

QUALIFICATION PURPOSE

The Diploma in Veterinary Nursing - Equine aims to prepare and support students for a career in veterinary nursing.

The key purposes of this technical level qualification are:

- to give students the ability to gain the knowledge and skills necessary to practice veterinary nursing, safely and competently.
- to allow students to grow as individuals and give them the chance to learn life skills essential for professional development.

The programme will include a balance of practice-based learning and theoretical teaching and use a variety of strategies to ensure students can undertake clinical tasks proficiently.

Clinical placements in veterinary training practices will allow the acquisition of nursing skills and will enable students to become competent and confident in a veterinary environment.

ASSESSMENT

Theory and knowledge are tested through assignments and examinations.

- Assignments are set by CQ and marked by your training provider
- Examinations are set and marked by CQ

Practical elements of the qualification are assessed through CSL (the electronic skills log) and in the final OSCE examination (Objective Structured Clinical Examination – a practical exam designed to test clinical skill performance and competencies)

QUALIFICATION GRADING

Distinction	First time pass of 80% and above in all units of each theory examination First time pass of 12/12 in OSCE Pass in all assignments Completion of CSL
Merit	First time pass in all units of each theory examination First time pass of 8/12 in OSCE Pass in all assignments Completion of CSL
Pass	Pass in each theory examination Pass in OSCE Pass in all assignments Completion of CSL

Assignments – all criteria must be addressed to obtain a pass

Examinations - all units within an examination paper must be achieved in order to obtain a pass

Central Skills Log - all practical skills must be achieved

OSCE - 8 out of 12 OSCE tasks must be achieved to obtain a pass

QUALIFICATION STRUCTURE

All units are mandatory

Unit Code	Unit Number	Title of Unit	Level	Credits
M/601/6871	VN1	Understanding the operational requirements of a veterinary practice	3	10
J/601/6956	VN2	Professional relationships and communication for veterinary nursing practice	3	10
K/601/6965	VN3	Comparative functional anatomy for veterinary nursing practice	3	20
J/601/7170	VN4	Applied animal welfare, health and husbandry for veterinary nurses	3	20
L/601/7171	VN5	Infection control in veterinary practice	3	5
T/601/7178	VN6	Understanding the essentials of veterinary nursing care for hospitalised animals	3	10
L/601/7185	VN7	Essentials of practical veterinary nursing care for hospitalised animals	3	5
R/601/7284	VN8	Supporting the supply of veterinary medicines	3	5
Y/601/7285	VN9	Veterinary nursing support of diagnostic imaging	3	10
D/601/7286	VN10	Veterinary nursing support of laboratory diagnostics	3	5
H/601/7287	VN11	Supporting veterinary operating theatre practice	3	10
K/601/7288	VN12	Principles of supporting veterinary anaesthesia	3	10
M/601/7745	EQVN20	Principles of peri-operative veterinary nursing support for horses	3	10
A/601/7747	EQVN21	Practical peri-operative veterinary nursing support for horses	3	5
F/601/7748	EQVN22	Principles of veterinary nursing support for equine patients	3	10
J/601/7749	EQVN23	Practical veterinary nursing support of equine patients	3	5
A/601/7750	EQVN24	Principles of equine veterinary nursing emergency and critical care	3	10
F/601/7751	EQVN25	Principles of equine neonatal care	3	10
M/601/7289	VN19	Preparing for professional registration	4	10

VN1

OUTCOME 1

UNDERSTAND THE ROLES OF MEMBERS OF THE VETERINARY TEAM

1. Compare and contrast the roles of a veterinary surgeon and a veterinary nurse
2. Explain the role and functions of lay staff within a veterinary practice
3. Outline the significance of the Veterinary Surgeons Act 1966

OUTCOME 2

UNDERSTAND THE AIMS OF EFFECTIVE HEALTH AND SAFETY WITHIN A VETERINARY PRACTICE

1. Explain the aims of effective health and safety practice
2. Explain the principal risks in a veterinary practice, mentioning the environment, working hours, chemical and biological hazards
3. Demonstrate how to move and handle animals and equipment safely, identifying risk factors and using ergonomic principles
4. Explain the principles of handling and disposal of hazardous substances, to include sharps, biological and chemical materials

OUTCOME 3

UNDERSTAND HOW TO USE AND MAINTAIN EQUIPMENT IN A VETERINARY PRACTICE

1. Describe the use of veterinary practice equipment, to include clinical furniture, powered and manual instrumentation, diagnostic imaging, laboratory and anaesthetic equipment.
2. Explain protocols for routine checking and maintenance of equipment by both internal practice staff and external agencies, to include frequency.
3. Explain how to identify equipment faults, to include action that should be taken in the event of malfunction.

OUTCOME 4

UNDERSTAND HOW TO MAINTAIN STOCKS OF VETERINARY CONSUMABLES AND PHARMACEUTICALS

1. Summarise the principles of stock control, mentioning record-keeping, storage conditions, stock rotation
2. Identify the range of materials needed to support a veterinary practice, to include consumables, sterile supplies, pharmaceuticals, food
3. Explain how to dispose of surplus and outdated materials, mentioning relevant legal requirements

OUTCOME 5

KNOW THE PRINCIPLES OF RECORD-KEEPING

1. Explain the principles of veterinary record-keeping, mentioning client and patient records, to include confidentiality, data protection, RCVS Guides to Professional Conduct

VN2

OUTCOME 1

UNDERSTAND THE DYNAMICS OF COMMUNICATION

1. Identify modes of communication encountered in veterinary practice
2. Explore factors that may affect communication, to include culture, age, grief, use of language and sensory impairment
3. Differentiate between communication styles, to include recognition of own style of communication
4. Recognise how emotions affect communication, to include manifestations of grief and loss
5. Explain the dynamics of effective face-to-face interaction, mentioning social and environmental factors, body language and feedback mechanisms
6. Explain the specific demands and adaptations required in telephone communication with a focus on excellence in customer service and client care

OUTCOME 2

BE ABLE TO COMMUNICATE WITH CLIENTS AND COLLEAGUES

1. Take a patient history to include actively eliciting relevant information, correct interpretation of given facts, concise transmission of relevant information to a veterinary colleague
2. Produce written clinical records, to include care plans, observations and client instructions, that are clear, comprehensive, comprehensible and legible

OUTCOME 3

UNDERSTAND FACTORS AFFECTING WORKING RELATIONSHIPS WITH CLIENTS AND WITHIN THE VETERINARY TEAM

1. Explain factors that influence the human/animal relationship, to include culture and religion, socio-economic status
2. Describe influences on relationships between members of an inter-professional team, to include perceptions, roles, expertise and responsibilities

OUTCOME 4

UNDERSTAND PRINCIPLES OF CUSTOMER SERVICE

1. Summarise the value of clients to a veterinary practice
2. Explain important customer service factors for veterinary clients to include information, courtesy, responsiveness, presentation of the practice
3. Summarise the principles of handling a complaint

OUTCOME 5

BE ABLE TO OPERATE A VETERINARY RECEPTION DESK

1. Greet and address clients appropriately, to include telephone and face-to-face communication
2. Make appropriate appointments for clients, to include first appointments, emergencies and follow-ups
3. Use veterinary record-keeping systems
4. Take payments for treatment or retail services, to include credit cards, cheques, insurance claims
5. Advise clients on the process of seeking second opinions or referrals

VN3

OUTCOME 1

KNOW ANATOMICAL AND PHYSIOLOGICAL TERMINOLOGY IN RELATION TO VETERINARY NURSING PRACTICE

1. Explain the use of directional terms, prefixes and suffixes, modes of body section and joint movement and the anatomical boundaries of body cavities.

OUTCOME 2

KNOW ANATOMICAL LANDMARKS IN LIVING ANIMALS THAT ARE RELEVANT TO VETERINARY NURSING PRACTICE

1. Demonstrate the position of anatomical landmarks in intact animals, including dogs, cats, exotic species and horses to address musculoskeletal features, points of venous and arterial access and external genitalia.

OUTCOME 3

UNDERSTAND THE NORMAL FORM AND FUNCTION OF BODY SYSTEMS IN A RANGE OF MAMMALIAN SPECIES

1. Explain basic cell structure, physiology and division
2. Describe the structure of the skin, hair and associated glands
3. Explain the structure and function of the musculoskeletal system
4. Compare and contrast mammalian digestive tracts and modes of digestion
5. Describe the functions of the autonomic and motor nervous systems and the special senses
6. Explain the function of the endocrine system in relation to the control of body systems

7. Describe the structure and function of the circulatory system
8. Describe the structure of the respiratory system and explain the process of respiration
9. Describe the urinary tract and explain the production of urine
10. Explain the function of the kidney in maintaining blood pressure and homeostasis
11. Explain reproductive physiology in the male and female; describe comparative reproductive tracts

OUTCOME 4

KNOW THE KEY ANATOMICAL FEATURES AND BODY FUNCTIONS OF BIRDS AND REPTILES

1. Describe the key anatomical structures of birds and reptiles
2. Explain the key ways in which the physiology of birds and reptiles differs from that of mammals

OUTCOME 5

BE ABLE TO RELATE NORMAL FORM AND FUNCTION TO THE EFFECTS OF DISORDER IN DISEASE PROCESSES AND THE CONSEQUENT NURSING REQUIREMENTS OF SICK ANIMALS

1. Explain how compensatory mechanisms may give rise to symptoms of disease

VN4

OUTCOME 1

UNDERSTAND THE PRINCIPLES OF ANIMAL WELFARE

1. Summarise the legislation and codes of practice in place to protect animal interests, mentioning the Animal Welfare Act, DEFRA, animal welfare codes, Companion Animal Welfare Council

OUTCOME 2

UNDERSTAND THE ESSENTIAL FACTORS FOR MAINTAINING ANIMAL HEALTH FOR A RANGE OF SPECIES

1. Explain the importance of key factors in maintaining animal health to include housing, feeding, exercise, grooming and foot care, dental hygiene, vaccination and parasite control in relation to dogs, cats, exotic species and horses
2. Distinguish normal and abnormal presentations, mentioning behaviour, appearance, mobility, excretions
3. Explain the principles of introducing new stock to an existing animal group

OUTCOME 3

KNOW THE NUTRITIONAL REQUIREMENTS OF ANIMALS

1. Explain the roles of essential nutrients, minerals and vitamins in dogs, cats, exotic species and horses
2. Describe the differing nutritional requirements of very young, very old, breeding and performance animals
3. Explain the effects of illness and injury on nutritional requirements

OUTCOME 4

UNDERSTAND THE REPRODUCTION AND BREEDING OF ANIMALS

1. Explain key principles of genetic inheritance and define terms, including phenotype, genotype, allele
2. Describe the breeding cycles of a range of species to include dogs, cats, exotic species

- and horses, mentioning natural mating, artificial insemination and pseudocyesis
3. Explain the essentials of intra-partum care, to include preparations, normal labour and parturition, identification of complications and post-partum care
 4. Explain the nursing and management of neonates, to include recognition of abnormalities and complications

OUTCOME 5

KNOW METHODS OF ANIMAL IDENTIFICATION

1. Explain methods of identifying a range of species, including dogs, cats, exotic species and horses to include breed, markings, colours and distinguishing features, owner registration (tattooing, microchips, tags, freeze-marking), passports, blood typing and DNA testing
2. Describe the requirements for passports and record-keeping in relation to animal movements and medicine use

OUTCOME 6

BE ABLE TO HANDLE AND RESTRAIN ANIMALS SAFELY

1. Demonstrate correct techniques for catching, holding and restraining cats, dogs and exotic species, to include rabbits, birds, rodents and reptiles
2. Demonstrate correct techniques for approaching, restraining and leading a horse, to include application of head collar and examination of a hoof
3. Demonstrate the correct use of personal protective equipment when handling animals
4. Explain how to recognise and deal with aggressive behaviour
5. Explain how to transport a range of species safely, to include dogs, cats, exotic species and horses

VN5

OUTCOME 1

UNDERSTAND THE ROLE OF INFECTION IN ANIMAL AND HUMAN HEALTH

1. Identify the major groups of disease-producing infectious agents in relation to animal health, to include viruses, bacteria, fungi, protozoa, parasites, prions
2. Explain the risks of zoonoses, including animal to human transmission and vice versa
3. Explain the implications of antibiotic resistance for veterinary practice, to include MRSA

OUTCOME 2

UNDERSTAND THE PRINCIPLES OF DISEASE TRANSMISSION IN VETERINARY PRACTICE

1. Describe how microorganisms are transmitted, to include direct and indirect spread; inhalation, inoculation and ingestion; reservoirs, fomites and carriers

OUTCOME 3

UNDERSTAND THE PRINCIPLES OF DISINFECTION AND STERILISATION

1. Distinguish between the processes of disinfection and sterilisation, to include antisepsis and asepsis
2. Explain the use of clinical antiseptics and disinfectants to include susceptibility of different classes of organisms and how this affects choice, safe use
3. Explain the process of sterilisation, to include steam, gas, cold chemicals and gamma radiation
4. Describe the operation of an autoclave, to include safety, loading, monitoring of effective sterilisation

5. Explain how to pack, label and store autoclaved items

OUTCOME 4

UNDERSTAND HOW TO MAINTAIN A CLEAN CLINICAL ENVIRONMENT

1. Apply principles of effective clinical cleaning, to include consulting rooms, kennel accommodation, stabling, laboratory and operating theatres
2. Apply safe principles of waste handling and disposal in relation to contaminated materials, to include blood, urine, faeces, tissue and cadavers

OUTCOME 5

UNDERSTAND HOW TO MAINTAIN PERSONAL HYGIENE IN RELATION TO CROSS-INFECTION

1. Explain the importance of personal hygiene and dress in relation to infection control, mentioning hair, nails, jewellery, badges, sleeves, ties
2. Demonstrate effective hand hygiene, to include antiseptic washes and alcohol gels
3. Demonstrate appropriate use of disposable protective clothing, to include gloves and aprons

OUTCOME 6

UNDERSTAND THE PRINCIPLES OF INFECTION MONITORING

1. Explain the importance of infection monitoring in clinical audit
2. Analyse the role of the veterinary nurse in maintaining infection control, to include audit, staff training and mentorship, providing a role model

VN6

OUTCOME 1

UNDERSTAND THE PRINCIPLES OF A SYSTEMATIC APPROACH TO THE PROVISION OF NURSING CARE

1. Differentiate between the “medical” model of nursing and the nursing-focused model
2. Explain the “Nursing Process”, mentioning a logical cycle of planning, implementation and evaluation
3. Compare models of nursing, to include Roper, Logan and Tierney and Orem
4. Use a reflective approach to support nursing problem solving

OUTCOME 2

UNDERSTAND HOW TO ASSESS THE CONDITION OF PATIENTS

1. Explain how a nursing model is used to inform patient assessment, to include physical, behavioural and owner-related factors
2. Differentiate between actual and potential nursing problems
3. Use an assessment protocol to examine an animal
4. Explain how to record and monitor vital signs to include temperature, pulse, respiration, capillary refill time and mucous membranes, blood pressure

OUTCOME 3

BE ABLE TO FOLLOW A CARE PLAN TO DELIVER NURSING CARE

1. Use a care plan to inform delivery of nursing care across a range of veterinary conditions, to include medically and surgically related problems
2. Recognise clinical and behavioural indicators of a change in condition, to include responses to shock, infection, pain and stress
3. Report on patients and nursing activities in order to inform the review of care plans

OUTCOME 4

UNDERSTAND THE USE OF DIFFERENT TYPES OF ACCOMMODATION FOR HOSPITALISED ANIMALS

1. Explain the requirements of hospital accommodation for small animals and horses to include layout and access to facilities, size, design and construction materials, maintaining temperature and ventilation, isolation and bedding and substrates
2. Summarise safety considerations in relation to the use of accommodation and associated equipment, to include design, state of repair, fitness for purpose

OUTCOME 5

UNDERSTAND THE NURSING CARE AND MANAGEMENT OF PATIENTS TAKING INTO ACCOUNT SPECIES, LIFE-STAGES AND TEMPERAMENT

1. Explain the care needs of patients in relation to commonly encountered diseases and traumatic conditions to include: recumbency, post-surgical care, trauma, requirement for fluid therapy, requirement for assisted feeding and containment and physical therapies
2. Outline principles of species-specific nursing, mentioning cats, dogs, exotics and horses, to include medical and surgical nursing needs

OUTCOME 6

KNOW HOW TO ADMINISTER MEDICATIONS

1. Explain techniques for administering medicines to include oral, rectal, topical, parenteral, sites commonly used for injection and care of intravenous cannulae
2. Describe requirements for the safe disposal of used equipment and surplus medication

VN7

OUTCOME 1

BE ABLE TO ASSESS AND MONITOR THE CONDITION OF PATIENTS

1. Assess and record overall condition and demeanour, to include appearance and behaviour
2. Assess and record temperature, pulse, respiration and mucous membranes
3. Assess and record levels of consciousness
4. Observe and monitor excretion to include urine, faeces and vomitus/gastric reflux
5. Assess and monitor for signs of pain and/or anxiety
6. Report observations of animals effectively to colleagues

OUTCOME 2

BE ABLE TO MAINTAIN THE HYGIENE OF IN-PATIENTS

1. Clean, prepare and maintain accommodation for in-patients, to include differing requirements of species and nature of clinical condition
2. Demonstrate maintenance of hygiene for individual patients, to include grooming and bathing and cleansing orifices
3. Demonstrate appropriate methods of handling and disposing of soiled and infected material

OUTCOME 3

BE ABLE TO PROVIDE FOOD AND FLUIDS TO IN-PATIENTS

1. Prepare appropriate food and fluids for patients taking into account medical dietary requirements and type, size of animal and known likes, dislikes and normal feeding regimes

2. Demonstrate methods of assisted feeding, to include hand feeding, syringe feeding and tube feeding
3. Monitor and maintain intravenous fluid therapy
4. Monitor and record fluid and dietary intake

OUTCOME 4

BE ABLE TO ADDRESS THE MOBILITY AND BEHAVIOURAL REQUIREMENTS OF IN-PATIENTS

1. Provide care for patients with compromised mobility, to include positioning and changes of position, bedding requirements and physiotherapy
2. Use strategies to address the psychological needs of in-patients, to include environment, grooming and touch, addressing stress and boredom

OUTCOME 5

BE ABLE TO APPLY SIMPLE WOUND DRESSINGS AND BANDAGES

1. Perform a simple wound dressing, to include use of aseptic technique and preparation of materials, observation and reporting of wound condition
2. Apply simple bandages that are safe and effective
3. Use strategies to prevent patient interference with dressings and bandages

OUTCOME 6

BE ABLE TO ADMINISTER MEDICATIONS

1. Interpret veterinary prescriptions and prepare medications for administration, to include oral preparations, rectal preparations, topical preparations and medicines for injection
2. Administer medicines to include oral, topical and parenteral
3. Dispose of used equipment and surplus medication appropriately and safely
4. Record the administration of medicines and monitor its effect on the animal

VN8

OUTCOME 1

UNDERSTAND THE LEGAL REQUIREMENTS IN RELATION TO THE STORAGE AND SUPPLY OF VETERINARY MEDICINES

1. Explain the law in relation to veterinary medicines, to include the Veterinary Medicines Regulations, registration of premises, legal categories of medicines, veterinary prescribing cascade (food and non-food animals), storage and disposal requirements and record-keeping
2. Explain the role, remit and professional responsibilities of a Suitably Qualified Person (SQP)

OUTCOME 2

KNOW HOW TO SUPPLY VETERINARY MEDICINES TO CLIENTS

1. Explain the requirements for a legal veterinary prescription
2. Interpret pharmacy terminology and abbreviations
3. Summarise requirements for the packaging and labelling of veterinary medicines
4. Summarise information that should be obtained from a client to enable an appropriate choice of medication for supply by an SQP
5. Explain how to calculate and dispense appropriate quantities of medication
6. Demonstrate how to dispense medicines safely and effectively to include correct prescription, safe handling of medicines

OUTCOME 3

UNDERSTAND THE PRINCIPLES OF PHARMACODYNAMICS

1. Describe ways in which medicines act and are excreted, to include action, excretion, common side effects, handling precautions, contraindications, nursing implications
2. Explain factors that can affect duration of action
3. Explain the mechanisms for reporting adverse reactions

OUTCOME 4

KNOW HOW TO PROVIDE ADVICE TO CLIENTS ON THE ADMINISTRATION OF VETERINARY MEDICINES

1. Summarise information that should be provided to a client concerning the administration of a prescribed medicine
2. Demonstrate to clients suitable techniques for administering medicine, to include instruction, demonstration and written guidance

VN9

OUTCOME 1

KNOW THE LEGAL REQUIREMENTS FOR OPERATING RADIOGRAPHIC EQUIPMENT IN A VETERINARY PRACTICE

1. Describe the legal requirements for radiography in veterinary practice to include authorised personnel and Health and Safety
2. Explain the requirements for exposure risk assessment and monitoring
3. Summarise requirements for the use of personal protective equipment when dealing with radiation

OUTCOME 2

UNDERSTAND THE PRINCIPLES OF RADIOGRAPHY

1. Describe the properties and effects of radiation, to include function of equipment, (to include tube head, light beam diaphragm), primary beam and scatter, absorption by different materials/tissues and effects of kV and mA
2. Summarise types of image that can be produced using radiation, to include X-rays, scintigraphy and coaxial tomography (CT)
3. Explain the features and use of cassettes and grids
4. Summarise the design features and maintenance of a radiography facility, to include equipment
5. Explain how to calculate exposure factors

OUTCOME 3

KNOW THE PRINCIPLES OF ADJUVANT IMAGING TECHNIQUES

1. Summarise how images are produced using ultrasound
2. Describe the care and maintenance of ultrasound equipment
3. Summarise how images are produced by magnetic resonance
4. Explain the principles of endoscopy and the care, maintenance and storage of equipment
5. Describe requirements for supporting imaging using radioactive isotopes (scintigraphy)

OUTCOME 4

UNDERSTAND HOW TO TAKE RADIOGRAPHS

1. Summarise methods of patient restraint for radiographic examination
2. Demonstrate standard radiographic positions and the use of positioning aids, to include

views (appropriate to species) of limbs, head, spine, abdomen, thorax and pelvis

OUTCOME 5

KNOW HOW TO PROCESS RADIOGRAPHS

1. Explain the principles of wet film processing, to include use, storage and disposal of chemicals, function and care of automatic processor and recognition of film faults
2. Explain the principles of digital imaging
3. Explain the advantages and limitations of digital radiography
4. Evaluate the diagnostic quality of a processed radiograph

VN10

OUTCOME 1

UNDERSTAND THE FUNCTION AND USE OF THE LABORATORY EQUIPMENT

1. Describe the requirements for the safe use of laboratory equipment to include operation and maintenance, calibration and quality control in relation to microscopes, analysers, centrifuge and refractometer

OUTCOME 2

UNDERSTAND HOW TO COLLECT AND PREPARE SPECIMENS FOR EXAMINATION

1. Describe equipment and materials required for sample collection, preservation and transport, to include blood, urine, faeces, secretions, skin, hair and tissue
2. Explain how to prepare animals for the collection of samples, to include blood, urine, faeces, secretions, skin and hair
3. Demonstrate effective and safe sampling techniques, to include urine, faeces, blood, hair and skin

OUTCOME 3

KNOW HOW TO TEST PATHOLOGICAL SPECIMENS

1. Explain how to use commercial test kits effectively
2. Demonstrate how to carry out common test techniques, to include microscopy, packed cell volume (PCV), blood smear, test strips, use of analyser and use of refractometer (SG)
3. Describe how to dispose of surplus pathological material and reagents safely
4. Demonstrate accurate and effective reporting of test results

OUTCOME 4

KNOW HOW TO PREPARE SPECIMENS FOR TRANSPORTATION

1. Explain the requirements for the safe transport of specimens to include packaging and labelling
2. Describe how to store specimens safely and effectively prior to despatch

VN11

OUTCOME 1

UNDERSTAND THE PRINCIPLES OF OPERATING THEATRE DESIGN AND USE

1. Explain the principles of operating theatre design, to include clean and dirty areas, heating, lighting, ventilation and circulation of personnel and materials
2. Explain effective operating theatre protocols, to include daily and periodic cleaning of environment, furniture and equipment
3. Explain the principles of planning an operating list

OUTCOME 2

BE ABLE TO DRESS AND BEHAVE APPROPRIATELY IN AN OPERATING THEATRE

1. Behave appropriately in an operating theatre, to include communication, movement, personal hygiene and safety of self and others
2. Demonstrate effective hand-hygiene, to include hand-washing, use of antiseptic gels and surgical “scrubbing”
3. Prepare and wear operating theatre clothing, to include “scrubs” and footwear, caps and masks, sterile gowns and sterile gloves

OUTCOME 3

UNDERSTAND THE USE OF OPERATING THEATRE FURNITURE AND EQUIPMENT

1. Distinguish between essential, non-essential and inappropriate furnishings and equipment within the theatre environment
2. Explain the safe use and care for key operating theatre equipment, to include lighting, adjustable table and positioning aids, diathermy, suction and tourniquets
3. Explain the safe use of patient transport systems, to include hoists

OUTCOME 4

UNDERSTAND THE PRINCIPLES OF INSTRUMENT CARE AND STERILISATION

1. Describe the construction and care of common groups of instruments, to include materials used, care and storage requirements, identifying damage and safe handling
2. Demonstrate how to clean instruments effectively, to include hand-cleaning and ultrasonic cleaning
3. Demonstrate how to pack items for sterilisation, to include single instruments, instrument sets and drapes and gowns

OUTCOME 5

BE ABLE TO ASSIST THE OPERATING SURGEON AS A CIRCULATING NURSE

1. Prepare an animal in the operating theatre, to include positioning and final skin preparation
2. Demonstrate how to assist a surgeon to don sterile clothing and gloves
3. Open and pass sterile materials correctly, to include handing to a scrubbed operator and onto a sterile field
4. Demonstrate the application of sterile wound dressings and bandages

OUTCOME 6

UNDERSTAND THE MANAGEMENT OF INSTRUMENTS AND MATERIALS DURING A SURGICAL PROCEDURE

1. Identify commonly used instruments and explain their use, to include general surgical, dental and orthopaedic
2. Identify types of wound closure material and explain their properties and use, to include sutures, staples and glue
3. Explain the use of instrument trolleys and Mayo tables, to include layout of instruments
4. Demonstrate safe techniques for handling and passing instruments, to include passing bladed items, mounted needles, demounting needles
5. Explain how to keep track of instruments and swabs, to include timing and recording of instrument and swab counts
6. Describe the safe disposal of hazardous materials, to include sharps, swabs, suction bottle contents and tissue

OUTCOME 7

UNDERSTAND THE PRINCIPLES OF PATIENT CARE DURING SURGERY

1. Summarise observations to be made of an animal during surgery to include blood loss, tourniquets and urine output
2. Explain the routine care requirements of an anaesthetised animal, to include maintaining temperature, prevention of pressure necrosis, avoidance of joint strain and limb swelling and prevention of corneal ulcers

VN12

OUTCOME 1

UNDERSTAND THE PRINCIPLES OF ANAESTHESIA

1. Define different methods of anaesthesia
2. Explain anaesthetic terminology, to include minute volume, tidal volume, dead space
3. Explain the physiology of general anaesthesia, to include sedation, muscle relaxation and pain relief
4. Summarise the concept of balanced anaesthesia
5. Explain stages, planes and levels of anaesthesia
6. Calculate fresh gas flow rate according to species, weight and circuit factor

OUTCOME 2

KNOW THE FUNCTION OF ANAESTHETIC DRUGS

1. Summarise the function of key groups of anaesthetic drugs, to include intravenous and gaseous anaesthetics, intramuscular anaesthetics, sedatives, analgesics, muscle relaxants and give examples for each group

OUTCOME 3

UNDERSTAND THE FUNCTION OF ANAESTHETIC EQUIPMENT

1. Explain the function and maintenance of key parts of an anaesthetic machine
2. Identify, and summarise the use of, anaesthetic breathing systems to include re-breathing and non re-breathing
3. Summarise types of endotracheal tube and describe their use and maintenance
4. Explain the safety checks to be made of anaesthetic equipment to include endotracheal tubes, breathing systems, anaesthetic machines, pollution control systems and ventilator
5. Explain the use of monitoring equipment to include capnograph, pulse oximeter and electro-cardiograph

OUTCOME 4

UNDERSTAND ANAESTHETIC PREPARATION AND INDUCTION

1. Summarise the preparation of an animal for general anaesthesia to include pre-anaesthetic checks, fasting and premedication
2. Summarise the materials and equipment needed for induction of anaesthesia, to include consumables, drugs and intravenous fluids, laryngoscope, endotracheal tubes and monitoring equipment
3. Summarise the support of the anaesthetist during anaesthetic induction to include restraint and positioning of the animal and supply and management of equipment
4. Explain the principles of effective intubation

OUTCOME 5

UNDERSTAND THE PRINCIPLES OF MONITORING AN ANAESTHETISED ANIMAL

1. Explain the observations to be made of an anaesthetised animal, and how these should be recorded, to include temperature, pulse, respiration and level of consciousness
2. Describe the observations to be made of equipment during an anaesthetic, to include gases and volatile agents, circuits and tube and monitoring equipment
3. Explain the positioning and monitoring of a patient during anaesthetic recovery, to include extubation, safety
4. Summarise observations to be reported to the veterinary surgeon during anaesthetic and recovery monitoring

OUTCOME 6

KNOW HOW TO RECOGNISE AND RESPOND TO ANAESTHETIC EMERGENCIES

1. Explain how to recognise respiratory and cardiac arrest
2. Explain the management of resuscitation, to include airway management, CPR, drugs
3. Describe how to recognise and manage equipment failure, to include power failure

EQVN20

OUTCOME 1

KNOW HOW TO PREPARE A PATIENT FOR SURGERY

1. Explain the information to be obtained from the animal's owner, to include starvation, normal routine, relevant veterinary history, contact details and passport
2. Summarise the legal requirements for consent to a surgical procedure, to include fee estimate, explanation and signature
3. Explain the principles of withholding food and fluids prior to anaesthesia
4. Describe requirements for clipping and skin preparation, to include care and use of clippers, identification of site, first skin scrub and shoe removal
5. Explain the use of prophylactic medication

OUTCOME 2

UNDERSTAND THE REQUIREMENTS FOR IMMEDIATE POST-OPERATIVE CARE

1. Explain the requirements for handover from the operating theatre, to include surgical procedure, anaesthetic, anaesthetic recovery, observations at handover and treatment instructions
2. Interpret post-operative observations, to include vital signs, pain, urine output, wound appearance and drainage
3. Explain the physiology, recognition and management of post-operative shock
4. Explain how post-operative fluid balance is maintained, to include altered intake/output, calculating fluid requirements and maintaining intravenous infusion
5. Summarise the principles of effective post-operative pain management

OUTCOME 3

UNDERSTAND NURSING REQUIREMENTS OF THE CONVALESCENT HORSE

1. Explain core nursing requirements during post-operative convalescence to include environment, accommodation, fluid and nutrition, elimination, mobility, exercise, pain relief, other medications alleviation of stress and wound management
2. Describe the principles of surgical wound care to include complications of healing, drains, dressing and bandaging, removal of drains and closures preventing interference

OUTCOME 4

KNOW NURSING REQUIREMENTS FOR HORSES BEFORE AND FOLLOWING SPECIFIC SURGICAL PROCEDURES

1. Summarise the peri-operative nursing requirements of horses to include minor surgery,

standing procedures, head and neck procedures, abdominal procedures and orthopaedic procedures

OUTCOME 5

UNDERSTAND HOW TO FACILITATE HOME CONVALESCENCE

1. Analyse the factors to consider when planning for discharge to include condition of the patient, home circumstances and transport home
2. Explain the core requirements for a home care plan
3. Analyse the requirements for effective discharge handover to an owner

EQVN21

OUTCOME 1

BE ABLE TO PREPARE A PATIENT FOR SURGERY

1. Admit animals for surgery, to include handover from owner, checking consent, recording contact details and create nursing record
2. Prepare operation sites, to include care and use of clippers, identification of site, first skin scrub and removal of shoes

OUTCOME 2

BE ABLE TO PROVIDE IMMEDIATE POST-OPERATIVE CARE

1. Receive a handover from the recovery area, to include surgical procedure, anaesthetic, observations at handover and treatment instructions
2. Prepare accommodation for a post-operative patient, taking into account condition and procedure
3. Record post-operative observations, to include vital signs, pain, urine output, wound appearance and drainage and respond appropriately
4. Maintain and record fluid intake, to include intravenous fluids and oral intake
5. Recognise pain and stress and take appropriate measures to reduce these, to include environment, company and analgesics

OUTCOME 3

BE ABLE TO PROVIDE CARE FOR CONVALESCENT PATIENTS

1. Plan, implement and evaluate care plans to address core nursing requirements during post-operative convalescence, to include fluid and nutrition, elimination, mobility, exercise, pain relief, alleviation of stress and wound management
2. Care for surgical wounds to include observation, management of drainage, dressing and bandaging, removal of drains, closures and preventing interference

OUTCOME 4

BE ABLE TO PROVIDE NURSING FOR PATIENTS BEFORE AND FOLLOWING SPECIFIC PROCEDURES

1. Deliver species-specific peri-operative nursing care to horses to include minor surgery, standing surgery, head and neck procedures, abdominal procedures and orthopaedic procedures

OUTCOME 5

BE ABLE TO FACILITATE HOME CONVALESCENCE

1. Demonstrate effective care planning for discharge, to include condition of the patient, transport home and home circumstances
2. Demonstrate effective communication with patient's' owners, to include oral and written guidance, teaching of practical techniques (to include medication)

EQVN22

OUTCOME 1

UNDERSTAND HOW PATHOLOGY AFFECTS THE NORMAL FUNCTION OF AN ANIMAL

1. Describe the pathology of a range of commonly encountered medical disorders, to include circulatory disorders, respiratory disorders, urinary tract disorders, endocrine disorders, neurological disorders, alimentary tract disorders, reproductive tract disorders, musculoskeletal disorders and disorders of the sense organs
2. Explain the effects of pathophysiological states and common pathologies on the normal function of an animal, to include sensory impairment, behaviour, reduced mobility, impaired nutrition and metabolic disturbance
3. Recognise the significance of abnormal diagnostic test results and the impact of these on nursing requirements

OUTCOME 2

UNDERSTAND HOW TO PLAN AND DELIVER CARE FOR HORSES WITH A RANGE OF COMMONLY ENCOUNTERED CONDITIONS

1. Evaluate models and frameworks of nursing, to include the Roper, Logan and Tierney (Activities of Living) model and the Orem (Self Care) model, in the veterinary nursing context
2. Apply appropriate models or frameworks to assess animals, plan, implement and evaluate nursing care
3. Demonstrate the application of an evidence base to care planning and delivery

OUTCOME 3

UNDERSTAND THE PRINCIPLES OF WOUND HEALING AND CARE

1. Explain the process of wound healing, to include healing by first intention and delayed healing
2. Summarise factors that may impede healing, to include; poor perfusion, poor nutrition, infection, patient or client interference
3. Explain the principles of management for chronic wounds, to include moist healing
4. Appraise the use of different dressing materials in the veterinary situation, to include traditional materials and interactive dressings

OUTCOME 4

UNDERSTAND THE PRINCIPLES OF ISOLATION NURSING

1. Explain reasons for isolation nursing, to include infection and compromised immunity
2. Explain the requirements for isolation accommodation, to include design and preparation for an admission
3. Summarise required conduct of staff in relation to isolated cases, to include protective clothing and hand hygiene, fomites and access to isolation accommodation
4. Explain the special needs of isolated patients, to include reduction of stress, company

OUTCOME 5

UNDERSTAND HOW TO FACILITATE EFFECTIVE HOME AND FOLLOW-UP CARE FOR HORSES WITH LONG-TERM ILLNESS

1. Explain the importance of client concordance in the home management of a patient and identify factors that may inhibit this
2. Evaluate strategies for maintaining and improving client concordance with home care plans

OUTCOME 6

UNDERSTAND HOW TO SUPPORT A CLIENT THROUGH GRIEF AND LOSS

1. Explain the psychological processes of loss and grieving and summarise how these may

- impact on communication with a client
- 2. Evaluate the nurse's role in breaking bad news to clients
- 3. Explain how sensitive euthanasia can be accomplished within a busy veterinary practice
- 4. Evaluate services available to assist clients to cope with loss

EQVN23

OUTCOME 1

BE ABLE TO PROVIDE CARE FOR HORSES WITH A RANGE OF COMMONLY ENCOUNTERED CONDITIONS

1. Plan, deliver and evaluate care for animals with a range of conditions, using an appropriate model or framework
2. Provide an appropriate nursing environment, taking into account the patient's species, age condition and normal routines
3. Demonstrate effective communication with the veterinary team in relation to the evaluation and review of nursing care

OUTCOME 2

BE ABLE TO PERFORM A RANGE OF COMPLEX NURSING TECHNIQUES IN SUPPORT OF SICK HORSES

1. Demonstrate effective wound management techniques, to include accurate assessment, taking swabs, irrigation and drains, selection and application of dressings and supportive bandages, client education
2. Administer complex medications, to include infused medications, intravenous bolus medications and manage naso-gastric catheters or feeding tubes
3. Manage indwelling urinary catheters, to include placement of, and assistance with the placement of, urinary catheters, catheter care
4. Manage bowel function, to include administration of prokinetics and faecal softeners
5. Demonstrate physical therapy techniques, to include active exercise, limb support and foot/frog support

OUTCOME 3

BE ABLE TO PROVIDE NURSING CARE TO PATIENTS REQUIRING ISOLATION

1. Prepare isolation accommodation for an admission
2. Limit the transfer of micro-organisms through effective hand hygiene, protective clothing, recognising and managing fomites, restricting access to isolation accommodation
3. Address the special needs of isolated patients, to include reduction of stress and company
4. Clean isolation accommodation, to include daily cleaning regime and terminal disinfection

OUTCOME 4

BE ABLE TO PROVIDE APPROPRIATE HOME CARE PLANS FOR CHRONICALLY SICK HORSES

1. Demonstrate effective care planning for discharge to include condition of the patient and home circumstances
2. Demonstrate effective communication with patients' owners to include oral and written guidance, teaching of practical techniques (to include medication)

EQVN24

OUTCOME 1

BE ABLE TO PROVIDE CARE FOR ANIMALS WITH A RANGE OF COMMONLY ENCOUNTERED CONDITIONS

1. Define the scope of first aid, mentioning legal entitlement to provide first aid to horses
2. Explain the principles of first aid management and treatment, to include safety of self and

- others, models of casualty assessment and safe methods of movement
3. Demonstrate first aid treatment techniques, to include haemorrhage and wounds, musculo-skeletal injuries, cast horse and severe abdominal pain
 4. Explain the first aid management of burns and ingestion of poison
 5. Explain what information should be given to a veterinary surgeon regarding a treated first aid casualty

OUTCOME 2

KNOW HOW TO SUPPORT EMERGENCY VETERINARY CARE

1. Explain the concept of triage and identify situations that constitute emergencies to include communication with client, lay persons
2. Explain how to prepare for the admission of an emergency case to include admission area, equipment, consumables and operating theatre
3. Explain the contents and maintenance of an emergency 'crash box' or trolley
4. Explain how to support the veterinary surgeon during resuscitation and stabilisation procedures

OUTCOME 3

UNDERSTAND THE PRINCIPLES OF INTRAVENOUS CATHETERISATION

1. Explain the principles of intravenous cannulation, to include indications, identification of access points and veins, selection of cannula, risks and complications
2. Explain the care of an intravenous catheter to include site care, maintaining patency, mentioning intermittent use, parenteral nutrition and central lines

OUTCOME 4

UNDERSTAND THE NURSING REQUIREMENTS OF A CRITICALLY ILL OR INJURED HORSE

1. Prepare accommodation for a critically ill patient, to include types of accommodation, environment, access for observation and nursing, bedding, availability of electrical supply and observation charts
2. Explain the nursing needs of a critically ill horse, to include breathing and cardiovascular function, nutrition and fluid balance, mobility, hygiene, maintaining body temperature, pain and stress
3. Explain the principles of record keeping and reporting for critically ill animals

OUTCOME 5

UNDERSTAND SPECIAL INTENSIVE NURSING CARE TECHNIQUES

1. Explain the observations required of a critically ill patient to include frequency, vital signs, ECG and neurological function
2. Explain the principles of administering blood and blood products to include donors, storage, equipment and administration, patient monitoring and complications
3. Explain the principles of respiratory therapy to include oxygen supplementation, tracheostomy, thoracic drains and pulse oximetry; blood gas analysis

OUTCOME 6

KNOW NURSING REQUIREMENTS FOR HORSES REQUIRING INTENSIVE CARE

1. Summarise the intensive nursing requirements of horses to include trauma, major surgical procedures and critical medical conditions

EQVN25

OUTCOME 1

UNDERSTAND NORMAL FOAL PHYSIOLOGY AND DEVELOPMENT

1. Explain key differences between the major body systems of neonates, foals and adult

horses

2. Explain the development of immunity in equine neonates, to include significance for nursing care
3. Describe the normal adaptive behaviour and reflexes of a newborn foal

OUTCOME 2

UNDERSTAND FOAL NUTRITION AND FEEDING

1. Summarise the process of lactation in the mare to include nutritional requirements of mare, physiology of milk production and let down, constituents of colostrum and milk
2. Explain the requirements of foal weaning, to include feed requirements, separation from the mare and monitoring
3. Explain the nursing requirements of an orphan foal, to include feeding and nutrition and socialisation

OUTCOME 3

UNDERSTAND THE ROUTINE VETERINARY CARE OF NORMAL FOALS

1. Explain requirements for handling and foot care to include catching and restraint, farriery requirements
2. Summarise the reasons, and normal protocols, for parasite control in foals
3. Summarise the normal vaccination protocols for foals
4. Explain the protocols and requirements for breed registration to include Weatherbys

OUTCOME 4

UNDERSTAND THE NURSING REQUIREMENTS OF SICK FOALS

1. Explain the accommodation requirements for nursing foals to include bedding, temperature, infection control
2. Explain the essential nursing requirements of recumbent foals to include hygiene, infection control, positioning, skin care, maintaining temperature, nutrition and fluids, umbilical and eye care, physiotherapy
3. Explain the nursing support of foals undergoing investigations and supportive therapies, to include blood sampling, diagnostic imaging, parenteral fluids and nutrition, tube feeding, oxygen therapy and urinary catheterisation

OUTCOME 5

BE ABLE TO PROVIDE NURSING CARE TO A SICK FOAL

1. Prepare and maintain a suitable nursing environment for a sick foal
2. Provide essential nursing care for a sick foal
3. Manage and maintain supportive veterinary therapies
4. Monitor sick neonates, to include interpretation and appropriate reporting of observations
5. Provide appropriate support and information to owners

VN19

OUTCOME 1

KNOW THE LEGAL FRAMEWORK FOR VETERINARY NURSING PRACTICE

1. Summarise the UK legal system, to include criminal and civil law, sources of law and mentioning key differences in Scotland
2. Interpret the provisions of the Veterinary Surgeons Act in relation to veterinary nurses, to include the meaning of Schedule 3 and the scope of veterinary nursing practice

OUTCOME 2

UNDERSTAND THE ACCOUNTABILITY OF VETERINARY NURSES

1. Analyse the features of professional status

2. Explain the purpose and principles of professional regulation, to include statutory and voluntary regulation, self versus independent regulation
3. Explain the functions of a professional regulatory body, to include public protection, codes of conduct, investigation of complaints
4. Summarise the RCVS regulatory Bye-laws in relation to veterinary nurses
5. Interpret the RCVS Guide to Professional Conduct for veterinary nurses

OUTCOME 3

UNDERSTAND THE APPLICATION OF ETHICAL PRINCIPLES

1. Summarise ethical schools of thought, to include utilitarianism, deontology and virtue ethics
2. Identify ethical problems arising in veterinary practice
3. Analyse patient care issues using ethical principles

OUTCOME 4

UNDERSTAND THE PRINCIPLES OF CONSENT TO VETERINARY TREATMENT

1. Explain the legal requirements for consent to treatment, to include treatment without consent
2. Analyse the features of informed consent
3. Identify potential barriers to informed consent in practice

OUTCOME 5

UNDERSTAND LEGAL AND ETHICAL DUTIES TO CLIENTS, COLLEAGUES AND ANIMALS

1. Explain the principle of Duty of Care in relation to clients, colleagues and animals to include, Animal Welfare Act, negligence, maintaining professional competence and personal scope of competence
2. Critically analyse ethical issues surrounding the support of colleagues and clients, to include whistleblowing

ASSESSMENT TABLE

Unit Number	Theory tested by assignment	Practical tested by CSL	CQ administered examination	OSCE
VN1	1.1, 1.2, 2.1, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5.1	2.3, 3.2, 3.3, 4.1, 4.3	1.3, 2.2, 2.4	Yes
VN2	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 3.1, 3.2, 4.1, 4.2, 4.3	2.1, 2.2, 5.1, 5.2, 5.3, 5.4, 5.5	No examination	Yes
VN3	No assignment	2.1	1.1, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 4.1, 4.2, 5.1	
VN4	No assignment	3.2, 6.1, 6.2, 6.3	1.1, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 6.4, 6.5	Yes
VN5	No assignment	3.2, 4.1, 4.2, 5.2, 5.3	1.1, 1.2, 1.3, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 5.1, 6.1, 6.2	Yes
VN6	1.1, 1.2, 1.3, 1.4, 2.1, 5.2, 6.1, 6.2	2.3, 3.1, 3.2, 3.3, 6.1, 6.2	2.2, 2.4, 4.1, 4.2, 5.1	
VN7	No assignment	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 6.4	No examination	Yes
VN8	No assignment	1.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 4.1, 4.2	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 4.1	Yes
VN9	No assignment	1.2, 1.3, 2.1, 2.3, 2.4, 3.1, 3.2, 3.4, 4.1, 4.2, 5.1, 5.4	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 5.1, 5.2, 5.3, 5.4	Yes
VN10	No assignment	1.1, 2.1, 2.2, 2.3, 3.1, 3.2, 3.4, 4.1, 4.2	1.1, 2.1, 2.2, 3.1, 3.3, 4.1, 4.2	Yes
VN11	No assignment	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 7.2	1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 4.1, 6.1, 6.2, 6.3, 6.5, 6.6, 7.1, 7.2	Yes

Unit Number	Theory tested by assignment	Practical tested by CSL	CQ administered examination	OSCE
VN12	No assignment	No CSL	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.3	
EQVN20	1.1, 1.2, 1.3, 1.4, 1.5, 5.1, 5.2, 5.3	No CSL	2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 4.1	
EQVN21	No assignment	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 4.1, 5.1, 5.2	No examination	Yes
EQVN22	2.1, 2.2, 2.3, 5.1, 5.2, 6.1, 6.2, 6.3, 6.4	No CSL	1.1, 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4	
EQVN23	No assignment	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2	No examination	Yes
EQVN24	No assignment	1.3, 2.1, 2.2, 3.2, 4.1, 4.2, 5.1, 5.3	1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 4.2, 4.3, 5.1, 5.2, 5.3, 6.1	Yes
EQVN25	1.1, 1.2, 1.3, 3.2, 3.3, 3.4	3.1, 5.1, 5.2, 5.3	2.1, 2.2, 2.3, 3.1, 4.1, 4.2, 4.3	Yes
VN19	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5.1, 5.2	No CSL	1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 4.1, 4.2, 4.3	