



## AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

### FELLOWSHIP GUIDELINES

#### *Veterinary Behavioural Medicine*

#### ELIGIBILITY

1. The candidate must meet the eligibility prerequisites for Fellowship outlined in the *Fellowship Candidate Handbook*.
2. Membership of the College, in Veterinary Behaviour or Animal Behaviour, must be achieved prior to the Fellowship examination.

#### OBJECTIVES

To demonstrate that the candidate has sufficient training, experience, knowledge and accomplishment in veterinary behavioural medicine (veterinary psychiatry) to meet the criteria for registration as a specialist in this field

#### LEARNING OUTCOMES

1. The candidate will have a **detailed**<sup>1</sup> knowledge of:
  - 1.1. the normal or typical behaviour of the main domesticated animal species and those commonly kept as companion animals
  - 1.2. the development of normal and abnormal behaviour, including epigenetics, emotional development, the influence humans may have in the developmental process, and the consequences of any anomalies in this process
  - 1.3. motivation and its effect on behaviour
  - 1.4. the emotions of animals

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<sup>1</sup> **Knowledge levels:**

**Detailed knowledge** — candidates must be able to demonstrate an in-depth knowledge of the topic including differing points of view and published literature. The highest level of knowledge.

**Sound knowledge** — candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.

**Basic knowledge** — candidate must know the main points of the topic and the main literature.

- 1.5. the neuro-anatomy, neurochemistry and the physiology of behaviour
  - 1.6. mental health issues (behavioural problems), their possible aetiologies, methods of diagnosis, and currently-accepted treatment protocols
  - 1.7. the pharmacology of medications used in the field of veterinary behavioural medicine
  - 1.8. diagnose and treat animals with mental health (behavioural) problems; obtain a behavioural and environmental history, interpret species specific body language, undertake a clinical workup, diagnose disorders, and treat animals
2. The candidate will have a **sound** knowledge of:
- 2.1. the normal behaviour of those animal species commonly kept as zoological specimens, those species used in laboratory settings, and common pest/feral species
  - 2.2. the effects that domestication, and/or selective breeding have on the behaviour of commonly-kept species
  - 2.3. learning theory, and its application in training and behaviour modification techniques, and its involvement in the development of certain behaviour disorders
  - 2.4. using training tools and equipment currently available to assist in the process of managing animals with training and mental health problems. Demonstrated ability to select, fit and use appropriate equipment.
  - 2.5. behavioural/environmental enrichment / needs, including techniques currently employed and their importance in companion, captive, domesticated, and laboratory animal species. Demonstrated ability to apply these techniques.
  - 2.6. critically evaluate research papers, and experimental information for reliability and accuracy, with a demonstrated understanding of current scientific research methods and their limitations
3. The candidate will be able to do the following with **basic**<sup>2</sup> expertise:
- 3.1. the key concepts of animal management in urban, periurban, rural and remote communities as well as the concepts underpinning the legislation that applies to animals at local, state and federal levels in the area in which the candidate works or resides.
  - 3.2. the therapeutic roles that animals currently play in society, and the importance of the human-animal bond
  - 3.3. the key concepts of animal welfare, including methods that can be used to evaluate it and their limitations, current codes of practice, public concerns, and animal rights issues.
  - 3.4. the normal grieving process of an owner upon the death of a pet or the grief that owners feel when their pet does not appear to meet their expectations in so far as

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<sup>2</sup> Skill levels:

**Detailed expertise** — the candidate must be able to perform the technique with a high degree of skill, and have extensive experience in its application. The highest level of proficiency.

**Sound expertise** — the candidate must be able to perform the technique with a moderate degree of skill, and have moderate experience in its application. A middle level of proficiency.

**Basic expertise** — the candidate must be able to perform the technique competently in uncomplicated circumstances.

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physical or mental health.

3.5. demonstrate ability to effectively communicate with clients and peers.

## EXAMINATIONS

Refer to the *Fellowship Candidate Handbook*, Section 5. The Fellowship examination has **four separate, autonomous components**:

1. **Written Paper 1** (*Component 1*)  
Principles of the Subject (four hours)
2. **Written Paper 2** (*Component 2*)  
Applied Aspects of the Subject (four hours)
3. **Practical Examination** (*Component 3*)  
Practical (two hours)
4. **Oral Examination** (*Component 4*)  
Oral (two hours)

The written examination will comprise of two separate four-hour written papers taken on two consecutive days. There will be an additional 20 minutes perusal time for each paper, during which no typing is permitted. The exam may include a series of short answer questions, multiple-choice questions or may require an essay-type response. The exam is worth a total of 240 marks and all questions must be answered. Allocated marks to each question/sub question will be clearly indicated.

### **Written Paper 1:**

This paper is designed to test the candidate's knowledge of the principles of veterinary behavioural medicine as described in the Learning Outcomes listed earlier.

### **Written Paper 2:**

This paper is designed to (a) test the candidate's ability to apply the principles of veterinary behavioural medicine to particular cases/problems or tasks, and to (b) test the candidate's familiarity with the current practices and issues that arise from activities within the discipline of veterinary behavioural medicine as described in the Learning Outcomes.

### **Practical Examination:**

This examination further tests practical aspects of the Learning Outcomes and will focus predominantly on complex case presentations as would be appropriate for specialist referral. Multimedia is likely to be used as a stimulus for questions for which written answers will be required. No perusal time will be given for the practical exam. The practical will consist of a series of questions with sub-questions, equating to a total of 120 marks. Marks allocated to each question and to each sub-section will be clearly indicated on the examination paper.

**Oral Examination:**

The oral examination is designed to test practical aspects of the Learning Outcomes, and will examine a wide variety of issues; including current literature, controversial topics in veterinary behavioural medicine, as well as less detailed case material. Multimedia is likely to be used as a stimulus for questions for which verbal answers will be required. The candidate will be presented a series of questions. The examination has a total of 100 marks.

## TRAINING PROGRAM

Refer to the *Fellowship Candidate Handbook*, Section 3.3.

### ACTIVITY LOG SUMMARY (ALS)

In an attempt to ensure adequate exposure to the variety of behavioural cases seen in specialist practice, the cases in the Activity Log Summary must be identified using the following categories. These categories must be identified in the Activity Log Summary (Appendix 1). [Templates are available from the College website under Fellowship – Fellowship Forms.](#)

- Canine
- Feline
- Other small companion animals
- Avian
- Equine
- Production Animal
- Laboratory species
- Feral/pest species
- Exotic and zoological species

Candidates must document 300 cases with 280 cases being canine and feline. The other 20 cases should be drawn from at least three of the other animal groups listed above.

Revisit appointments on the same case for the same presenting problem are **not** to be entered separately in the Activity Log Summary. For species other than dogs and cats, the candidate needs to have an involvement in the case, but does not necessarily need to be the primary clinician.

### ADJUNCT TRAINING

For the purposes of this subject **only**, case acquisition through training in a species other than cats and dogs may be achieved by "adjunct" supervised training with a recognised expert in the behaviour of that particular species. This "expert" does not necessarily need to have animal behaviour specialist qualifications as per the Principal Supervisor but must be authorised by the Training and Credentials Committee (TCC) on the basis of his/her qualifications and experience. The candidate will submit a brief summary and explanation of the adjunct supervisor's qualifications in advance to the TCC for approval prior to starting their supervision.

During periods of "adjunct" training with "adjunct" supervisors, the Principal Supervisor must:

1. Maintain prime responsibility for and regular contact with the Candidate, and monitor the Candidates' progress.
2. At least once weekly communicate (by phone, electronically or in person) with the Candidate to discuss the management of the non-small animal behaviour cases the Candidate has been exposed to during adjunct training periods.

3. Sign the ALS entries that represent "adjunct" training periods, indicating that they accurately document work the Candidate performed during "adjunct" periods.

Adjunct training in the behaviour of non-small animal species may be undertaken as full-time Directly Supervised Training either at the primary training facility or elsewhere for a minimum of two weeks. This is not required to be taken in a block.

### **TRAINING IN RELATED DISCIPLINES**

Refer to the *Fellowship Candidate Handbook*, Section 2.4.2.

### **EXTERNSHIPS**

Refer to the *Fellowship Candidate Handbook*, Section 2.4.1.

### **PUBLICATIONS and PRESENTATIONS**

Refer to the *Fellowship Candidate Handbook*, Section 2.10

**Appendix 1: Activity Log Summary (ALS) by Species (Template): Veterinary Behavioural Medicine**

**NAME:**

**SUBJECT:**

**DATE:**

**Number of Cases/Activities**

CATEGORY	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	Current TOTAL	Previous TOTAL
CANINE														
FELINE														
OTHER SMALL COMPANION ANIMALS														
AVIAN														
EQUINE														
PRODUCTION ANIMAL														
LABORATORY SPECIES														
FERAL/PEST SPECIES														
EXOTIC AND ZOOLOGICAL SPECIES														
Current TOTAL														
Previous TOTAL														
Cumulative TOTAL														

**Signature of supervisor:** \_\_\_\_\_



## RECOMMENDED READING LIST<sup>3</sup>

The Candidate is expected to research the depth and breadth of the knowledge of the discipline.

As there is currently no collection of textbooks that meet the requirement of core textbooks, a longer list of recommended textbooks have been included. The books indicated by an asterix\* are ones that should be reviewed with areas of knowledge within these books is required to be at a detailed level. The supervisor will be able to provide detailed advice on which areas this includes. Candidates should also be aware that new editions of all textbooks may become available during the course of their residency and newer editions should be consulted.

Candidates should also review texts pertaining to the general principles of behaviour as well as species specific material, then use other books to fill in clinical information. Current textbooks in the fields of internal medicine, neurology, and neuroscience should also be reviewed with emphasis on veterinary behavioural medicine. Candidates should also try to be familiar with readings and texts in the field of human psychiatry as it pertains to veterinary behavioural medicine.

The books below are grouped into categories for ease of reference for the Candidate.

This list is not comprehensive and is not intended as an indicator of the content of the examination.

### Learning Theory, Cognition

Reisberg D Cognition: Exploring the Science of the Mind (5th edition), [www.wwnorton.com](http://www.wwnorton.com), 2012

Schwartz B, Robbins SJ: Psychology of Learning and Behavior (5th edition), [www.wwnorton.com](http://www.wwnorton.com), 2001

Mazur J Learning and Behavior (7th edition) Pearson 2012 \*

Wasserman EA, Zentall TR (eds) Comparative Cognition: Experimental Explorations of Animal Intelligence, [www.oup.com/us](http://www.oup.com/us) 2009

### Neurology/Neuroscience/Physiology/Endocrinology

Bear MF, Connors B, Paradiso M, et al Neuroscience—Exploring the Brain (3rd edition), [www.lww.com](http://www.lww.com), 2006

Carlson NR Physiology of Behavior (11th edition); Allyn and Bacon Publishers 2012 \*

Doidge N The brain that changes itself Scribe Publications 2010

Kandel ER, Schwartz JH, Jessell TM Principles of Neural Science (5th edition) McGraw Hill Medical 2013\*

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<sup>3</sup> Textbook Definitions:

**Core textbook** – candidates are expected to own a copy of the textbook and have a detailed knowledge of the contents.

**Recommended textbook** – candidates should own or have ready access to a copy of the book and have a sound knowledge of the contents.

**Additional references** – candidates should have access to the book and have a basic knowledge of the contents

**Additional Reading Materials** - These are conference proceedings, other non-refereed publications and other journals that would offer some information in the subject area including differing points of view, but are not required reading.

Lorenz MD, Kornegay JN Handbook of Veterinary Neurology (5th edition), [www.elsevier.com](http://www.elsevier.com) , 2010

Nelson RJ An Introduction to Behavioral Endocrinology (4rd edition), [www.sinauer.com](http://www.sinauer.com) ,2012 \*

Nelson RJ Biology of Aggression; Oxford University Press, [www.oup.com/us](http://www.oup.com/us) 2005

Panksepp, J , Biven L. The Archeology of the Mind: The Neuroevolutionary Origin of Human Emotion W.W. Norton and Co 2004 \*

### **Pharmacology**

Crowell-Davis SL, Murray T Veterinary Psychopharmacology [www.blackwellprofessional.com](http://www.blackwellprofessional.com) 2005 \*

Maddison J, Church and Page Small Animal Clinical pharmacology (2 nd Ed) Elsevier 2008

Sadock, Kaplan HI, Sadock BJ Pocket Handbook of Psychiatric Drug Treatment (4th edition), Williams & Wilkins, [www.lww.com](http://www.lww.com) 2013

Schatzberg AF, Nemeroff CB The American Psychiatric Publishing Textbook of Psychopharmacology (4th edition) American Psychiatric Press [www.appi.org/](http://www.appi.org/) 2009

Stahl SM Stahl's Essential Psychopharmacology: Neuroscientific Basis and Practical Applications (3rd edition), Cambridge Univ. Press (also online edition), [www.cambridge.org/us/medicine/stahl/](http://www.cambridge.org/us/medicine/stahl/) 2013 \*

Stahl SM The Prescriber's Guide (6th edition) <http://www.cambridge.org/us/catalogue/> 2017

### **Clinical Texts**

Beaver BV Canine Behavior : Insights and Answers (2nd edition) [www.elsevier.com](http://www.elsevier.com) 2008

Beaver BV Feline Behavior (2nd edition) [www.elsevier.com](http://www.elsevier.com)<http://www.iowastatepress.com> 2003

Horwitz D, Mills D, Heath S BSAVA Manual of Canine and Feline Behavioural, Medicine (2nd edition), BSAVA [www.wiley.com](http://www.wiley.com) 2010

Horwitz D, Neilson J Blackwell's Five Minute Behavior Consult: Canine and Feline Behavior [www.blackwellprofessional.com](http://www.blackwellprofessional.com) 2018

Landsberg GM, Hunthausen WL, Ackerman L Behavioural Problems of the Dog and Cat (3rd edition), [www.elsevier.com](http://www.elsevier.com) 2013\*

Overall KL Manual of Clinical Behavioral Medicine for Dogs and Cats, Mosby, [www.elsevier.com](http://www.elsevier.com) 2013\*

### **Domestic Species Specific Behavior**

Appleby M, Mench J, Hughes B Poultry Behaviour and Welfare, [www.cabi-publishing.org](http://www.cabi-publishing.org) 2004

Albright JL, Arave CW The Behaviour of Cattle, [www.cabi-publishing.org](http://www.cabi-publishing.org) 1997

Bradshaw JW The Behaviour of the Domestic Cat, (2nd edition) [ww.cabi-publishing.org](http://ww.cabi-publishing.org) 2013\*

Coppinger R, Coppinger L Dogs: a Startling New Understanding of Canine Origin, Behavior and Evolution, Scribner, [www.simonsays.com](http://www.simonsays.com) 2001

Broom DM, Fraser AF Domestic Animal Behaviour and Welfare (4th edition), Oxford University Press, [www.oup.com](http://www.oup.com) 2007\*

Houpt KA Domestic Animal Behavior for Veterinarians and Animal Scientists (6th edition) <https://www.wiley.com/WileyCDA/Brand/id-> 2018\*

Bays T, Lightfoot T, Mayer J Exotic Pet Behavior. Birds, reptiles and Small Mammals. Elsevier 2006

Lindsay SR Applied Dog Behavior and Training; Iowa State University Press, Volumes 1-3, [www.iowastatepress.com](http://www.iowastatepress.com) 2000- 2005

Lynch, J., Hinch, G., and Adams, D CABI The behaviour of sheep Publishing 1992

McDonnell S The Equid Ethogram, a Practical Field Guide to Horse Behavior, [www.eclipsepress.com](http://www.eclipsepress.com) 2003\*

McGreevy P Equine Behavior: A Guide for Veterinarians and Equine Scientists (2nd edition) [www.elsevier.com](http://www.elsevier.com) 2012

Miklosi A Dog Behavior, Evolution, and Cognition Oxford Press 2015\*

Scott FP, Fuller JL Genetics and the Social Behavior of the Dog, [www.press.uchicago.edu](http://www.press.uchicago.edu) (Reprint of 1965) 1998\*

Serpell J The Domestic Dog: its Evolution, Behaviour, and Interactions with People; [www.cambridge.org/us](http://www.cambridge.org/us) 2017 \*

Turner DC, Bateson P (eds) The Domestic Cat: the Biology of Its Behaviour (3rd edition); [www.cambridge.org/us](http://www.cambridge.org/us) 2014\*

Waring, George Horse Behavior (2nd edition), Noyes Publications 2007

### **Lab/Zoo Animals/Exotic/Wild Animals**

Estes RD The Behavior Guide to African Mammals, Including Hoofed Mammals, Carnivores, Primates, U. of California Press, 20th Anniversary edition, [www.ucpress.edu](http://www.ucpress.edu) 2012\*

Hosey G, Melfi V, and Pankhurst S Zoo Animals: behaviour, management, and welfare (2nd edition) Oxford University Press 2013

Kleiman DG, Allen ME Thompson KV, et al (eds) Wild Mammals in Captivity: Principles and Techniques, (2nd edition), [www.press.uchicago.edu](http://www.press.uchicago.edu) 2012

Luescher AU (ed) Manual of Parrot Behavior [www.blackwellprofessional.com](http://www.blackwellprofessional.com) 2006\*

Montague, Thomas (ed.) The Brushtail Possum - Biology, Impact and Management of an Introduced Marsupial Manaaki Whenua Press 2006

Quesenberry K, Carpenter JW Ferrets, Rabbits and Rodents: Clinical Medicine and Surgery, (3rd edition), WB Saunders, [www.elsevier.com](http://www.elsevier.com) 2011

Tynes V (ed) Behavior of Exotic Pets Blackwell Publishing 2010\*

Wolfensohn S, Honess P Handbook of Primate Husbandry and Welfare Blackwell Publishing 2005

### **Ethology/Genetic**

Archer J The behavioural biology of aggression Cambridge University Press 1988

Alcock J Animal Behavior: An Evolutionary Approach (10th ed.); www.sinauer.com E-Book available: (www.coursesmart.com/9780878932252), 2013\*

Grandin T Genetics and the Behavior of Domestic Animals (2nd edition), Academic Press; www.elsevier.com 2013

Wilson EO Sociobiology: The New Synthesis (25th anniversary edition); www.hup.harvard.edu 2000 (1975 reprint)\*

Wyatt TD: Pheromones and Animal Behaviour- communication by smell and taste Cambridge University Press 2003

### **Quantification of Behaviour**

Lehner PN The Handbook of Ethological Methods (2nd edition), www.cambridge.org 1998

Martin P, Bateson P Measuring Behaviour: An Introductory Guide (3rd edition); www.cambridge.org 2007\*

Dawkins MS Observing Animal Behaviour: Design and Analysis of Quantitative Data, Oxford University Press 2007\*

### **Animal Welfare / Shelter Medicine**

Appleby MC, Hughes BO, Elson Animal Welfare, (2nd edition) www.cabi-publishing.org 2011

Broom DM, Fraser AF Domestic Animal Behavior and Welfare (4th edition), Oxford University Press www.oup.com 2007\*

Fraser D Understanding Animal Welfare: The Science in its Cultural Context Universities Federation for Animal Welfare (UFAW) Publication www.wiley.com/wiley-blackwell 2008

Grandin T Improving Animal Welfare: A Practical Approach www.cabi-publishing.org 2010

Hemsworth, Paul H. and Coleman, Grahame J: Human – Livestock interactions: the stockperson and productivity and welfare of intensively farmed animals CABI 1998

Kaliste E The Welfare of Laboratory Animals Springer 2004

Mason G, Rushen J (eds) Stereotypic Animal Behavior: Fundamentals and Applications to Welfare www.cabi-publishing.org 2008\*

Mellor D, Patterson- Kane E, Stafford KJ The Sciences of Animal Welfare Wiley-Blackwell 2009

Merck MD Veterinary Forensic Investigation of Animal Cruelty: A Guide for Veterinarians and Law Enforcement Blackwell 2012

Miller L, Zawistowski S, Editors Shelter Medicine for Veterinarians and Staff, (2nd edition) Blackwell Publishing 2013

Moberg G, Mench JA The Biology of Animal Stress: Basic Principles and Implications for Animal Welfare [www.cabi-publishing.org](http://www.cabi-publishing.org) 2000\*

Reinhardt V Comfortable Quarters for Laboratory Animals (9th edition) [www.awionline.org](http://www.awionline.org) 2002\*

Reinhardt V Taking Better Care of Monkeys and Apes [www.awionline.org](http://www.awionline.org) 2008\*

Rochlitz I The Welfare of Cats Springer 2007

Rodan I, Heath S Feline Behavioral Health and Welfare, (1st edition) 2015\*

Serpell, J.A. In the Company of Animals: A Study of Human-Animal Relationships. Cambridge: Cambridge University Press (Original published in 1986 by Basil Blackwell). 1996

Yin, S.A. Low Stress Handling restraint and behaviour modification of dogs and cats Cattle Dog Pub

Young RJ Environmental enrichment for captive animals Blackwell Publishing 2003

## Other Suggested Reading

Because scientific knowledge expands and changes, Candidates are also expected to remain current regarding scientific literature in the field of the veterinary behavioural medicine. This includes research in a variety of fields beyond clinical veterinary behaviour. The Candidate should be able to determine whether an article is of clinical significance or not. Journals listed below are particularly significant. The list is not all-inclusive.

### Journals<sup>4</sup>

Animal Behaviour

Animal Cognition

Animal Welfare

Anthrozoos

Applied Animal Behaviour Science \*

BMC Veterinary research

Journal of the American Veterinary Medical Association

Journal of Applied Animal Welfare Science\*

Journal of Comparative Psychology

Journal of Feline Medicine and Surgery

Journal of Veterinary Behavior: Clinical Applications and Research\*

Veterinary Clinics of North America (recent behaviour editions)

Veterinary Record

Candidates are also expected to be familiar with the classic and current behaviour literature from various journal sources. Classic behaviour literature includes seminal scientific articles whose findings are particularly significant, frequently referenced or may strongly influence later developments

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<sup>4</sup> Journal Definitions:

**Core Journal** – candidates are expected to have ready access to either print or electronic versions of the journal and have a detailed knowledge of the published articles in the subject area.

**Recommended Journal** – candidates should have ready access to either print or electronic versions of the journal and have a sound knowledge of the published articles in the subject area.

**Additional Journal** – candidates should be able to access either printed or electronic versions of the journal and have a basic knowledge of the published articles in the subject area.

## **FURTHER INFORMATION**

For further information, contact The College Office

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