IMPORTANT INFORMATION FOR CANDIDATES

Please note that the RCVS Diploma for this subject has been phased out in favour of the European College of Veterinary Ophthalmologists (ECVO) Diploma. No new applications for this subject will be accepted. Candidates who are already enrolled still have the remainder of their enrolment in which to enter for the examination.

**Diploma in Veterinary Ophthalmology**

Please view the general documents to obtain copies of:

- **B1:** Guidance Notes for candidates on general requirements.
- **B3:** General Guidance Notes on preparation for a Dissertation.
- **E1:** Application form E.1 - for enrolment and initial approval of experience.
- **H.** Role of Advisers to Certificate Candidates.

The following papers are attached:

- **B2:** Specific requirements for the Diplomas.
- **C:** Syllabus and Commentary for the Diplomas.
- **D:** Reading List.
- **E:** Application forms E1A, E.2
  - **E1A** - for specific details of practice/centre
  - **E.2** - for final approval of experience and for permission to submit an entry to the examination
- **G:** List of Advisers.

*A copy of the most recent Examination Question Paper is enclosed for your information.*
THE DIPLOMA IN VETERINARY OPHTHALMOLOGY

SPECIFIC GUIDANCE NOTES FOR CANDIDATES
[These notes must be read in conjunction with the B1 General Guidance Notes to Candidates]

MEMBERSHIP OF THE ROYAL COLLEGE OF VETERINARY SURGEONS

1. It is a requirement of the Veterinary Ophthalmology Board that ALL Candidates entering for the Diploma are Members of the Royal College of Veterinary Surgeons (MRCVS).

SPECIFIC EXPERIENCE

2. No candidate may enter for the Diploma examination unless he/she will have spent, by the time of the examination, not less than two calendar years devoting at least 75% of his/her time to the study and practice of veterinary ophthalmology since passing the Certificate examination. This period must include at least one year spent full time at a centre approved by the Board. Those not in full time attendance at an approved centre may offer the equivalent aggregated amount of time (minimum 230 working days) in periods of at least two and preferably four weeks gained over a period not greater than five years. It is considered that periods of less than two weeks do not allow candidates to take full advantage of all the opportunities offered by an approved centre and applications for enrolment on such a basis are unlikely to be accepted.

3. No period of experience can be offered to meet the requirements of more than one RCVS Certificate/Diploma.

4. Applications for approval of a Centre must be made directly by the Centre to the RCVS and not by the candidate. An application form can be obtained from the RCVS.

5. There is no separate application form other than the candidate applications forms included with this Information Pack. Practices are approved for each individual candidate.

6. The Board has discretion to increase the requirements for experience for any candidate above the minimum specified if it is considered to benefit the candidate.
FINAL APPROVAL OF EXPERIENCE

7. Candidates will be required to submit a suggested title and description of the work on which the dissertation will be based for approval by the Board. The description should be less than 250 words in length and should outline the methods which will be used, or which were used, to study the proposed topic. This description should be submitted either with the application for initial approval of experience or with the application for final approval of experience.

THE EXAMINATION

8. The examination consists of three Sections:

   (a) A Dissertation
   (b) TWO x 3 hour written papers, and
   (c) a clinical, oral, and practical examination.

SUBMITTED WORK FOR EXAMINATION

Dissertation

9. Candidates are required to submit a dissertation on the subject of clinical and/or laboratory based investigation, which they have conducted into any aspect of veterinary ophthalmology. Prospective and retrospective studies are both acceptable.

10. The purpose of the dissertation is to demonstrate that the candidate is able to follow good scientific method, to present the results of an investigation in a proper manner, to draw conclusions from these results using appropriate statistical and other methods and finally to evaluate and discuss the implications of the findings. Essentially the dissertation should be of publishable quality and will be evaluated by the normal criteria used in peer-review assessment of papers submitted for publication.

11. The layout should normally follow conventional lines, and the word count should be appended:

    Summary;
    Introduction/Literature review;
    Materials and methods;
    Results;
    Discussion; and
    Bibliography/References.
12. Candidates should select one of two possible methods of citing references and use that method consistently throughout the text. In the first method references are cited in the text by the name of the author(s) followed by the year of publication with all references cited listed in A–Z order of the first author’s name at the end of the dissertation. Full details of this method should be consulted in the ‘Instructions to Authors’ in the Journal of Small Animal Practice. In the second method references are cited by number. References are assigned a number according to the order of their appearance in the text. The bibliography then lists the references by number in the same order in which they are cited in the text. Full details of this method should be consulted in the ‘Instructions to Authors’ in Veterinary Ophthalmology.

13. Three copies of the dissertation should be submitted. The dissertation should be typed on A-4 paper, with one-and-a-half line spacing and adequate margins (e.g. 1 inch) especially at the binding side. The copies should be bound but the method is not specified.

14. Candidates may not use all or part of the work prepared and submitted for another postgraduate qualification, including Diploma of Fellowship, as all or part of their dissertation for an RCVS Diploma.

15. Candidates are asked to submit an electronic version of their submitted work together with their hard copy. This will be retained at RCVS unless requested by the examiners for purposes such as checking the word count. The electronic version should be Microsoft Office 2000 or XP compatible and should be submitted on either CD or floppy disc/s. Please ensure that the disks are easily identifiable by placing them in an envelope with your name, and ‘Electronic version of submitted work for the Diploma in Veterinary Ophthalmology marked clearly on the front.

Word Count

16. A word count must be shown on the front cover of the Dissertation. The dissertation should be approximately 7000 words and should not exceed 10,000 words, excluding the list of references. Candidates will be penalised for exceeding the maximum number of words.

Grading Scheme

17. The submitted work will be graded “Good Pass”, “Pass”, or “Fail”.

- **Good Pass**—(60% or over)—the work will be lodged in the RCVS Library as a suitable example for future candidates.

- **Pass (defined as 50%)**—The work is adequate to enable the candidate to proceed to the remaining sections of the examination, but the submitted work may need to be revised by the date of the clinical, oral, and practical
for lodging in the Library if the candidate is successful in the examination as a whole.

- **Fail (below 50%)**—The work is not adequate to enable a candidate to proceed to the remaining sections of the examination for the year in question.

**WRITTEN EXAMINATION**

18. Candidates are warned that answers should be given specifically and that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey. In addition, the Examiners will take into consideration spelling and whether or not the question has been answered in the form requested.

**Format**

19. This Section consists of 2 three-hour written papers.

   **Paper I**—will consist of ten short-answer questions, all of which must be attempted.
   **Paper II**—will consist of six essay-type questions of which five must be answered

**Marks Scheme**

20. **Paper I** will be marked out of 50 marks  
    **Paper II** will be marked out of 50 marks  
    Total Mark for this Section (b) = 100 marks

**CLINICAL, ORAL, AND PRACTICAL EXAMINATION**

21. Questions regarding the dissertation may be asked during the examination.

22. The examination will last one day and will consist of long and short clinical cases (to include a minimum of dog, cat, farm animal and horse), cadaver surgery, a slide session, and an oral.

**Marks Scheme**

23. The Clinical/Practical examination will be marked out of 50 marks.  
    The Oral will be marked out of 50 marks  
    TOTAL Mark for this Section (c) = 100 marks
SYLLABUS AND READING LIST

24. A syllabus, with a brief commentary, and a reading list for the Certificate are provided for reference. There are no separate reading lists for the Diploma as candidates at this level are expected to be familiar with all literature in the area of their elective and most particularly so in the topic of their dissertation or submitted papers.

25. Candidates should note that the Certificate reading list was frozen in 2002 and will eventually be withdrawn.

ADVISERS

26. Candidates are expected to have a suitably qualified adviser who works at the approved centre attended by the candidate, and are urged to seek their advice on their Diploma studies and dissertation.

ABBREVIATION FOR QUALIFICATION

27. Successful candidates may use the following abbreviations after their names in the RCVS Register of Members, and on practice plate, stationery, etc. Certificate holders who obtain the Diploma in the same subject cease to use the Certificate abbreviation “DVOphthalm”.

THE ROYAL COLLEGE OF VETERINARY SURGEONS

SYLLABUS FOR CERTIFICATE & DIPLOMA EXAMINATION IN VETERINARY OPHTHALMOLOGY

COMMENTARY

1. The syllabus is presented as a guide to candidates, which sets out systematically the areas of study upon which both the Certificate and Diploma examinations will be based. It should not be considered exhaustive. In both examinations, questions may be set within the broad field of veterinary ophthalmology and examiners will expect that candidates have a sound knowledge of the principles of pathology, medicine, and surgery, including anaesthesia.

2. The study of ophthalmology is one single subject and it is impractical to separate the syllabus for the Certificate examination from that for the Diploma examination. Any such division would necessarily be quite arbitrary and could give the impression that Certificate candidates should not be concerned with the subject areas that were listed for the Diploma examination. The distinction between Certificate and Diploma studies rests with the breadth and depth to which the candidates are expected to work and it is hoped that the manner in which the syllabus is set out will encourage all candidates to read widely in the literature and to develop their appreciation of ophthalmology as fully as possible.

3. Certificate candidates should possess both the theoretical and practical knowledge of veterinary ophthalmology as it applies to modern veterinary practice, a field of study, which is constantly enlarging. To achieve this level of expertise it is expected that candidates will be required to devote 10–20% of their professional time to this work. In the Certificate examination emphasis will be placed on:

(a) ability to conduct ophthalmic examinations;
(b) familiarity with the use of the diagnostic instruments employed in practice;
(c) ability to describe clinical findings and to indicate how these substantiate diagnoses;
(d) examples of advice that should be given to the animal’s owner together with an outline of any therapy that may be indicated;
(e) systematic case recording will be assessed on the series of case reports that are to be submitted as part of the examination. Discussion on these case reports may be included in the examination.

Any of the regularly occurring ocular diseases may be discussed including those conditions, which are certified and are under investigation for the BVA/KC/ISDS Eye Scheme.
4. Diploma candidates will be expected to possess the extensive knowledge of veterinary ophthalmology required at specialist level. This requires an in-depth understanding of the scientific basis of ophthalmology including:

(a) full anatomical details of the eye and adnexa (gross and microscopic);
(b) thorough knowledge of ocular embryology and associated developmental abnormalities;
(c) the pathology and pathogenesis of eye disease, including exfoliative cytology;
(d) the physiology and biochemistry of the eye;
(e) knowledge of electrophysiological and ultrasonographical techniques will also be expected.

Familiarity with the full range of case investigation required to establish diagnoses and to elucidate aetiology and pathology of conditions that require special investigation is expected. Candidates should be able to discuss all forms of therapy, including intra-ocular surgical techniques and be able to give well reasoned advice to animal owners or colleagues on management regimes for any form of ocular disease of individual animals or groups. To achieve this level of expertise candidates will be required to read extensively in both veterinary and medical ophthalmological literature and to be familiar with recent research activities in both fields.

SYLLABUS

1. STRUCTURE AND FUNCTION OF THE EYE

1.1 Embryology

The embryological development of the normal mammalian eye, including tissue differentiation, vascular development, and post-natal development.

Developmental abnormalities of the eye and adnexa.

1.2 Anatomy

The gross and microscopic structure of the eye and adnexa:

- orbit, extraocular muscles and orbital fascia
- eyelids
- lacrimal apparatus
- conjunctiva
- cornea, limbus, episclera and sclera
- uveal tract (including tapetum)
- lens and zonule
- vitreous body
- retina
- optic nerve
- vascular and nerve supply
1.3 **Physiology**

The physiology and biochemistry of the eye:

- tear film, lacrimal secretion and drainage
- corneal hydration and transparency
- aqueous formation, circulation and drainage; intraocular pressure control
- lens metabolism and transparency
- retinal physiology (including photochemistry of vision and electrophysiology)
- visual pathways
- extraocular muscles and their action; proprioceptive reflexes
- pupillary light reflexes, effects of drugs on pupil size
- protective and other ocular reflexes
- principles of optics, image formation, accommodation, refractive errors

2. **EXAMINATION OF THE EYE**

- routine examination procedures
- clinical ophthalmic instruments and their optics
- examination of the eyelids, ocular surface and anterior segment employing focal and general illumination
- preocular tear film investigation
- slit-lamp biomicroscopy
- intraocular pressure assessment (tonometry)
- gonioscopy
- examination of the fundus (direct and indirect ophthalmoscopy)

- fundus photography
- electroretinography, visual evoked responses
- diagnostic radiology of the eye and nasal lacrimal apparatus
- other imaging techniques (e.g. ultrasonography, CT scans and MRI)
- exfoliative cytology
- biopsy techniques, tissue fixation and processing
- systematic case recording

3. **DISEASES OF THE EYE AND ADNEXA**

(for injuries and neoplasia see separate sections)
3.1 **Upper and lower eyelids**
- entropion
- ectropion
- distichiasis
- ectopic cilia
- trichiasis
- ankyloblepharon
- symblepharon
- lagophthalmos
- ptosis
- blepharitis
- chalazion
- hordeolum
- dermatoses

3.2 **Third eyelid**
- deformities (eversion, inversion, scrolling)
- prolapsed nictitans gland
- prominence
- inflammatory conditions (including plasma cell infiltration)

3.3 **Lacrimal system**
- lacrimation
- epiphora
- diseases of the lacrimal and accessory lacrimal glands; keratoconjunctivitis sicca
- dacryocystitis and dacryoadenitis
- congenital and acquired anomalies of the puncta, canaliculi and nasolacrimal duct

3.4 **Conjunctiva**
- dermoids
- conjunctival inflammation (chemosis, hyperaemia, haemorrhage, discharge)

3.5 **Cornea**
- dermoids
- keratitis: specific (e.g. chronic keratitis - pannus, feline corneal sequestrum, feline eosinophilic/proliferative keratitis, infectious bovine and ovine keratoconjunctivitis) and non-specific forms
- ulceration
- degenerations, dystrophies and infiltrations
- distortions (keratoconus, keratoglobus)
- differential diagnosis of corneal opacification, vascularisation and pigmentation
3.6 Episclera and sclera
- episcleritis
- benign fasciitis
- scleritis
- scleral ectasia

3.7 Uveal tract
- congenital defects (e.g. persistent pupillary membrane, colobomata, anomalies of pigmentation)
- anterior uveitis, posterior uveitis and panuveitis
- abnormalities of pupil size, shape and mobility
- aqueous opacities (e.g. flare, hyphaema, hypopyon)

3.8 Glaucoma
- primary glaucoma
- secondary glaucoma

3.9 Lens
- congenital and developmental lens defects
- heritable cataracts
- acquired cataracts
- lens luxation

3.10 Vitreous
- congenital abnormalities (e.g. persistent hyperplastic primary vitreous - PHPV)
- acquired conditions (e.g. opacities, degenerations)

3.11 Retina and choroid
- collie eye anomaly - (CEA)
- retinal dysplasia
- hereditary retinopathies (central progressive retinal atrophy - CPRA, generalised progressive retinal atrophy - PRA, hemeralopia, nyctalopia)
- acquired non-inflammatory retinopathies (e.g. nutritional, metabolic, sudden acquired retinal degeneration - SARD)
- retinitis and chorioretinitis
- retinal detachment
- retinal haemorrhage

3.12 Optic nerve
- aplasia, hypoplasia
- coloboma
- optic neuritis
- papilloedema
- cupping of optic disc
- optic atrophy
- equine proliferative optic neuropathy

3.13 **Neuro-ophthalmology**

- visual pathways and visual fields
- reflex pathways
- autonomic pathways (e.g. Horner's syndrome)
- nystagmus and disorders of ocular mobility
- blindness of central origin

3.14 **Orbital and periorbital conditions**

Congenital and acquired conditions of the orbit and globe
- microphthalmos, anophthalmos, congenital cystic eye
- exophthalmos
- enophthalmos
- orbital cellulitis, and abscessation
- myositis
- neoplasia
- hydatidosis
- periorbital conditions (e.g. malar abscess, neoplasia, equine ethmoid haematoma)

4. **Ocular Neoplasia**

Primary and secondary neoplasia of the eye and adnexa and its management.

5. **Injuries**

- open and closed injuries of the eye and adnexa
- foreign bodies
- thermal and chemical injuries
- orbital and periorbital fractures
- wound healing

6. **Ocular Signs of Systemic Disease**

Many systemic, or generalised, diseases and disorders can have ocular manifestations. Some examples are given.

6.1 **Viral and rickettsial diseases**: canine distemper, infectious canine hepatitis, feline leukaemia, feline peritonitis, feline herpes virus infection, rabies, bovine virus diarrhoea - mucosal disease complex, infectious bovine rhinotracheitis, bovine malignant catarrhal fever, ovine scrapie, hog cholera.
6.2 **Bacterial diseases**: many potential organisms, eg. listeriosis, leptospirosis, tuberculosis, brucellosis, chlamydia species, mycoplasma spp.

6.3 **Protozoal infections**: babesiosis, toxoplasmosis, ehrlichiosis.

6.4 **Mycotic and algal infections**

6.5 **Parasitic infections**: dirofilariasis, toxocariasis, leishmaniasis, onchocerciasis, angiostrongylosis.

6.6 **Neoplastic diseases**: ocular lesions the result of metastases from primary tumours elsewhere in the body, eg. lymphoma, carcinoma, melanoma.

6.7 **Metabolic and nutritional diseases**: diabetes mellitus, dyslipoproteinaemias, inborn errors of metabolism, hypovitaminosis A, thiamine deficiency, taurine deficiency.

6.8 **Toxic agents**: lead poisoning, bracken poisoning.

6.9 **Immune mediated diseases**: allergies, autoimmune diseases.

6.10 **Vascular disorders**: congenital heart disease, hypergammaglobulinaemia, polycythaemia, blood dyscrasias, anaemia, hypertension.

6.11 **Non-specific findings**: pallor, vessel engorgement, cyanosis, haemorrhage, jaundice.

7. **INHERITED OCULAR DISEASE**

- principles of genetics
- modes of inheritance
- test mating
- control measures
- pedigree data analysis
- breed predispositions

8. **THERAPEUTICS**

- routes of administration of ocular therapeutic agents
- vehicles and preparations
- cleansing agents
- lubricants and tear replacement preparations
- therapeutic soft contact lenses, collagen shields, methacrylate glue etc.
- local anaesthetics
- systemic analgesics
- cauterising agents
- mydriatics: cycloplegics and non-cycloplegics
- miotics
- agents used in the treatment of glaucoma
- antihistamines
- antibacterials, antifungals, antivirals, parasiticides
- steroidal and non-steroidal anti-inflammatory agents
- immunosuppressants
- nutraceuticals
- chemotherapy
- radiotherapy
- cryotherapy, hyperthermia
- electrocautery, catholysis
- medical lasers

9. **OCULAR SURGERY**

9.1 **Principles of ophthalmic surgery**

Consideration should be given to the instruments, suture materials and magnification required for extraocular surgery. Species differences must be taken into account with respect to techniques used and response to surgery. Candidates for the diploma must have a working knowledge of intraocular surgery, including pre-operative and post-operative care of the patient and general anaesthesia. Certificate candidates should possess a basic knowledge of the principles of ophthalmic surgery.

9.2 **Eyelid surgery**

- correction of congenital and acquired lid abnormalities
- canthotomy
- tarsorrhaphy
- reconstructive lid surgery including grafts

9.3 **Third eyelid**

- correction of congenital and acquired abnormalities
- correction of prolapsed nictitans gland
- third eyelid flaps
- surgical techniques for neoplasia

9.4 **Conjunctiva**

- conjunctival grafts

9.5 **Lacrimal system**

- correction of punctal and nasolacrimal duct abnormalities
- parotid duct transposition

9.6 **Cornea**

- treatment of erosions, ulcers
- keratectomy
- reconstructive surgery
- lamellar and penetrating keratoplasty
9.7  **Anterior chamber**
- surgical approaches
- paracentesis

9.8  **Uvea**
- iris prolapse
- iridectomy
- iridotomy
- ciliary body surgery: cryotherapy, cyclophotocoagulation

9.9  **Glaucoma**
- drainage procedures
- cryosurgery
- diathermy
- laser surgery

9.10  **Lens**
- luxation
- cataract extraction

9.11  **Retina**
- biopsy
- detachment surgery

9.12  **Vitreous**
- vitrectomy

9.13  **Orbit and globe**
- exploratory techniques
- prolapse of the globe
- enucleation
- evisceration
- exenteration
- prosthesis

10.  **OCULAR TOXICOLOGY**
The effect of drugs and toxic substances on the eye.
- methods of examination and recording
- toxic effects on the conjunctiva, lacrimal secretions, cornea, uvea (including tapetum), lens (including cataractogenic drugs), retina, visual pathways
- ocular conditions of common laboratory species (eg. congenital lesions, dacryoadenocystitis, light-induced retinopathy)
- selection of species for toxicity testing, species differences relating to toxic effects
- drug-testing and safety evaluation protocols
- role of regulatory authorities
ROYAL COLLEGE OF VETERINARY SURGEONS

SPECIALISATION AND FURTHER EDUCATION

Certificate and Diploma in Veterinary Ophthalmology

READING/REFERENCE LIST

Candidates should note that the reading list for the Certificate and Diploma in Veterinary Ophthalmology was frozen in 2002 and will eventually be withdrawn. Candidates are expected to research the literature for themselves and are recommended to make use of the RCVS Library and Information Service for this purpose (http://www.rcvslibrary.org.uk/, e-mail library@rcvs.org.uk or telephone 020 7222 2021). Candidates should also seek advice on suitable reading matter from their advisers.

The books marked below by the following symbol * are those that the Board considers useful for Certificate candidates. Diploma candidates are expected to read widely in the course of their studies and should therefore be able to exercise their own preferences.

STANDARD TEXTS

GENERAL OPHTHALMOLOGY


SMALL ANIMAL


**CANINE**


**FELINE**


**EQUINE**


**FARM ANIMAL**


**TEXTS CONTAINING USEFUL MATERIAL ON THE EYE**


USEFUL TEXTS - OUT OF PRINT (but may be available at the RCVS library or as interlibrary loan)


(see also ACVO publication 1999: Ocular Disorders Presumed to be Inherited in Purebred Dogs).


**VETERINARY CLINICS OF NORTH AMERICA**


MEDICAL OPHTHALMOLOGY – USEFUL BOOKS


OPHTHALMOLOGY JOURNALS (some also available on line)


Veterinary Ophthalmology 1998 onwards.

British Journal of Ophthalmology

Investigative Ophthalmology and Visual Science

Eye.

ADDITIONAL INFORMATION


MEDLINE database – (online/CD-Rom/Internet version of Index Medicus) (freely available as ‘PUBMED’ or ‘Internet GratefulMed’ on Internet).

Unit for Veterinary Continuing Education incorporating Veterinary Audio-Visual Library, Royal Veterinary College, London. Contact Unit VCE for catalogue with current programmes available.

Veterinary Bulletin.

Vetstream.

The accessing of recent publications, as well as useful texts that are now out of print, can be done through the RCVS library website: www.rcvslibrary.org.uk
PLEASE ENSURE THAT YOU COMPLETE A FORM E1 (TO BE FOUND IN THE COMMON DOCUMENTS) AND ATTACH IT TO THIS FORM

THE ROYAL COLLEGE OF VETERINARY SURGEONS
SPECIALISATION AND FURTHER EDUCATION

DIPLOMA IN VETERINARY OPHTHALMOLOGY
Details of the veterinary practical centre in which experience is being gained to meet the requirements of the byelaws (see schedules) with periods of time amounting to or equivalent to at least two years which shall include 200 days in an approved centre of substantial experience in the subject concerned).

If more than one practice/centre, please photocopy this form and complete in respect of each such practice/centre).

Name of practice and address
________________________________________________________________________________________

Date of commencement of employment: ______________________________________________________

(and date of leaving if you are no longer employed at this address): ____________________________

Please indicate if this is your base or primary workplace □ OR Other/second establishment □

Please indicate if this is a practice □ or an approved centre □
Numbers of veterinary surgeons usually working in your place of employment
________________________________________________________________________________________

CHECKLIST
Based on the approximate figures for the last twelve months, please provide the details below.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of ophthalmology cases for which you have personal responsibility per month</th>
<th>Number of ophthalmology cases seen each month for you do not have primary responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs</td>
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<tr>
<td>Cats</td>
<td></td>
<td></td>
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<tr>
<td>Other small mammals (rabbits etc)</td>
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<tr>
<td>Non-mammals (e.g. birds, fish, reptiles, amphibians)</td>
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<td>Farm animals</td>
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<tr>
<td>Horses</td>
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<tr>
<td>Other (specify)</td>
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</tbody>
</table>
Additional future experience
Please indicate how you intend to gain experience of species that you have not yet included, but which are listed above.
Place where experience is planned
Type of experience to be gained
Tick yes or no in the box provided.

<table>
<thead>
<tr>
<th>Ophthalmic Equipment</th>
<th>Yes</th>
<th>No</th>
<th>Facilities</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focal illumination</td>
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<td>Examination area that can be darkened</td>
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<td>Condensing lens(es)</td>
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<tr>
<td>Magnifying loupe</td>
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<tr>
<td>Slit lamp biomicroscope</td>
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<td>Direct ophthalmoscope</td>
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<td>Monocular indirect ophthalmoscope</td>
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<td>Binocular indirect ophthalmoscope</td>
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<td>Tonometer</td>
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<td>Gonioscopy lens</td>
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<td>State Type</td>
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<tr>
<td>Surgical equipment</td>
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<tr>
<td>Operating microscope</td>
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<tr>
<td>Instruments for extraocular surgery</td>
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<tr>
<td>Microsurgical instruments</td>
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</table>

Ophthalmic Equipment Facilities

<table>
<thead>
<tr>
<th>Diagnostic disposables</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Ophthalmic stains fluorescein</td>
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<td>Ophthalmic stains rose bengal</td>
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<td>Schirmer tear test papers</td>
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<td>Tropicamide</td>
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<tr>
<td>Topical local anaesthetic</td>
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<tr>
<td>Equipment for obtaining samples</td>
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<tr>
<td>Lacrimal cannulae</td>
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<tr>
<th>Other diagnostic equipment</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Electroretinography</td>
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<td>Radiology</td>
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<td>Ultrasonography</td>
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<tr>
<td>Other</td>
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Specify

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<th>Proposed subject for dissertation:</th>
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Candidates are required to submit, as part of the examination, a dissertation based on a research project in any aspect of Veterinary Ophthalmology, or on an evaluation of preventive medicine or disease control scheme in which the candidate is personally involved.

Please state below the proposed title for your dissertation, and give a brief outline of the project or scheme on which it will be based and your own involvement therein:

Signature: ___________________________ Date: ___________________________

PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES
THE ROYAL COLLEGE OF VETERINARY SURGEONS
SPECIALISATION AND FURTHER EDUCATION

DIPLOMA IN VETERINARY OPHTHALMOLOGY

Application for FINAL approval of experience and for permission to submit an entry to the next examination to be completed and returned to the RCVS, Belgravia House, 62–64 Horseferry Road, London, SW1P 2AF, by 1 November of the year in which you wish to sit the examination. NO LATE APPLICATIONS WILL BE ACCEPTED.

1. TITLE

2. NAME in full (block letters)

3. DEGREES/DIPLOMAS/CERTIFICATES (in abbrev. form)

4. ADDRESS for all correspondence (block letters)

5. (a) TELEPHONE No(s) (for contact during the day)

   (b) FAX No. (for contact during the day)

   (c) EMAIL

6. DATE OF ENROLMENT (MONTH/YEAR)

   If application for enrolment is being submitted concurrently with this application, please state ‘concurrent’.

7. PERIODS OF EXPERIENCE BEING OFFERED to meet the requirements of the byelaws

<table>
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<tr>
<th>Veterinary branch of other branch of profession (name and address)</th>
<th>Period of employment (from/to)</th>
<th>Certified by Adviser</th>
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   If there has been any change in the work-load of the practice/centre, or in your personal work load, since you applied for enrolment, please give details below:
8. ATTENDANCE AT RELEVANT SHORT COURSES OVER PAST THREE YEARS

Title of course attended: ____________________________________________________________

Dates and venues: ________________________________________________________________

9. OTHER INVOLVEMENT IN RELATION TO VETERINARY OPHTHALMOLOGY

List any attendances at relevant congresses, conferences, meetings, symposia, etc., with dates:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

10. PUBLICATIONS/ARTICLES/PAPERS/LECTURES

Give details below (including involvement in the instruction of others):
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

11. OTHER POSTGRADUATE STUDIES

During the period of experience being offered, have you been or are you studying for any other postgraduate qualification? YES/NO

If Yes, please give brief details:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

12. SUBMITTED WORK

Title of dissertation: ______________________________________________________________

Has an outline been submitted [on form E1(a)] and approved by the Board? YES/NO.

13. I HEREBY APPLY FOR FINAL APPROVAL OF EXPERIENCE AND FOR PERMISSION TO SUBMIT AN ENTRY TO THE NEXT DIPLOMA EXAMINATION IN VETERINARY OPHTHALMOLOGY

I certify that the period of experience being offered has not been/is not being offered to meet the requirements of the byelaws for any other RCVS Certificate or Diploma.
14. CONFIRMATION OF INTENT TO SIT THE EXAMINATION

If approval of experience is granted, I do/do not (delete as appropriate) intend to submit an entry to the next examination (closing date for receipt of entries is 1 March).

Signature: _______________________________ Date: __________________________

THE FOLLOWING SECTION SHOULD BE COMPLETED BY YOUR ADVISER.

I confirm that I am acting as this candidate’s Adviser.

Name: ________________________________________________________________

Signature: _______________________________ Date: __________________________

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DIPLOMA IN VETERINARY OPHTHALMOLOGY

Candidates should refer to the lists of Specialists and Diploma holders published in Section 3 of the RCVS Register of Members

April 2008
1. List the DNA-based tests available for hereditary eye diseases in dogs. For each test include the condition and the gene involved.

2. What is a visually evoked potential (VEP)? How can it be recorded and how can it be of value in the assessment of a visually impaired patient?

3. Discuss neuroprotection as a potential treatment for glaucoma.

4. Describe the types of neoplasm that affect the eyelid of:
   (a) the cat
   (b) the rabbit.

5. Compare and contrast band keratopathy and lipid keratopathy in the dog.

6. List the various factors in intra-ocular regional immunity.

7. Provide an annotated diagram of the visual cycle.

P.T.O. for Questions 8 - 10
8. **Describe** the mode of action of each of the following therapeutic agents:

a) L-Lysine

b) Interferon α (Interferon alpha)

c) Fusidic acid

d) Brinzolamide.

9. **Briefly describe** the venous and lymphatic drainage of the orbit in the dog.

10. **Indicate** the site and function of the following proteins found within the eye:

a) Melanopsin

b) Carbonic anhydrase

c) Alpha crystallin

d) Retinal guanylate cyclase 1.
Candidates are required to answer five out of the following six questions.

Allow 36 minutes per question.

The use of simple labelled diagrams, where appropriate, is encouraged.

Illegible handwriting or failure to answer the question in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.

If insufficient time is available to answer a question fully, it will be acceptable to complete in note form.

1. Discuss hereditary glaucoma in dogs. Provide an evidence-based rationale for using gonioscopy as a tool to reduce the incidence of glaucoma in a chosen breed of dog.

2. Discuss abnormalities in pupillary function.

3. Discuss the management of retinal detachment.

4. Discuss four ophthalmic conditions of your choice that affect birds.

5. Discuss ocular and adnexal neoplasia in the ox and the horse with respect to tumour type and possible management.

6. List and discuss the viral infections which can cause ocular disease in:
   a. the ox and horse

   OR

   b. the dog and cat.