



AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

FELLOWSHIP GUIDELINES

Animal Welfare Science, Ethics and Law

ELIGIBILITY

1. The candidate must meet the eligibility prerequisites for Fellowship outlined in the *Fellowship Candidate Handbook*.
2. Membership of the College must be achieved prior to the Fellowship examinations.
3. Membership may be in any discipline.

OBJECTIVES

To demonstrate that the candidate has sufficient training, experience, knowledge and accomplishment in Animal Welfare Science, Ethics & Law to be recognised as a leading authority in this field by his/her colleagues in the veterinary profession.

LEARNING OUTCOMES

1. The candidate will have a **detailed¹ knowledge** of the following core learning outcomes:
 - 1.1. The history of animal welfare, including the development, and driving factors behind the social, philosophical and scientific components of Animal Welfare Science, Ethics and Law:
 - How animal welfare is defined and measured including contemporary approaches in the scientific assessment of animal stress and wellbeing, based on an appropriate selection of scientific disciplines including ethology, physiology and neuroscience.
 - Genetic, environmental and evolutionary determinants of pain, stress and fear responses in animals.

¹ **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 core literature.

- The nature of cognition and motivation in animals.
 - The physiological basis of pain, its assessment and alleviation in animals.
 - Methods for assessing and enhancing animal environments and husbandry systems.
 - The role of stockmanship and human behaviour in animal welfare responses to human-animal interactions.
 - The design, conduct and analysis of scientific experiments to examine welfare issues.
 - Animal welfare implications and necessary safeguards in relation to procedures and use of technologies (e.g. genetic modification, surgical and medical techniques).
- 1.2. How ethical principles influence animal welfare in animal husbandry, companion animal care, vertebrate pest control, and animals used for display, sport, entertainment and scientific research including:
- The cultural foundations of human perception and treatment of animals.
 - The philosophical issues and concepts involved in animal ownership and use by humans (e.g. utilitarian, animal rights, duty-based approaches).
 - Ethical approaches to the balancing of harm and benefits in animal use.
 - The approaches to ethical evaluation of the use of technologies (e.g. xenotransplantation, animal-animal transplantation, cloning).
 - The ethical basis of professional conduct in relation to animal welfare.
 - The ethical approaches to resolving potential conflicts between animal welfare and other interests (e.g. environment, human society, other animals).
- 1.3. The legal background and principles of animal welfare in Australia and New Zealand including:
- The process of the development of public policy and legislation in animal welfare and the factors which influence this process.
 - The key Acts governing animal welfare in the Candidate's jurisdiction, and the principles on which they are based.
 - Legal responsibilities of various stakeholders with regard to animal welfare.
 - The regulation of animal welfare standards in the Candidate's jurisdiction.
 - The legal basis and associated processes regulating the use of animals in experiments in the Candidate's jurisdiction.

1.4. The ethical and legal responsibilities of the veterinarian in animal welfare including:

- The role of the veterinarian as an expert witness in animal welfare cases and disputes.
- The ethical principles for veterinarians in resolving conflicts between animal welfare, client interests and commercial interests.
- The roles of veterinary professional bodies and associations in animal welfare.

2. The candidate will have a **sound knowledge** of:

2.1. Animal husbandry and management procedures, including general husbandry, nutrition and management of domestic farm animals, companion animals, wildlife and laboratory animals.

2.2. Animal physiological and behavioural responses, including normal physiological and behavioural responses of domestic farm animals, companion animals, wildlife and laboratory animals.

2.3. Animal stress responses including the impact of stress on disease in domestic farm animals, companion animals, wildlife and laboratory animals.

3. **Elective-specific learning outcomes**

At the time of submission of the Training Program Document (TPD) the candidate will be required to nominate to the Training and Credentials Committee (TCC), **two (2)** of the following seven (7) electives:

Elective 1: Wildlife management and welfare including pest control

Elective 2: Laboratory animal science

Elective 3: Applied ethology

Elective 4: International legal, regulatory and trade aspects of animal welfare

Elective 5: Companion animal management and welfare

Elective 6: Performance animal management and welfare

Elective 7: Production animal management and welfare

The candidate is expected to have a **sound knowledge** of **all the elective topics**. For the nominated **two (2) electives, the candidate will be expected to have a detailed knowledge** of the following learning outcomes:

3.1. Elective 1: Wildlife management and welfare including pest control:

- Principles of humane wild and pest animal management
- Control strategies for wild, feral and pest animal control and associated welfare risks and benefits
- Assessment protocols for objectively measuring the welfare impact of control strategies
- Regulatory aspects of animal control

- Animal welfare management of captive wild animals, including those born in captivity
- Current research focus to improve welfare outcomes
- Ethical considerations pertaining to management of native and introduced species
- Wildlife trade – extent and nature of legal and illegal activities, regulation, welfare impact.

3.2. Elective 2: Laboratory animal science:

- Health, disease, housing and management of animals commonly used for research
- Assessment of impact of scientific procedures and strategies for applying the Three Rs- reduction, refinement and replacement
- Pain management in laboratory animals
- Assessment of competence of animal technicians and researchers. Advances in the use of non-animal alternatives
- Ethical considerations when assessing research applications
- Animal welfare monitoring protocols
- Regulation of use of animals for scientific purposes
- Optimal use of environmental enrichment for specific lab animal species.

3.3. Elective 3: Applied ethology:

- The development of the science of ethology and its application to domestic animals
- Ethological principles in the evaluation of animal welfare problems
- Ethological methodologies – application and limitations
- Types of abnormal behaviour in animals and their relationship to welfare
- The ethological and neurophysiological basis of behavioural pathologies and strategies for their alleviation.

3.4. Elective 4: International legal, regulatory and trade aspects of animal welfare:

- The status of animals and animal welfare considerations within international legal and regulatory systems
- The role of key international bodies in animal welfare and trade in animals and their products (e.g. OIE, WTO, CITES)
- The regulation and welfare impact of transportation of live animals by land, sea and air
- The variations in the status of animal welfare in international markets for animal products and the driving factors that contribute to these variations

- Illegal international animal trade- extent and potential use of regulations for control (e.g. banning of trade in ivory).

3.5. Elective 5: Companion animal management and welfare:

- Management of competing interests of companion animals, their owners, other members of the community and the environment
- Housing and management and euthanasia of impounded and rescue animals
- Welfare aspects of dangerous dog control regulations and processes
- Inter-relationship between regulation of companion animal control and animal welfare legislation
- Management of animals with hereditary problems including advice on breeding programmes (e.g. brachycephalic breeds)
- Management of cosmetic procedures (tail docking, ear cropping of dogs declawing cats)
- The link between animal abuse and domestic violence
- How the human-animal relationship impacts animal management and welfare
- Dog bite risk and prevention.

3.6. Elective 6: Performance* animal management and welfare

- Management of performance animals, including housing, nutrition, health care and breeding
- Training of performance animals
- Transport of performance animals
- Use of drugs in performance animals
- Ethical and welfare considerations of surplus performance animals.
- Legal protection and welfare standards of performance animals.
- Ethical considerations relating to the use of performance animals.
- Monitoring protocols to assess welfare of performance animals.

*Performance animals include animals used for work (including assistance and therapy animals), sport, competition, exhibition and entertainment.

3.7. Elective 7: Production animal management and welfare

- Management and husbandry practices of production animals
- Transport and slaughter of production animals
- Welfare assessment in production animals
- The role of the veterinarian in the welfare of production animals
- The development of policy and husbandry strategies that affect welfare of production animals
- Welfare implications of breeding technologies
- Legal protection and welfare standards of production animals
- Role of retailers and consumers in changing practices and management of production animals
- Selection, training and monitoring of stockhandlers and farm workers.

4. The candidate will be able to demonstrate:

- 4.1. **detailed² expertise** when assessing the welfare standards of animals on a farm, in a laboratory or elsewhere and writing a report defending their assessment and identifying possible means to improve the animals' welfare if necessary
- 4.2. **detailed expertise** when reviewing the literature relating to an animal welfare issue, producing a document which identifies the problems pertaining to the issue, identifying the necessary research to clarify these and developing the relevant research protocols
- 4.3. **sound expertise** when developing policies and codes relating to particular husbandry procedures or species management.

²Skill 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.

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

In each examination, 70% of questions will deal with core components and 30% with the elective components of the subject.

Written examinations:

The written examinations 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 writing in an answer booklet is permitted. In each paper you are provided with 12 questions to answer each worth 20 marks, giving a total of 240 marks per paper. There is no choice of questions. Questions may be long essay type or a series of small sub-questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

Written Paper 1:

This paper is designed to test the candidate's knowledge of the principles of Animal Welfare Science, Ethics and Law as described in the Learning Outcomes. Answers may cite specific examples where general principles apply, but should primarily address the theoretical basis underlying each example.

Written Paper 2:

This paper is designed to (a) test the candidate's ability to apply the principles of the Animal Welfare Science, Ethics and Law to particular cases/problems or tasks, and to (b) test the candidate's familiarity with the current practices and current issues that arise from activities within the discipline of Animal Welfare Science, Ethics and Law in Australia and New Zealand.

Practical Examination:

The practical examination is designed to test practical aspects of the Learning Outcomes. Candidates will be required to compose written answers pertaining to the interpretation and management of case-based material presented. Case material may include research results, description of research methodology, detailed scenario descriptions, images and videos. Candidates must demonstrate deep understanding and interpretation of presented materials relevant to animal welfare, ethics and law. No perusal time will be given for the practical exam. The practical will consist of a series of ten (10) to twelve (12) questions with sub-questions, equating to a total of 180 marks. Marks allocated to each question and to each sub-section will be clearly indicated on the written paper.

Oral Examination:

The oral examination is designed to test practical aspects of the Learning Outcomes. Candidates will be asked to discuss different scenarios relating to animal welfare, ethics and law in detail. Eight (8) to ten (10) cases are presented with supporting material and questions asked verbally in a face-to-face setting. The oral examination has a total of 200 marks. Some images, video and other relevant documents may be used during this examination.

TRAINING PROGRAM

Refer to the *Fellowship Candidate Handbook*, Section 2

Full-Time Formal Training Programs are programs that involve the candidate completing at least two years of Full-Time Directly Supervised Training (DST). These programs are generally undertaken at a location with suitable facilities, case material and Supervisors. Training involves activities such as structured periods of direct instruction, study, or practical experience, presenting, teaching and research in an academic environment.

Candidates will be involved in one or several aspects of animal welfare including but not exclusive teaching, research, administration, policy development enforcement and/or management. They may be working in academia, government, NGOs, or the private sector.

During their training program candidates may be engaged in any one or several of the following:

- Research into an aspects of animal welfare science, ethics or law;
- Teach animal welfare science, ethics or law these at a tertiary level;
- Policy development in animal welfare science, ethics or law in a government, NGO or private sector setting;
- Enforcement of animal welfare legislation in a government, NGO or private sector setting;
- Private practice with an emphasis on animal welfare (e.g. in an animal shelter).

This list is not exclusive and a candidate may be engaged in activities which might be considered worthy of enrolment in the program.

A full-time formal training program is one where the candidate is in active training in the chosen discipline for at least 40 hours per calendar week and has access to the supervisor at least 25 hours per week. This program requires at least 96 weeks minimum for completion.

Part-time and alternative training programs will be assessed on a case-by-case basis, and must comply with the College requirements outlined in the *Fellowship Candidate Handbook*.

Candidates will attend weekly discussions with their supervisor/s and colleagues on relevant topics; the equivalent of rounds. They will meet in a journal club setting with other candidates on a fortnightly basis to discuss relevant papers and reports.

Candidates will attend at least 2 seminars and one conference each year directed at animal welfare and will be encouraged to present at these meetings. In addition they will be expected to attend Science Week each year.

SUPERVISORS

The candidate must nominate one appropriately qualified principal supervisor and one secondary supervisor to supervise and oversee their Training Program. Supervisors must meet the requirements stipulated in Section 2.7 of the *Fellowship Candidate Handbook*. The supervisor does not have to be working specifically in the chosen elective.

The secondary supervisor does not need to be co-located with the primary supervisor, but candidates need to have equivalent access to the secondary supervisor to meet the requirements of DST during periods when the primary supervisor is away or unavailable.

EXTERNSHIPS

Refer to the *Fellowship Candidate Handbook*, Section 2.4.1

TRAINING IN RELATED DISCIPLINES

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

TRD supervisors have to be a Fellow, Diplomate or a registered specialist in the field chosen or a recognised expert, these will need prior approval.

Suggested disciplines for related discipline training include: veterinary epidemiology, philosophy, bioethics, physiology, veterinary immunology and cognitive science.

ACTIVITY LOG AND ACTIVITY LOG SUMMARY

Refer to the *Fellowship Candidate Handbook*, Section 2.8 and 2.9

The Activity Log (AL) should be recorded using the format in **Appendix 1**. The candidate will be expected to log their activity in their particular aspect of animal welfare. For example, those involved in research would log their research projects; in government, their policy/code development; and in consultancy, their clinical work. An example of an Activity Log entry is included in Appendix 1.

There are three separate areas of research projects, government policy/code development and clinical consultancies. It is recommended that candidates achieve an Activity Threshold of 20 in their area of daily occupation (e.g. government policy/code development) and a total of 20 across the other two areas, comprising some activities in each area.

The candidate should have the primary role in 30 of the 40 activities. Candidates are expected to engage in different aspects of animal welfare to develop a breadth of knowledge and experience and this will be reflected in their Activity Log.

The Activity Log Summary (ALS) should be kept in the format of **Appendix 2**. An example of an Activity Log Summary for Animal Welfare Science, Ethics and Law is included in Appendix 2.

Both the AL and the ALS are required to be submitted with each annual supervisors report (ASR).

PUBLICATIONS AND PRESENTATION

Refer to the *Fellowship Candidate Handbook*, Section 2.10

As part of the publication requirements stipulated by the *Fellowship Candidate Handbook*, at least one (1) of the two (2) publications must be a review article about an issue in animal welfare science, ethics or law.

One (1) of the publications must be based on an original research project for which the candidate was responsible as this is stated in the *Fellowship Candidate Handbook* and will need to be considered appropriate for the speciality. Again the Chapter Subject Standards Committee (SSC) will have to decide if the research is relevant to the speciality. At least one (1) of the publications needs to come from the chosen elective.

RECOMMENDED READING LIST

List of Suggested Information Sources

The candidate is expected to read widely within the discipline, paying particular attention to areas not part of their normal work experiences. This list of books and journals is intended to guide the candidate to some core references, including comparative texts, and other source material. Candidates also should be guided by their supervisor. The list is not comprehensive and is not intended as an indicator of the content of the examination.

Core Texts³

Appleby MC, Olsson AS, & Galindo F (2018) *Animal Welfare* (2nd ed.). Wallingford, Oxfordshire, UK: CABI.

Broom, DM, & Fraser AF (2015) *Domestic animal behaviour and welfare* (5th ed.). Wallingford, UK: CAB International.

Dawkins MS (2012) *Why Animals Matter: Animal consciousness, animal welfare, and human well-being*. Oxford: Oxford University Press.

Flecknell P & Waterman-Pearson A (2000) *Pain management in animals*. WB Saunders.

Fraser D (2008) *Understanding animal welfare: The science in its cultural context* (UFAW Animal Welfare)

Grandin T (2014) *Livestock handling and transport* (4th ed.). Wallingford, UK: CAB International.

³ 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.

Mellor D, Patterson-Kane E & Stafford K (2009) *The Sciences of Animal Welfare* (UFAW Animal Welfare).

Mullan S & Fawcett A (2017) *Veterinary Ethics: Navigating Tough Cases* (S. Mullan & A. Fawcett Eds.). Sheffield, United Kingdom: 5m Publishing.

Robertson I A (2015) *Animals, Welfare and the Law: fundamental principles for critical assessment*. Abingdon: Routledge.

Sandøe P & Christiansen SB (2008) *Ethics of animal use*. John Wiley and Son

Sandøe P, Corr S & Palmer C (2016) *Companion Animal Ethics*. Oxford, UK: UFAW.

Recommended texts

Appleby MC, Mench JA & Hughes BO (2004) *Poultry Behaviour and Welfare* CABI Publishing

Armstrong S J & Botzler R (2008) *The Animal Ethics Reader* (2nd ed.). Abingdon: Routledge.

Ascione Frank R Ed. (2008) *The International Handbook of Animal Abuse & Cruelty* Purdue University Press

Benson GH & Rollin BE (2004) *The wellbeing of farm animals*. Blackwell Publishing.

Legood G (2000) *Veterinary ethics*, Continuum.

McGreevy P (2004) *Equine Behaviour*. Saunders.

McMillan F (2005) *Mental Health & Well-Being in Animals*: Ed Franklin McMillan DVM.

OIE (2005) *Animal Welfare: Global issues, trends & challenges* Scientific and Technical Review.

Mellor D, Thornber P, Bayvel D, & Kahn S (2008) *Scientific assessment & management of animal pain*. OIE, Technical Series Volume 10.

Merk M (2007) *Veterinary Forensics: Animal Cruelty Investigations*, Blackwell Publishing.

Overall KL (2013) *Manual of clinical behavioral medicine for dogs & cats*. Elsevier.

Phillips C (2002) *Cattle Behaviour and welfare*. Blackwell Publishing.

Regan T & Singer P, Eds. (1976) *Animal Rights and Human Obligations*. New Jersey, Prentice-Hall.

Rollin B (2006) *An introduction to veterinary medical ethics: Theory and Cases* 2nd Edition Iowa State University Press.

Singer P (1995) *Animal Liberation*. London: Pimlico (Random House).

Waran N (ed) (2002) *The Welfare of Horses*. Kluwer Academic Publishers.

Webster J (2005) *Limping towards Eden*, Blackwell Science.

Young RJ (2003) *Environmental Enrichment for Captive Animals*. UFAW.

Journals⁴

Animal Welfare

Applied Animal Behaviour

Legislation

Australian State and Territory Animal Welfare Legislation and Codes of Practice

It is recommended that the candidate refer to the legislation and codes for their own particular state or territory.

New Zealand Animal Welfare Legislation

MPI Animal Welfare Website (<https://www.mpi.govt.nz/protection-and-response/animal-welfare/>) [Accessed January 31, 2019]

Additional Readings

Animal Behaviour

Animal Welfare

Anthrozoös

Science Australian Veterinary Journal Australian Veterinary Practitioner Canadian Veterinary Journal Compendium for Continuing Education

Frontiers of Veterinary Science

Journal of the American Veterinary Medical Association

Journal of Animal Law

Journal of Applied Animal Welfare Science

Journal of Veterinary Behavior: Clinical Applications and Research Journal of Veterinary Research

Laboratory Animals

⁴ 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.

New Zealand Veterinary Journal
The Veterinary Journal
Veterinary Clinics of North America
Veterinary Record

Information Resource Centres

Animal Welfare Science Centre (<https://www.animalwelfare-science.net/>) [Accessed May 19, 2019]

ANZCCART (<http://www.adelaide.edu.au/ANZCCART/>) [Accessed May 19, 2019]

International Fund for Animal Welfare (IFAW) (<https://www.ifaw.org/united-kingdom>) [Accessed May 19, 2019]

BVA Animal Welfare Foundation (<http://www.bva-awf.org.uk/>) [Accessed May 10, 2019]

Universities Federation for Animal Welfare (UFAW) (<http://www.ufaw.org.uk/>) [Accessed May 10, 2019]

RSPCA Australia (<http://www.rspca.org.au/>) [Accessed May 10, 2019]

SPCA NZ (<https://www.spca.nz/>) [Accessed May 10, 2019]

The Australian Veterinary Association (<http://www.ava.com.au>) [Accessed May 10, 2019]

The New Zealand Veterinary Association (<http://www.nzva.org.nz/>) [Accessed May 10, 2019]

American Veterinary Medical Association Animal Welfare (<http://www.avma.org/>) [Accessed May 10, 2019]

Animal Behavior Network (www.animalbehaviour.net) [Accessed May 10, 2019]

Canadian Council on Animal Care (<http://www.ccac.ca>) [Accessed May 10, 2019]

World Organisation for Animal Health (OIE) (<http://www.oie.int/animal-welfare>) [Accessed May 10, 2019]

FURTHER INFORMATION

For further information contact the College Office

Telephone: International +61 (07) 3423 2016

Email: examinations@anzcvs.org.au

Web: www.anzcvs.org.au

Postal Address: Building 3, Garden City Office Park, 2404 Logan Road
EIGHT MILE PLAINS QLD 4113 Australia.

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Appendix 1: Activity Log for Animal Welfare Science, Ethics and Law

Name: Mr C. Andidate

Date: May 2019-20	Activity: Report on the animal welfare implications of body condition scores in dairy cows for DairyInsight NZ
Category: (either: research; policy development; legal representation; report on issue; consultation on welfare standard) Report on an issue	
Animal Welfare Issue Identified: High genetic merit for milk production combined with a dependence on a pasture-based grazing system result in a majority of cows losing significant body weight and condition score in early lactation under New Zealand conditions. If animals do not calve in a sufficiently high condition score, then they may become excessively thin and in poor condition after calving. This weakens the animal, and also makes it more susceptible to hypothermia, metabolic disease, lameness and infertility.	
Analysis of Animal Welfare Issue: Proper management of body condition score (BCS) is important for milk production, cow fertility, animal welfare and dairy farm profitability. Body condition score loss and gain are natural events in the lactation/pregnancy cycle of all mammals. Irrespective of what a cow is fed, her physiology dictates that she will mobilise body condition rapidly in the first 6 to 8 weeks postcalving. An ideal BCS at calving is 5 for mature cows and 5.5 for 1st and 2nd lactation cows. Fatter cows at calving lose more BCS, but are still in better condition at mating.	
Outcome: Report completed and Report attached	
Role (describe your role in this activity)	
Learning outcomes addressed: (list numbers) 1.1, 2.1	

Signature of supervisor _____

Appendix 2:

Include in superscript brackets how many in each category completed in primary role e.g. 6⁽³⁾

Name: Mr. C. Andidate

Activity log summary for Animal Welfare Science, Ethics and Law

Example.

Category:

Year	2019	2020	2021	2022
Research				
Policy development				
Legal presentation				
Report on issue				
Consultation on welfare standard				