 discuss processes and potential issues involved in the development of visitor attractions
LO4 Understand the application of management techniques and their impact on sustainability	4.1 analyse different visitor management strategies 4.2 evaluate management techniques in relation to sustainability

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Guidance

Links

This unit links with:

Unit 4: Work-based Experience

Unit 27: Event Management for Land-based Industries.

Essential requirements

Visits to a variety of attractions within the land-based sector are essential.

To ensure learners have the opportunity to visit a range of visitor attractions, costs must be identified in advance and learners made aware of them. Where possible, learners should visit at least one purpose-built attraction, one non-purpose-built, a natural attraction and an event. This will show learners the range of attractions, similarities and differences, and also, of particular importance, issues in relation to management of attractions.

Employer engagement and vocational contexts

Tutors could establish links with nearby visitor attractions as appropriate to the sector. It would be particularly useful to establish links with a relatively new or developing attraction if possible, to enable learners to appreciate the range of considerations in establishing, developing and managing an attraction. It would also be of benefit to establish a link with a nationally important attraction, such as the Eden Project, Kew Gardens or Longleat Safari Park as well as attractions run on a much smaller scale such as a local farm park, countryside centre or historical gardens.

The unit is especially appropriate for fieldwork-based investigation and a portfolio of research could form part of the assessment. Learners should be given the opportunity to meet managers/employees of visitor attractions. Such contacts could be useful data resources for learner research. Case study materials on visitor attractions in the UK and worldwide are recommended. National Parks authorities, English Heritage and National Trust are good sources of research materials.

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Unit 32: Business Environment

Unit code: Y/601/0546

Level: 4

Credit value: 15

Aim

The aim of this unit is to provide learners with an understanding of different organisations, the influence of stakeholders and the relationship between businesses and the local, national and global environments.

Unit abstract

This unit allows learners to research the purpose and nature of business organisations and how these operate in ways that allow business objectives to be met. They will investigate the links with business stakeholders.

Businesses operate in an environment shaped by the government, competitors, consumers, suppliers and international factors. Learners will develop their understanding of direct influences on businesses in this environment, for example taxation policies on corporate activities. They will also consider other influences are less clear, such as those from the international arena and those with only an oblique impact on the national business environment.

Learners will explore business markets and how the form and structure of a market influences how organisations behave. Learners will consider how different market structures may shape the pricing and output decisions of businesses, as well as other aspects of their behaviour.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the organisational purposes of businesses

2 Understand the nature of the national environment in which businesses operate

3 Understand the behaviour of organisations in their market environment

4 Be able to assess the significance of global factors that shape national business activities.

Unit content

1 **Understand the organisational purposes of businesses**

Categories of organisation: type eg private company, public company, Government, voluntary organisation, co-operative, charitable; sector (primary, secondary, tertiary)

Purposes: mission; vision; aims; objectives; goals; values; profits; market share; growth; return on capital employed (ROCE); sales; service level; customer satisfaction; corporate responsibility; ethical issues

Stakeholder expectations: owners; customers; suppliers; employees; debtors; creditors; financial institutions (banks, mortgage lenders, credit factors); environmental groups; government agencies (central government, local authorities); trade unions

Responsibilities of organisations: stakeholder interests; conflict of expectations; power, influence matrix; satisfying stakeholder objectives; legal responsibilities eg consumer legislation, employee legislation, equal opportunities and anti-discriminatory legislation, environmental legislation, health and safety legislation; ethical issues eg environment, fair trade, global warming, charter compliance eg Banking Code

2 **Understand the nature of the national environment in which businesses operate**

Economic systems: the allocation of scarce resources; effective use of resources; type of economic system eg command, free enterprise, mixed, transitional

The UK economy: size (gross domestic product, gross national product); structure; population; labour force; growth; inflation; balance of payments; balance of trade; exchange rates; trading partners; public finances (revenues, expenditure); taxation; government borrowing; business behaviour eg investment, objectives, risk awareness; cost of capital; consumer behaviour; propensity to save; propensity to spend; tastes and preferences

Government policy: economic goals; fiscal policy: control of aggregate demand; central and local government spending; Public Sector Net Borrowing (PSNB) and Public Sector Net Cash Requirement (PSNCR); euro convergence criteria, monetary policy; interest rates; quantitative easing; private finance initiative (PFI); competition policy (up-to-date legislation including Competition Act 1998, Enterprise Act 2002); Competition Commission, Office of Fair Trading; Directorate General for Competition); European Commission); sector regulators eg Ofgem, Ofwat, Civil Aviation Authority; Companies Acts; regional policy; industrial policy; enterprise strategy; training and skills policy

3 **Understand the behaviour of organisations in their market environment**

Market types: perfect competition, monopoly, monopolistic competition, oligopoly, duopoly; competitive advantage, strategies adopted by firms; regulation of competition

Market forces and organisational responses: supply and demand, elasticity of demand; elasticity of supply; customer perceptions and actions, pricing decisions; cost and output decisions; economies of scale, the short run; the long run, multi-national an transnational corporations; joint ventures, outsourcing; core markets; labour market trends; employee skills, technology; innovation; research and development; core competencies;

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Business and cultural environments: business environment evaluation (political, economic, social, technical, legal, environmental); cultural environment, cultural web; wider issues relevant to organisations eg biodiversity, health and social inclusion, ethical considerations, sustainability, social equality and diversity

4 **Be able to assess the significance of global factors that shape national business activities**

Global factors: international trade and the UK economy; market opportunities; global growth; protectionism; World Trade Organisation (WTO); emerging markets (BRIC economies – Brazil, Russia, India, China)

Impact on UK Organisations: business, competition, growth, employment, education, economics and finance, employment, environment, science and technology, regional; labour movement; workforce skills; exchange rates; trading blocs eg monetary unions, common markets; customs unions, free trade areas; labour costs; trade duties; levies; tariffs; customs dues; taxation regimes; international competitiveness; international business environment (political, economic, social, technical, legal, environmental); investment incentives; cost of capital; commodity prices; intellectual property; climate change eg Kyoto Protocol, Rio Earth Summit; third world poverty; the group of 20 (G-20); global financial stability

EU policies: EU membership; EU business regulations and their incorporation in to UK law; EU policies eg agriculture

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the organisational purposes of businesses	1.1 identify the purposes of different types of organisation 1.2 describe the extent to which an organisation meets the objectives of different stakeholders 1.3 explain the responsibilities of an organisation and strategies employed to meet them
LO2 Understand the nature of the national environment in which businesses operate	2.1 explain how economic systems attempt to allocate resources effectively 2.2 assess the impact of fiscal and monetary policy on business organisations and their activities 2.3 evaluate the impact of competition policy and other regulatory mechanisms on the activities of a selected organisation
LO3 Understand the behaviour of organisations in their market environment	3.1 explain how market structures determine the pricing and output decisions of businesses 3.2 illustrate the way in which market forces shape organisational responses using a range of examples 3.3 judge how the business and cultural environments shape the behaviour of a selected organisation
LO4 Be able to assess the significance of global factors that shape national business activities	4.1 discuss the significance of international trade to UK business organisations 4.2 analyse the impact of global factors on UK business organisations 4.3 evaluate the impact of policies of the European Union on UK business organisations

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Guidance

Links

This unit provides an opportunity for learners to explore the business environment within the UK and understand International factors influencing organisations.

Essential requirements

Learners must keep up to date with current issues that may influence business behaviour within the Land-based sector. They must be encouraged to engage in regular research through a variety of sources eg reading quality newspapers and trade journals, watching news and current affairs programmes on the television. Attention should be paid to international trade and global factors that have an impact on UK businesses.

Sufficient time must be built into the teaching schedule to allow learners to undertake research into current issues.

Employer engagement and vocational contexts

Centres can develop links with local employers. Many businesses look to employ learners when they finish their programmes of study and may provide information about the business environment which they operate in. They will have a view about the impact of the governmental and EU factors that shape how they behave. Guest speakers can offer an insight into such factors.

Many learners are, or have been, employed and will be able to draw on their experience of employment. They will have had experience of the nature of the business environment and the ways in which organisations respond to and determine future responsive strategies.

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Unit 33: Employability Skills

Unit code: A/601/0992

Level: 5

Credit value: 15

Aim

The unit aims to develop the skills and understanding relevant to learners preparing to enter the work place.

Unit abstract

Learners at all levels of education and experience require honed employability skills as a prerequisite to entering the job market. This unit gives learners an opportunity to assess and develop understanding of their own responsibilities and performance in, or when entering, the workplace.

It considers the skills required for general employment, such as interpersonal and transferable skills, and the dynamics of working with others in teams or groups including leadership and communication skills.

It also deals with the everyday working requirement of problem solving which includes the identification or specification of the 'problem', strategies for its solution. Learners will be able to explore what motivates people at work and how this can improve the quality of their performance.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to determine own responsibilities and performance

2 Be able to develop interpersonal and transferable skills

3 Understand the dynamics of working with others

4 Be able to develop strategies for problem solving.

Unit content

1 **Be able to determine own responsibilities and performance**

Own responsibilities: personal responsibility; direct and indirect relationships and adaptability; decision-making processes and skills; ability to learn and develop within the work role; employment legislation, ethics, employment rights and responsibilities

Performance objectives: setting and monitoring performance objectives, SMART targets for own effectiveness against set objectives

Improvement: Review own performance against set objectives, action plan areas to be developed, recommendations for improvement of own performance

Motivation and performance: application and appraisal of motivational theories and Techniques eg Maslow, Hertzberg; rewards and incentives; manager's role and leadership style; self-motivational factors; performance feedback, positive praise, meeting of targets

2 **Be able to develop interpersonal and transferable skills**

Problem solving: problem analysis; researching changes in the workplace; generating solutions; choosing a solution

Effective communication: verbal and non-verbal – awareness and use of body language, openness and responsiveness, formal and informal feedback to and from colleagues; ICT as an effective communication medium; team meetings; appropriate communication for various levels

Time management: prioritising workload; setting work objectives; making and keeping appointments; time for learning; reliable estimate of task time; strategies eg Gantt chart, action planning, involvement of others – their availability

3 **Understand the dynamics of working with others**

Working with others: roles of individuals within a team; nature and dynamics of team and group work; informal and formal settings, purpose of teams and groups eg long-term corporate objectives/strategy; problem solving and short-term development projects; flexibility/adaptability; team player; shared goals

Team dynamics: Analysis model eg Tuckman, Belbin, Adair; core competencies of team, individual skills and strengths used for maximum benefit of team, leadership styles; identification of team/work group roles; stages in team development eg team building, identity, loyalty, commitment to shared beliefs

Task and team goals: selecting team members eg specialist roles, skill and style/approach mixes; action planning; monitoring and feedback; effective leadership skills, eg, setting direction, setting standards, motivating, innovative, responsive, effective, communicator, reliability, consistency; focus on efficiency to achieve team goals

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4 **Be able to develop strategies for problem solving**

Tools and methods: problem-solving methods and tools eg brainstorming, performance evaluation, 5 whys, cost benefit analysis, force field analysis, route cause analysis; identification of multiple solutions, selecting best possible solution, justify why alternative solutions are not selected

Strategy formation: identification and definition of the problem; analysis and clarification eg scope, size, impact of problem; factors for strategy development eg timescale, resources, finances, roles and responsibilities, barriers, aims and objectives; develop appropriate strategy

Impact of implementation: impacts positive and negative, efficiency, cost effectiveness, performance measures eg customer satisfaction, employee motivation; competitiveness; quality assessments; evaluation of the resolution of the problem, emergent problems, measuring and monitoring of solution against objectives and desired outcomes; sustainability

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to determine own responsibilities and performance	1.1 develop a set of own responsibilities and performance objectives 1.2 evaluate own effectiveness against defined objectives 1.3 make recommendations for improvement 1.4 review how motivational techniques can be used to improve quality of performance
LO2 Be able to develop interpersonal and transferable skills	2.1 develop solutions to work based problems 2.2 communicate in a variety of styles and appropriate manner at various levels 2.3 identify effective time management strategies
LO3 Understand the dynamics of working with others	3.1 explain the roles people play in a team and how they can work together to achieve shared goals 3.2 analyse team dynamics 3.3 suggest alternative ways to complete tasks and achieve team goals
LO4 Be able to develop strategies for problem solving	4.1 evaluate tools and methods for developing solutions to problems 4.2 develop an appropriate strategy for resolving a particular problem 4.3 evaluate the potential impact on the business of implementing the strategy

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Guidance

Links

This unit links with the *Unit 1: Research Project* and *Unit 4: Work-Based Experience*.

Essential requirements

Access to a range of work-related exemplars (for example development systems, team health checks, job descriptions, action plans, communication strategies) will be required when delivering this unit. Case studies based on relevant sectors, workshops, career talks or work based mentors will also be useful in the teaching and learning aspect of the unit.

Learners must generate assessment evidence through a range of possible activities such as individual work placements, project management, research reports, development of case studies, working with others (for example employee-supervisor roles, teamwork, group work) and everyday communication within the workplace.

Employer engagement and vocational contexts

Due to the nature of the unit employer engagement should be actively encouraged within the delivery of the content. Where possible, learners should be able to contextualise their learning within a realistic work environment. Projects or problem solving activities could be undertaken within local businesses with support of employers. Clear outcomes should be discussed and agreed with learners developing an understanding of problems within a business and potential barriers to overcome when finding a possible solution.

Guest speakers could be scheduled into delivery to enhance the vocational context. Case studies could be substituted for real life work problems that learners are asked to investigate solutions for. With employer involvement various assessment criteria could be covered in a real business situation, this needs to be negotiated by tutor.

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Unit 34: Environmental Management

Unit code: F/503/1056

Level: 5

Credit value: 15

Aim

This unit aims to provide an understanding of how an organisation's commercial activities will impact on the environment, how these activities might be altered in order to minimise their impact on the environment and how this can be done in a manner that ensures the continued profitability of the organisation.

Unit abstract

Our natural environments face threats from both an increased demand for its resources from a growing human population and from the impact of the waste generated to meet these requirements. By undertaking this unit, the learner will gain an increased understanding of several of the key aspects relating to recognising, and dealing with, these threats.

The necessity of developing sustainable methods for meeting our needs is a key concept in this unit. Learners will also gain an understanding of how our activities impact upon the natural environment and how this can be monitored and reduced. Environmental management policies, legislation and techniques are considered alongside the roles of organisations involved in this area. The learner will also understand the need for effective waste management and reduction and the various approaches used to achieve these outcomes.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the concept of sustainability in a land-based sector

2 Understand the impact of land-based activities on the environment

3 Understand the need for environmental management

4 Understand the need for waste management in a land-based sector

5 Be able to devise environmental policy in a land-based sector.

Unit content

1 **Understand the concept of sustainability in a land-based sector**

Sustainability: conservation of the natural environment; renewable and non-renewable resources; biodiversity; the Earth's life support systems and processes; the depletion of finite resources; the Earth's carrying capacity; duty of care; the quality of human life

Factors: commercial decision-making; economic; socio-political; legal; codes of practice; ecological; scientific and technological information

Sustainable practice: changes to existing practice; use of alternative technology and resources; legislation and regulation; commitment; corporate policy

2 **Understand the impact of land-based activities on the environment**

Direct: pollution (atmosphere, water and soil); acid deposition; food contamination; soil exhaustion; waste; loss of visual amenity; animal and human health disorders; transport; increased population; global warming; ozone layer depletion; depletion of natural resources; loss of biodiversity and habitats

Indirect: customer pressure; social change and environmental awareness; insurance industry and lenders changing policies of property and land ownership issues; employees' raised awareness and concerns about health; EU and UK legislation; markets; prices

Monitoring and assessment: self-regulation; non-government organisations (NGO's); independent environmental consultants; legislation; field surveys; literature reviews; collection; storage; analysis and presentation of information; local information sources

Environmental performance: Environmental Impact Assessment (EIA); management systems; organisational design and decision-making cultures; monitoring change; reaching environmental targets; required investment; savings to organisations and the environment; quality systems

3 **Understand the need for environmental management**

Approaches: objectives; policies; strategies; operational; legal requirements; organisational commitment

Organisational culture: corporate responsibility/values; environmental values and attitudes; education and training for staff; contribution of the individual; community at large; public information

Environmental policy: allocation of responsibility; record keeping; targets; waste minimisation and recycling; energy use and conservation; reduction in costs; environmental sensitivity; environmental audits; health and safety legislation; technological efficiency; public information

Legislation: self-regulation; UK legislation and EU directives; enforcement agencies eg DEFRA, Environment Agency; pressure groups eg Greenpeace, Friends of the Earth

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4 **Understand the need for waste management in a land-based sector**

Factors: training; implementation; monitoring use of energy and waste; purchase of specific equipment and plant; cost benefits to the organisation

Benefits of waste reduction: conservation of energy; use of by-products; on-selling of waste products; increased sales from greening of products/processes; cost reduction; increased market share; customer retention; increased loyalty and image

Methods of reduction: initial product design; natural methods versus chemical treatment; recyclable material; use of biodegradable materials; reparability versus replacement; benefits of design to meet legislation; 'technofix' solutions

5 **Be able to devise environmental policy in a land-based sector**

Factors: training; implementation; monitoring use of energy and waste; purchase of specific equipment and plant; cost benefits to the organisation

Methods of reduction: initial product design; natural methods versus chemical treatment; recyclable material; use of biodegradable materials; reparability versus replacement; benefits of design to meet legislation; 'technofix' solutions

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the concept of sustainability in a land-based sector	1.1 analyse factors that affect the sustainability of a land-based organisation/enterprise's activities 1.2 explain how a selected organisation/enterprise might improve sustainable practice on a local and national scale
LO2 Understand the impact of land-based activities on the environment	2.1 evaluate direct and indirect impacts of current environmental issues on industry, organisations and stakeholders 2.2 explain how environmental performance is monitored in a land-based organisation/enterprise 2.3 assess the environmental impacts of a selected land-based organisation/enterprise 2.4 explain how environmental performance can be improved in a land-based organisation/enterprise
LO3 Understand the need for environmental management	3.1 examine different approaches to environmental management within organisations in a relevant land-based sector 3.2 examine how organisations in a relevant land-based sector can be more environmentally aware 3.3 explain the impact of UK and EU environmental legislation with which organisations in a relevant land-based sector must comply
LO4 Understand the need for waste management in a land-based sector	4.1 examine different approaches to waste management in organisations in a relevant land-based sector 4.2 examine the different types of waste that are produced by organisations in a relevant land-based sector 4.3 justify ways in which land-based organisations in a relevant sector could reduce waste 4.4 evaluate the environmental and commercial benefits of reducing waste for a chosen land-based organisation
LO5 Be able to devise environmental policy in a land-based sector	5.1 devise appropriate environmental policy for a selected land-based organisation/enterprise 5.2 recommend suitable ways to reduce waste and recycle in a selected land-based organisation/enterprise

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Guidance

Links

This unit considers aspects of sustainability, the impact of human activities upon the environment and environmental and waste management. It therefore has links to several other units such as *Unit 2: Horse Husbandry; Unit 25: Grassland Management* and *Unit 15: Develop and Implement an Equine Breeding Policy*.

Essential requirements

A diverse library resource and access to the internet will increase opportunities for learner-centred research and numerous websites dealing with environmentalism and environmental management are freely available online. The use of audio-visual materials such as slides, documentaries and debates, etc would also further engage learners in the learning experience.

Employer engagement and vocational contexts

Learners would benefit from visits to organisations and businesses such as water treatment works, waste management sites, power stations and sources of renewable energy. Lectures from appropriate guest speakers would further enhance and contextualise their learning experience and introduce learners to a broader range of professionals and career opportunities available in this subject area. Relating the unit content to the work of organisations such as The Institute of Environmental Management and Assessment (IEMA), Natural England, The Scottish Environment Protection Agency (SEPA) and the Centre for Alternative Technology (CAT) will also strengthen the vocational context.

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Unit 35: Land Use Issues and Regulation

Unit code: D/503/1095

Level: 5

Credit value: 15

Aim

This unit aims to develop a coherent understanding of land management issues including the juxtaposition of competing land uses and the strengths and weaknesses of different land management approaches.

Unit abstract

This unit aims to develop learners knowledge and understanding of contemporary land use and land management. It focuses on the types and current systems of land use and how these are affected by a range of factors. Land use patterns, practices and problems are a key feature of understanding how land is managed. The learner will also develop an understanding of the need for land use regulation and how this is managed. The state role in managing land use will be evaluated, along with contemporary changes to the regulatory system. Why might these be happening? How much of our land use is dictated by state involvement? The concept of integrated land use will also be considered. Land use is closely tied in with sustainability – how do these tie together? Is the current system of land use sustainable and could changes be made to improve land use sustainability?

Learning outcomes

On successful completion of this unit a learner will:

1 Understand current land management

2 Understand the nature and extent of current land use regulation

3 Understand the success of contemporary adjustments to land use regulation

4 Understand sustainable land use management.

Unit content

1 **Understand current land management**

Land management types: exploitative, protective, productive

Land use patterns: factors affecting land use eg climate, topography, soils, population, infrastructure, historical/cultural

Land use practices and problems: factors affecting land use practices eg legislation, financial; problems eg pollution, waste, noise, conflicts with other land uses, effects on habitats/wildlife, effects on people

2 **Understand the nature and extent of current land use regulation**

Regulation: structure of system; bodies involved in regulation; need for regulation; types of regulation affecting land use eg planning laws and guidance, protective designations (National Park, SSSI, AONB etc)

State intervention: reasons for state intervention in land use; current policies regarding reduction or increase in state intervention; impact of state intervention

3 **Understanding the success of contemporary adjustments to land use regulation**

Contemporary adjustments: current adjustments being considered or enacted; predicted success or otherwise of adjustments; reasons for adjustments

Integrated land use regulation/strategy: definition; key features; factors leading to success; possible problems

4 **Understand sustainable land use management**

Sustainable development: definition; key principles; relation to land management;

Sustainability of current land use management: case for/against the sustainability of current land use; changes to land use systems to improve sustainability

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand current land management	1.1 explain factors influencing management of given exploited, protected and productive land uses 1.2 analyse current practices and problems related to a specific land use
LO2 Understand the nature and extent of current land use regulation	2.1 evaluate the need for land use regulation 2.2 examine the need for state intervention in land use 2.3 analyse the impact of state intervention
LO3 Understand the success of contemporary adjustments to land use regulation	3.1 justify the rationale behind contemporary adjustments to land use planning 3.2 discuss the concept of integrated land use 3.3 evaluate the success of given integrated land-use strategies
LO4 Understand sustainable land use management	4.1 explain how the principles of sustainable development can relate to land use management 4.2 critically evaluate the sustainability of current land use management 4.3 suggest adjustments to given land use systems to improve sustainability

Guidance

Links

This unit builds upon knowledge gained in units such as *Unit 13: Estate and Yard Maintenance* and *Unit 31: Visitor Attraction Management*.

Essential requirements

Access to internet resources, in addition to written texts and journals. The use of 'real' sites, either as remote or direct access for case studies will be invaluable.

Employer engagement and vocational contexts

Delivery of the unit would be greatly enhanced by links with professionals engaged in 'land management' of any type eg farmers, developers, foresters, conservation site managers.

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Unit 36: Small Business Enterprise

Unit code: H/601/1098

Level: 5

Credit value: 15

Aim

The aim of this unit is to give learners the opportunity to develop skills in change management, reviewing and improvement of the performance of a small business enterprise.

Unit abstract

This unit examines the factors influencing the development and expansion of small business enterprise. The unit draws together many of the topics covered in the wider curriculum and also in other Higher National units and allows learners to apply these skills to the small business environment. The unit is appropriate for learners who are / or plan to become involved in small business enterprises.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to investigate the performance of a selected small business enterprise

2 Be able to propose changes to improve management and business performance

3 Be able to revise business objectives and plans to incorporate proposed changes

4 Be able to examine the impact of change management on the operations of the business.

Unit content

1 **Be able to investigate the performance of a selected small business enterprise**

Business profile: vision, goals, components, objectives, strategies and business processes, internal and external factors affecting business performance, performance measures, constraints and restrictions on business, responsibilities and liabilities of owner-managers

Business performance: skills audit; self evaluation/comparisons with similar sized businesses in the same or similar industry and geographical area, comparisons with industry averages. (Comparisons should cover financial, production, marketing, sales, human resources, use of technology)

Business strengths and weaknesses: overall effectiveness and business performance review products/services, marketing, sales, production, finances, human resource efficiency, management effectiveness; use ratios, SWOT analysis, budget information, market research results, business image, business reports

Management of employees: employment policies; employment initiatives eg Investors in People; employee performance appraisal process; flexible working eg employment of part-time and temporary staff, teleworking, homeworking, job sharing, zero hours contracts, annual hours, staggered hours, compressed hours; equal opportunities within the workplace; discrimination (forms, legislation against)

2 **Be able to propose changes to improve management and business performance**

Problem solving actions; problem solving strategies to overcome identified weaknesses, sources and availability of professional advice, alternative solutions, availability and use of outsourcing for specific functions eg payroll, debt collection, staff development.

Maintaining and strengthening existing business: maintaining appropriate performance records, building on business strengths, maintaining market share/position, importance of good customer/supplier/adviser relationships

New opportunities: identifying areas for expansion eg niche markets and export opportunities where appropriate, research techniques, evaluating projects, assessing project requirements, costing and finding finance for new projects, risk assessment

3 **Be able to revise business objectives and plans to incorporate proposed changes**

Business objectives: structure of business objectives, assessment of business objectives in the light of current performance, making changes to business objectives, impact of changes on business plans

Business plans: structure of integrated business plans (financial, sales and marketing, production/output, personnel), use of business plans, evaluation of plans against business objectives, incorporating changes to plans, budgeting for changes, preparation of business forecasts

Action plans: plans to implement changes, systems to manage, monitor and evaluate changes, performance measures, setting deadlines

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4 **Be able to examine the impact of change management on the operations of the business**

Impact of change: effects of change on all areas of business – finance, workloads, morale, job roles, physical aspects (eg office space, production methods), use of technology, anticipating possible obstacles/problems

Management of change: monitoring effects of change, maintaining systems and records to evaluate impact of change, appropriate revision of plans in response to actual results

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to investigate the performance of a selected small business enterprise	1.1 produce a profile of a selected small business identifying its strengths and weaknesses 1.2 carry out an analysis of the business using comparative measures of performance
LO2 Be able to propose changes to improve management and business performance	2.1 recommend with justification, appropriate actions to overcome identified weaknesses in the business 2.2 analyse ways in which existing performance could be maintained and strengthened 2.3 recommend with justification, new areas in which the business could be expanded
LO3 Be able to revise business objectives and plans to incorporate proposed changes	3.1 produce an assessment of existing business objectives and plans 3.2 revise business plans to incorporate appropriate changes 3.3 prepare an action plan actions to implement the changes
LO4 Be able to examine the impact of change management on the operations of the business	4.1 report on the impact of the proposed changes on the business and its personnel 4.2 plan how the changes will be managed in the business 4.3 monitor improvements in the performance of the business over a given timescale

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Guidance

Links

This unit has links with other units such as:

Unit 33: Employability Skills

Unit 35: Land Use Issues and Regulation.

Essential requirements

It is essential for learners to be able to access realistic, contextualised case studies using data from sector-specific enterprises unless they are able to access this data from local enterprise and/or their own experience.

Employer engagement and vocational contexts

Local small enterprise may consider advantages in sharing information in order to gain new thoughts to develop business opportunities and options.

Business links may provide some useful contact and materials to support development within this unit.

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Unit 37: Sustainable Development

Unit code: M/503/1148

Level: 5

Credit value: 15

Aim

This unit aims to raise awareness of sustainable development issues, to encourage a sense of responsibility and citizenship, an appreciation of the needs of others both now and in the future, and respect and value for the diversity of life.

Unit abstract

It is now commonly accepted that there is great need to ensure that human activities do not cause permanent damage to the environment and that future generations should not be denied resources. It is believed that economic and social goals should be achieved in ways that can be supported for the long term by conserving resources, protecting the environment and ensuring human health and welfare

Those employed in the land-based sector should have an understanding of the concept of sustainable development, and an appreciation of the main mechanisms for its implementation.

This unit enable learners to study the core themes and issues of sustainable development. It raises awareness of: sustainability issues; responsibility and citizenship; the needs of others now and in the future; and the requirement to respect and value the diversity of life.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand principles of sustainable development

2 Understand the impact of production, trade and biotechnology on diversity

3 Understand the concept of citizenship and individual responsibility in the promotion of sustainable development

4 Understand the impact of changes towards sustainability.

Unit content

1 **Understand principles of sustainable development**

Principles: concept of sustainable development (to include the different contexts in which sustainable development can be placed)

*Earth and man***:** Gaia evolution; human demographics; agricultural development; the industrial revolution; resource consumption and pollution; development of global and local transport systems

Inter-dependence: dynamic nature of generation relationships (with examples to illustrate changes over time and space)

Values and beliefs: examples to illustrate different attitudes towards sustainable development and values between cultural and income groups (to include an examination of the balance of power and vested interests)

Needs and rights: present imbalance of population and resource usage, locally and globally, the wealth gap between and within countries; measures of standard of living (eg Gross National Product) and the developing measures of quality of life; the concept of social justice

2 **Understand the impact of production, trade biotechnology on diversity**

Evidence: qualitative and quantitative evidence as indicators of the changes in biological, cultural and economic diversity, local, global

Impacts: examples to illustrate the impacts on biological, cultural and economic diversity of globalisation of production; trade and consumption; the dominance of multinational enterprises in decision making

Technological developments: the effects of changes in transport and telecommunications on trade and production; impacts on cultural and economic diversity; developments in bio-technology and genetic engineering; impacts on bio-diversity; genetically modified organism (GMO) debate

Recent changes: application of appropriate technology (eg wood-burning stoves and mini-hydro electric power schemes), promotion of local trade (eg ‘farmers’ markets’ in the UK)

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3 **Understand the concept of citizenship and individual responsibility in the promotion of sustainable development**

Stewardship: illustrative examples to promote an understanding of the term, the need for individual as well as collective responsibility; Local Agenda 21 and the development of the slogan 'think global act local'

Active citizenship: need for individual participation, the contribution of voluntary personal controls; use of resources towards sustainable development; the value and process of collective decision making; ecological footprints

Social justice and equity: contrasting examples of different values and beliefs on behaviour and lifestyles; the need to promote sustainable lifestyles; the need for personal changes in lifestyles and habits to promote sustainable behaviour in the home/workplace/centre; the ethical arguments for promoting sustainable development

4 **Understand the impact of changes towards sustainability**

Pressure groups: the role of pressure groups in promoting change (eg Greenpeace); the use of renewable materials; ethical investments and fair trade

Sustainable production: sustainable production methods in forestry and woodland products; less intensive agricultural systems; organic production; resource minimisation in industry and commerce

Legislation and policies: regulations to promote waste minimisation and a more sustainable use of resources eg packaging regulations, the landfill tax, environmental taxation, eco-labelling, incentives to reuse and recycle, Local Agenda 21

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand principles of sustainable development	1.1 examine the main sustainable development principles 1.2 summarise the different interpretations of the concept of sustainable development 1.3 evaluate the need to address both inter-generational and intra-generational equity 1.4 discuss the debate between individual and collective interests
LO2 Understand the impact of production, trade and biotechnology on diversity	2.1 evaluate the evidence that indicates global production and trade has had an impact on biological, cultural and economic diversity 2.2 examine the impact of the globalisation of production and consumption on biological, cultural and economic diversity 2.3 evaluate the implications of recent trends towards localisation of economic activity in the promotion of diversity 2.4 assess the impact of biotechnology on bio-diversity
LO3 Understand the concept of citizenship and individual responsibility in the promotion of sustainable development	3.1 examine the concept of stewardship relating this to selected examples 3.2 compare values on ethical issues related to sustainable development 3.3 evaluate the policies and attitudes of a local authority or place of work/study to citizenship and individual responsibility
LO4 Understand the impact of changes towards sustainability	4.1 assess the importance of pressure groups in promoting sustainable change 4.2 discuss the effectiveness of recent legislation introduced to promote a more sustainable use of resources 4.3 evaluate recent changes to a production system to promote sustainable development 4.4 critically assess lifestyle and behaviour in relation to own eco-footprint

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Guidance

Essential requirements

Access to a well-resourced library, the internet and quality newspapers are essential. Sustainable development is topical and thus newspaper articles and radio/television items provide current information. Information from the local authority, local groups involved in sustainable development activities and Local Agenda 21 will be invaluable. Visits and relevant external speakers will enhance tutors as well as learners' knowledge.

Employer engagement and vocational contexts

A team of employers could be identified to support the different units. Employers could help tutors, for example, with the planning of programmes of learning, or provision of visits, guest speakers and mentors. They could also help to design assessment activities.

The delivery of this unit would be enhanced by employer engagement involving, for example, local organisations, for example Environmental Consultants. Learners could, for example, meet with employers from the industry to learn about current issues and trends in the sector. Sustained links with the groups may support further units as well as work placement opportunities. A talk by a representative of the Environment Agency would help learners understanding of how the Environmental sector responds to change and the impacts of changes on the sector.

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Unit 38: Project Management for Land-based Industries

Unit code: K/503/1052

Level: 4

Credit value: 15

Aim

The aim of this unit is to equip learners with the understanding and practical experience to identify, develop and contribute to the management of projects developed to support organisational and commercial initiatives, by planning, recording and monitoring all aspects of projects.

Unit abstract

At this level, it is imperative that learners are able to successfully manage projects within their chosen land based sector or industry. Not only does this prepare learners for management level employment, but it also enables learners to gain necessary skills that will equip them for future employment such as planning, overseeing, recoding, analysing and monitoring projects, all of which can be used as transferable skills.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the appropriate characteristics of projects that can be applied to land-based industries

2 Be able to generate project plans that can be applied to identified requirements and needs

3 Be able to implement planning, recording and reporting strategies

4 Understand approaches to monitoring activities that ensure effective delivery.

Unit content

1 **Understand the appropriate characteristics of projects that can be applied to land-based industries**

Characteristics: organisational needs and abilities; goals; determining appropriate goals for the organisational needs; functions of the project; how to assess the functions; products of the project; essential personnel involved in the project; land based organisations and their values and how these are achieved; organisational staffing; selection of group to be involved in the project

Features: features of the project environment (audience, market, compatibility with local environment, effect on habitats and species, stakeholders, affected personnel); baseline assessment of attributes of features; relationships between internal and external stakeholders eg partners, steering groups, project team, volunteers, contractors; organisational structures for managing a project

Influencing factors: social; financial; environmental; political; factors affecting target condition; ability to influence factors; identification and qualification of project activity

2 **Be able to generate project plans that can be applied to identified requirements and needs**

Objectives: developing and determining objectives appropriate to the project; local and environmental factors; generating work programmes and the influences on this; sequencing project activities; techniques for identifying essential activities.

Resource acquisition: cost estimation; financial breakdown of project; funding/finance (sources, procurement); cost cutting; influences on cost of project; contingencies; how to propose cost estimation to personnel involved with funding (stakeholders, audience and organisations); methods of acquiring funding for the project

3 **Be able to implement planning, recording and reporting strategies**

Planning activities: breakdown of project into sections; storage and retrieval systems; identifying and analysing existing work methods; specifying new methods and their validity; resource requirements; accessing resources; operational/organisational guidelines

Recording systems: techniques for recording activities and outcomes; assessing and evaluating activities (qualitative and quantitative)

Reporting information: internal and external reporting of outcomes and progress; communication and disseminating successful and unsuccessful outcomes; methods of communication appropriate to audience; (wider audience, iterative/summative, various media)

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4 **Understand approaches to monitoring activities that ensure effective delivery**

Risk management: robust risk management implementation; risk register; effective prioritisation of tasks

Adaptive management: learning culture; planning and reviewing; feedback from activities; from feature attributes

Performance and target condition indicators: key indicators; concepts; target condition indicators; selection criteria for identification and use of indicators

Protocols: monitoring performance (technical, social, economic); monitoring target conditions (socio-economic, ecological); assessment; analysis and interpretation of activity performance and impact; trend analysis

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the appropriate characteristics of projects that can be applied to land-based industries	1.1 explain the relationship between organisational needs and abilities, and project goal(s), functions and products 1.2 determine appropriate features of the project environment 1.3 analyse a project's ability to influence factors affecting a target condition 1.4 explain the relationships between internal and external stakeholders for project management
LO2 Be able to generate project plans that can be applied to identified requirements and needs	2.1 generate an appropriate objective and work programme to meet a specified target condition 2.2 propose an appropriate cost estimate for conducting a programme of work
LO3 Be able to implement planning, recording and reporting strategies	3.1 assemble an effective specification for a practical work activity 3.2 record the outcomes of a completed work activity 3.3 interpret the outcomes of a completed work activity 3.4 present valid information regarding the outcomes of successful and unsuccessful project activities
LO4 Understand approaches to monitoring activities that ensure effective delivery	4.1 examine the importance of robust risk management for projects 4.2 explain the process of adaptive management 4.3 justify the selection of performance and target condition indicators 4.4 evaluate activities selected to monitor performance and target indicators

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Guidance

Links

This unit introduces learners to managing projects in the land based industries, and therefore has links to the following units in this qualification:

Unit 1: Research Project

Unit 4: Work-based Experience

Unit 32: Business Environment

Unit 33: Employability Skills

Unit 36: Small Business Enterprise.

Essential requirements

Learners must have access to the internet, spreadsheet and word processing facilities. Access to well stocked, recent literature on project management must be made available.

Employer engagement and vocational contexts

Learners should discuss their work with real project managers to enhance their understanding of the methods and techniques necessary for managing a land based project.

The learners would benefit from being involved in running an actual or simulated project, for example a fund raising event for a charity or for the centre. This could involve the learners planning and pitching the project to the centre's staff or personnel, achieving funding for the project, carrying it out and then analysing the final project.

It would also benefit the learners if they had opportunity to evaluate and analyse other projects, whether carried out in the centre or at a different location, and then feed this information back to others.

Visiting speakers from charities and companies in the land based sector would benefit the unit, with a participative input from the learners on their own projects and how they are managing them.

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Unit 39: Animal Law and Ethics

Unit code: T/503/1684

Level: 5

Credit value: 15

Aim

This unit aims to focus on legislation related to animals; its application, enforcement and the interrelationship with ethical considerations. Through developing an understanding of Global, EU and National law, learners will be able to evaluate the provisions and effectiveness of current legislation relating to the broad topic of animal management.

Unit abstract

In this unit learners will develop a critical understanding of law and the ethical and moral constraints that potentially impact on animal management. A historical overview of those principles and practices which have contributed to our contemporary viewpoint will also be considered.

The unit will give learners with understanding of sources of law and legislative procedures within the UK and Europe their relevance to animal management. This unit will equip learners with an understanding of key benchmarking statements within animal law eg ‘due diligence’, ‘duty of care’ ‘unneccesary suffering’ and promote consideration of the conflicting priorities within statute. Crucially, this unit will introduce learners to the constructs of ethical debate and develop the reasoning and analytical skills that will be required in further units

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the principle schools of ethical thought and the rationale that attributes moral standing to non-human animal species

2 Understand process and practice of EU legislation and its comparative implementation by member states in National Law

3 Understand key aspects of legislation which apply to people and the well-being of animals

4 Understand challenging issues in the context of animal management.

Unit content

1 **Understand the principle schools of ethical thought and the rationale that attributes moral standing to non-human animal species**

Origin of ethics: definitions of terms used in ethics; the concept of morality and its measurement; the existence of universal moral values; ancient ethics underpinning modern philosophy; ethical perspectives as applied to animals (eg Utilitarianism, Agent Centred, animal rights, species intergrity)

Moral philosophy and theories: relevant overview of ancient and modern philosophy considerating of the corresponding developments in science and technology; main theories which provide guidelines for the conduct of individuals in different societies such as Kantian ethics, the categorical imperative, Jan Narveson, Bentham

Specific factors: gender, feminism, socio-economic, religion, politics

Moral orthodoxy of a range of societies: examples of the attitudes and conduct towards animals in small-scale societies, tribal societies, nomadic peoples, western world, developing world, aboriginal societies and the ethical derivations of these attitudes; determination of the moral status of animals in different societies

2 **Understand process and practice of EU legislation and its comparative implementation by member states in National Law**

Role of law and legal systems: as a framework to implement a code of conduct for a society; public control; links between law, society and morality

Legal perspectives relevant to animals: consideration of Civil verses Criminal law; the role of the CPS and RSPCA in bringing criminal prosecutions

New legislation: sources of law; Acts of Parliament; delegated legislation process; types of statute; delegated legislation (eg regulations, devolution, case law, precedent)

European and UK legislation: influence of EU legislation; regulations; directives and decisions; Treaties and Conventions, European law; relationship between EU and UK legislation; Key statute eg Treaty of Amsterdam, Lisbon Treaty

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3 **Understand key aspects of legislation which apply to people and the well-being of animals**

Core areas of human-animal interaction: introduction to basic legal concepts as necessary to understand the law and enable its interpretation; overview of the branches of law and specific current laws relating animals (eg to domestic/companion animals, animals in agriculture, animals in sport and entertainment, Regulated [scientific] procedures, AWA 2006, WASK 1995, A(SP) A 1986, WATO 2007, Veterinary Surgeons Act 1966); wildlife provision including international influences with regard to the protection of endangered species, implementation of European directives relating to animals, local laws and policy making

Legislative Interpretation and implementation: evaluation of benchmarking statements to include 'duty of care', 'due diligence', 'liability', 'unneccessary suffering'

Effectiveness of current legal provision: enforcement issues and examples of prosecution successes/failures; recognised loopholes; species specific inconsistencies; conflict with human rights and socio economic priorities; bodies enforcing animal laws

4 **Understand challenging issues in the context of animal management**

Identification of issues: Regulated procedures, Slaughter (to include religious slaughter), Hunting (to include Whaling), Farming Methods, species-specific inconsistencies

Historical and contemporary attitudes: overview of development of animal law through major periods of history (eg Ancient Greece, Rome, Middle Ages and nineteenth century onwards);

Legal-ethical debates: utilitarianism versus animal welfare and rights; animals as property and failure to recognise sentiency in all provision; the limits to sentiency and consciousness in directing legislation; the views of proponents and antagonists

Conflict between morality and animal law: the balance of moral and legal rights; legislation that regulates the contentious use of animals; aspects of provision of law for core areas of human-animal activity

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the principle schools of ethical thought and the rationale that attributes moral standing to non-human animal species	1.1 critically review a range of ethical viewpoints 1.2 analyse moral philosophy and the moral theories that influence social conduct, specifically in respect of animals 1.3 evaluate those factors likely to contribute to ethical views 1.4 discuss historical and contemporary legal attitudes to animals and determine the links with moral theory
LO2 Understand process and practice of EU legislation and its comparative implementation by member states in National Law	2.1 explain the role of law and legal systems in societies 2.2 discuss the mechanisms by which new legislation is formulated in the UK and Europe 2.3 explain the relationship between European/international law and UK legislation 2.4 review the international significance of key EU statutes
LO3 Understand key aspects of legislation which apply to people and the well-being of animals	3.1 review those key areas of the law that relate to human-animal interaction 3.2 analyse the relationship between human rights legislation and the effective provision of animal welfare legislation 3.3 explain the application and interpretation of key benchmarking statement to include: 'duty of care' 'due diligence' and 'unnecessary suffering' 3.4 identify areas of species specific inconsistencies within animal law
LO4 Understand challenging issues in the context of animal management	4.1 summarise the current legal provision relating to contentious areas of human-animal interaction 4.2 review the effectiveness of current legal provision through the analysis of enforcement issues and case examples 4.3 critically review areas of moral conflict in the application of animal welfare law 4.4 evaluate the ethical arguments posed by all protagonists for a named area of human-animal interactions

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Guidance

Links

Since an ethical and legal viewpoint applies to all aspects of human interaction with animals, this unit links to many other animal welfare units. Specific aspects of law may be emphasised in units such as *Unit 23: Animal Husbandry Management*, *Unit 14: Principles of Stud Management*, *Unit 16: Manage the Breeding of Horses* and *Unit 20: Develop and Implement a Training Programme for a Performance Horse.* A basic knowledge of legal systems will also provide a background for non-animal related legal considerations in the business units, for example health and safety legislation.

An understanding of the legal and ethical aspects covered in *Unit 37:* of *Sustainable Development* will be enhanced through studying this unit.

Essential requirements

This unit would be enhanced by access to archive information. It would be useful to provide ICT access to current legislation and European directives/regulations, for example OPSI and europa.

Tutors need to be familiar with legal systems and animal law in addition to providing the necessary ethical background. Specialist speakers or visits may be useful in enhancing the quality of the learning experience by enabling learners to recognise the role that ethics and law play in industrial practices.

Employer engagement and vocational contexts

A team of employers could be identified to support the different units. Employers could help tutors for example, with the planning of programmes of learning, or provision of visits, guest speakers and mentors. They could also help to design assessment activities

Delivery of this unit would be enhanced by involving employers such as those with a knowledge of current legislation (eg relating to companion animals, racing horses, riding schools.

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Unit 40: Animal Industry and Trade

Unit code: A/503/1685

Level: 5

Credit value: 15

Aim

The aim of this unit is to enable learners to understand the structure of the animal industry and the long- and short-term implications for domestic and wild animals. Learners will investigate the industry itself in the light of political events on a national and worldwide scale, related bodies and relevant legislation.

Unit abstract

In today's society, it is important that learners who wish to work with animals are guided in the economics, industry and trade of their chosen profession. The sensitive and sometimes controversial subject of animal trade is increasing, despite publicly-led campaigns in recent years. This unit covers the subjects surrounding animal trade. Learners will explore issues surrounding animal trade and the effects it has on economies and organisations locally, nationally and internationally.

Learning outcomes

On successful completion of this unit a learner will:

1 Understand the significance of the animal trade to the economy

2 Understand the legal and regulatory environment in which animal trade operates

3 Understand the effects of animal trade on wild animal populations

4 Understand issues relating to the welfare of animals during trade, care of stock in transit and quarantine arrangements.

Unit content

1 **Understand the significance of the animal trade to the economy**

Status: import and export statistics for the UK; species distribution and their status in the wild; financial statistics of the trade; size/structure and distribution of the animal trade market

Trading structures: personnel involved in buying, selling and dealing with animals; common locations of supply to the trade; routes and destinations; economic implications

Economic factors: price and cost; supply and demand; competition; value of exports to source and destination area; reasons for import and export — pet trade, private collections

2 **Understand the legal and regulatory environment in which animal trade operates**

Organisations and bodies: CITES, IUCN, EU; legislating authorities; HM Revenue and Customs; roles and responsibilities of the authorities; policing authorities and their powers in the animal trade and industry

Legislation: import and export legislation; quarantine legislation and vaccination; trade barriers (religion, disease prevention, disease control), restrictions on legislation; law enforcement and establishments; species requirements under legislation; analysis of the effectiveness of current import/export legislation

3 **Understand the effects of animal trade on wild animal populations**

Effects on wild populations: imbalance of the local ecosystem and biodiversity; maximum sustainable yields; capture and trapping; mortality rates of captured/ trapped animals

Alternative sources of animals and trade: ranching; farming; captive breeding; conservation projects; animal derivatives; eco-tourism

Advantages and disadvantages of alternatives: use of existing stock; conservation; genetic integrity; education; financial advantages; disease

4 **Understand issues relating to the welfare of animals during trade, care of stock in transit and quarantine arrangements**

Welfare during trade: transportation and mortality rates; high mortality prevention; legislation regarding transport times and care of animals in transit; role of authorities and organisations with interests in the transport of animals; illegal transport (smuggling, implications on animals welfare); animal housing during transit; quarantine and necessary vaccinations/care and veterinary checks; locations for quarantine; necessary quarantine times

Implications of disease: prevalence and how this is affected by animal trade; control of disease during trade and transport – vaccination; isolation of affected cases; quarantine

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Understand the significance of the animal trade to the economy	1.1 review the status of the animal industry and animal trade 1.2 discuss the implications of trading structures within international animal trade 1.3 explain the economic factors underpinning the animal trade
LO2 Understand the legal and regulatory environment in which animal trade operates	2.1 examine laws governing the trade of animals 2.2 compare the role of key organisations in regulating and monitoring animal trade 2.3 critically assess the effectiveness of key organisations in regulating and monitoring animal trade 2.4 discuss the effectiveness of the existing quarantine legislation
LO3 Understand effects of animal trade on animal wild populations of animals	3.1 evaluate the sustainable resources of animals for trade 3.2 explain the influences of trading on wild animal populations and their ecosystems 3.3 evaluate the advantages and disadvantages of importing animals and of captive breeding programmes 3.4 compare alternative forms of animal trade
LO4 Understand issues relating to the welfare of animals during trade, care of stock in transit and quarantine arrangements	4.1 examine animal welfare issues of concern in the animal trade 4.2 assess the implications of animal disease for world animal trade

Guidance

Links

This unit has links with the following units in the qualification:

Unit 23: Animal Husbandry Management

Unit 39: Animal Law and Ethics.

Essential requirements

Learners must have access to current reference sources related to the trade and industry of animals including recent transport requirements.

Employer engagement and vocational contexts

Visits to, or guest speakers from, animal trade organisations and enforcement agencies could enhance delivery of this unit, as well as visits to quarantine areas and discussion with veterinary professionals involved in the process.

Learners could explore organisations related to animal movement from one country to another in the form of guest speakers, movement paperwork, and license applications. Learners could assess the impact of the movement of these animals, reasons for moving of them and the financial involvement of moving the animals between areas.

A tutor-guided talk or presentation from HM Revenue and Customs, the police, other personnel involved with the movement and control of animals between countries, a pet shop or zoo owner who regulary imports and exports animals or a private collector could be beneficial in helping learners to form a balanced view of the animal trade and industry.

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Unit 41: Research Methods for Land-based Industries

Unit code: A/503/1153

Level: 4

Credit value: 15

Aim

This unit introduces learners to methodologies employed when carrying out research. It develops learners' knowledge of the range of information sources available and should equip them with practical skills in planning a piece of research.

Unit abstract

The ability to successfully formulate research questions, and gain data for analysis in an attempt to answer them, are vital skills for learners working in this programme area. Understanding the concepts considered in this unit will greatly assist the learner with these skills.

Learners will be introduced to different forms of data and how it can be both generated by them and accessed from existing sources. Several of the major analytical and descriptive techniques used to interpret the resulting data are then utilised to help in its interpretation. Once learners have gained these skills, research topics applicable to their subject area and interests can be considered in more detail.

How to plan, conduct, interpret and present the resulting findings (together with their significance), from research projects are all addressed in this unit. Learners will gain vital preparation to assist them in undertaking their own research in their studies or future careers by completing this unit.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to collect and interpret data and information in a land-based industry

2 Be able to plan research in a land-based industry

3 Be able to review data from a range of sources in a land-based industry

4 Be able to present findings appropriately.

Unit content

1 **Be able to collect and interpret data and information in a land-based industry**

Nature of data: primary and secondary data; qualitative; quantitative; objective; subjective; accuracy; precision; errors; significance; reliability

Data collection: probability sampling: eg random, systematic, stratified, clustered; non-probability sampling: eg convenience, voluntary, quota; purpose: eg event sampling, time sampling

Data analysis: descriptive statistics eg proportions, percentages, ratios, range; inferential statistics to assess the significance of results using chi-squared and Student's t-Tests

Simple interrelationships: correlation

Complex relationships: multivariate analysis

2 **Be able to plan research in a land-based industry**

Research a subject specific research title: preliminary review of sources of information; discussions with tutors; agreement of research aims; research objectives; hypotheses and research title; appropriate size and nature of research

Programme of work: outline of methodology and resources; proposed analysis and interpretation; regular reviews of progress; appropriate and achievable target dates set; flexible approach within framework

3 **Be able to review data from a range of sources in a land-based industry**

Existing data: literature; accessing professional expertise via eg verbal questioning, email, letters; related studies; historical data; current data; introductory texts; published and unpublished work; popular media eg television, radio, newspapers; computer-based sources eg CD-Rom, Internet; multimedia eg DVD, video, slides, audio tape; abstracts; reports; journals

4 **Be able to present findings appropriately**

Critical review: discussion of opposing views in an informed and balanced manner; all views are accurately referenced; discussion of methodologies and content; suggested sources of error and improvement of methodology

Suitable format: oral; visual and written; professional presentation; appropriate level for audience eg peer group, tutors; style appropriate to audience and research; scientific conventions followed

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Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	Assessment criteria for pass **The learner can:**
LO1 Be able to collect and interpret data and information in a land-based industry	1.1 explain the nature of research data 1.2 determine sources of error in data collection 1.3 carry out a range of data collection techniques 1.4 analyse simple data using descriptive and inferential statistical techniques
LO2 Be able to plan research in a land-based industry	2.1 determine appropriate sources of information and advice 2.2 plan resource requirements, methodology and analysis 2.3 agree research aims, objectives and title with an appropriate authority 2.4 submit work proposals with appropriate and achievable target dates
LO3 Be able to review data from a range of sources in a land-based industry	3.1 critically review appropriate existing data from a range of sources
LO4 Be able to present findings appropriately	4.1 present report findings using appropriate media 4.2 prepare a summary of findings suitable for display to a given audience

Guidance

Links

This unit serves as a valuable introduction to several major aspects of research, and also common pitfalls, and would therefore benefit the delivery of *Unit 1: Research Project*. The knowledge and skills contained within it would also be of value to any learner wishing to continue their higher education or those seeking to progress onto a managerial level career.

This unit links with all units that require any degree of literature review, data handling or presentation skills. It may therefore be considered as a means of developing the learner's study skills at an early stage in the programme.

Essential requirements

As this unit has a high degree of directed study, a well-resourced library or learning resource centre is essential. Access to multimedia provision and to the Internet enables learners to access diverse information sources and should allow learners to recognise the strengths and weaknesses of all data sources.

Learners will require access to suitably qualified staff which may necessitate cross-curricular tutoring. Tutor time is therefore an essential resource. It is not anticipated, or expected, that learners have unlimited access to tutor support, but sufficient timetable allocation should be made to ensure that learners receive support in developing their skill base.

Employer engagement and vocational contexts

The data collection, analysis and presentation skills gained from this unit will benefit the learner in their studies and future careers. The skills and knowledge acquired through this unit will enable the learner to successfully undertake future research in subject-specific areas.

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