



Specialist Competencies in Nutrition Science

A summary of the specific competencies for registration as an Animal Nutritionist as deemed essential by the NSA.

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WHAT DOES A NUTRITIONIST DO?

The practice of nutrition science aims to advance, apply and promote understanding of the effects of nutrients on growth, development, reproductive capacity, health and well being in humans; and health, welfare and productivity in animals. The function of a Nutritionist is to elicit, integrate, disseminate and apply scientific knowledge drawn from the relevant sciences, to promote an understanding of the effects of nutrition, and to enhance the impact of food on health and well-being of animals and/ or people.

The roles of Nutrition Scientists can include, but are not limited to the following position titles and subsequent responsibilities:

- ◆ Research Assistant, Research Fellow, Research Programme Director, Reader, Lecturer or Professor, who conduct, plan, manage and/or commission research.
- ◆ Lecturer, Senior Lecturer, Professor, and other academic teachers in higher education institutes or universities who teach basic nutrition at undergraduate and postgraduate levels e.g. to: Bioscientists; Nutrition Scientists; Animal Scientists; Consumer Scientists; Agricultural Scientists; Food Scientists and Technologists; and Health Professionals among others.
- ◆ Lecturer, and or trainer, in initial or advanced training for vocational occupations or professions, such as: Dietitians and Doctors; Veterinary Surgeons; Sport Scientists; Fitness Instructors; Caterers and Schoolteachers among others.
- ◆ Nutrition Communicator, writer or director of nutrition communication, responsible for providing externally verifiable scientific evidence – based information, education, nutrition health promotion and nutrition education, both directly and by vigorous exposure of assertions not based upon science (“quackery”).
- ◆ Industry nutritionist in the application of sound nutrition principles to the characterisation, preparation, processing or labelling of foods and diets to meet the needs of man for normal development and good health and/ or for health and sustainable, efficient productivity in animals.
- ◆ Public nutritionist in the application of sound nutrition principles to assess nutritional status in order to help healthy individuals to choose and follow healthier diets; or improve performance or productivity of animals.
- ◆ Animal nutritionist involved in the formulation of diets to meet the needs of animals in health and diseases.
- ◆ Animal nutritionist involved in the application of nutrition knowledge to veterinary practice, to treat or support the recovery of animals, normally as part of a team with or as a regulated health or veterinary professional.
- ◆ Public health nutritionist involved in the preparation of expert advice to government and/or to professional bodies and other organisations to help formulate nutrition, food and health policy and plan nutrition programmes.



SPECIALIST COMPETENCES IN NUTRITION

Applicants eligible for registration will be able to demonstrate the following minimum competencies:

- ▶ Recognises strengths and weaknesses in research methods, showing understanding of the limitations of the scientific basis of nutritional knowledge.
- ▶ Can identify or propose strategies or solutions designed to:
EITHER improve the health and well being of humans.
OR improve the welfare and/or productivity of animals.
- ▶ Able to analyse the composition of foods.
- ▶ Able to assess the diet and nutritional status of individuals and groups of individuals, and is able to explain his/ her choice of methods.
- ▶ Able to plan, conduct, analyse and report on investigations into an aspect of nutrition in the laboratory and/ or in the field in a responsible, safe and ethical manner.
- ▶ Knows how to record, collate, analyse, interpret and report nutrition-related data using appropriate statistical methods.
- ▶ Able to demonstrate the formulation of ideas and opinions in nutrition; including the communication and exchange of information concerning food, nutrients, and nutrition effectively; in ways appropriate to the needs of specialist and public target audiences.
- ▶ Be aware of the evidence-based nutritional guidelines, such as the Australian Guide to Healthy Eating and Nutrient Reference Intakes.
- ▶ Knows how to explain the evidence based nutritional guidelines to individuals and groups for the promotion of good health.



UNDERPINNING NUTRITION SUBJECT KNOWLEDGE

Graduates eligible for registration will be able to demonstrate:

- ◆ Understanding of the nature of nutrients (including water and alcohol); a nutrient's essentiality, conditional essentiality and dispensability, nutrient limitation and beneficial non-nutrients.
- ◆ Familiarity with the food sources of nutrients, and other major dietary components, including toxins and anti-nutrients.
- ◆ Understanding of digestion, absorption, metabolism and excretion of nutrients and an appreciation of the biological effects of inert ingesta on the organism.
- ◆ Understanding of the nature and extent of the metabolic demand of an organism for nutrients, the effects of altered supply and demand of each nutrient.
- ◆ Understanding of the role of diet, foods and nutrients in the maintenance of health and in the prevention or causation of disease or dysfunction throughout the lifecycle.
- ◆ Familiarity with nutritional physiology and biochemistry including:
 - Control of food intake and choice;
 - Bio-availability and utilisation;
 - Energy and nutrient balance;
 - Nutrient turnover and storage;
 - Nutrient-gene interactions;
 - Body composition;
 - Fertility, reproduction and lactation;
 - Homeostasis and homeorrhesis;
 - Adaptation and its limits;
 - Immunity & allergy.
- ◆ Understanding of the methods for acquiring and interpreting information about diet and nutritional status, and about the interactions between diet, health and disease.
- ◆ Understanding of the derivation and purpose of nutrient reference values, and sources and use of standards and other reference data.
- ◆ Appreciation of how food production, supply, and preparation can determine chemical composition and content of dietary nutrients and other constituents
- ◆ Understanding of the economic, social & behavioural factors that influence food supply, choice, access, and consumption.
- ◆ Understanding of the links between evidence and action as a basis for policy concerned with food and nutrition in relation to public health.



WHAT DOES AN ANIMAL NUTRITIONIST DO?

Animal Nutritionists work in the feed industry or trade associations, in local, regional, national and international government departments and agencies, in tertiary education and professional vocational training, and in research in animal nutrition.

REGISTRATION AS AN ANIMAL NUTRITIONIST

The requirements for Full registration as a Registered Animal Nutritionist are:

- a) Competence in nutrition
- Recognise strengths and weaknesses in research methods, showing understanding of the limitations of the scientific basis of nutritional knowledge.
 - Identify or propose strategies or solutions designed to improve the welfare and/or productivity of animals.
 - Able to analyse the composition of foods.
 - Able to assess the diet and nutritional status of individuals and groups of individuals, and is able to explain his/ her choice of methods.
 - Able to plan, conduct, analyse and report on investigations into an aspect of nutrition in the laboratory and/ or in the field in a responsible, safe and ethical manner.
 - Know how to record, collate, analyse, interpret and report nutrition-related data using appropriate statistical methods.
 - Able to demonstrate the formulation of ideas and opinions in nutrition; including the communication and exchange of information concerning food, nutrients, and nutrition effectively; in ways appropriate to the needs of specialist and public target audiences.
 - Be aware of the evidence-based nutritional guidelines, such as the Australian Guide to Healthy Eating and Nutrient Reference Intakes.
 - Know how to explain the evidence based nutritional guidelines to individuals and groups for the promotion of good health.

b) Specialist Education

A BAgSc, BSc, B Animal Science, B Rural Science or equivalent degree with a major in nutrition, awarded by a University or Institute of Higher Education, as deemed appropriate by the NSA Registration Committee.

And either (ii) or (iii) or (iv):

(ii) Completion of a PhD in nutrition, nutritional biochemistry/physiology or an appropriate area, at a University or Institute of Higher Education.

Or:

(iii) Masters in Nutrition degree or an appropriate area, at a University or Institute of Higher education.

Or:

Other formal education or training in nutrition, along with evidence of competency in nutrition through professional experience in relevant projects or placements undertaken during training or practice as deemed appropriate by the Registration Committee.

c) Appropriate experience



SPECIALIST COMPETENCES IN ANIMAL NUTRITION

Registrants must provide evidence that they are competent in the following core specialist competencies in animal nutrition that complement generic competencies;

- The specific feeding standards or nutritional requirements of one or more species of domestic animals.
- Knowledge of the characteristics of the foods used in diets for domestic or wild animals.
- Knowledge of the physiological characteristics of one or more species of domestic or wild animals that determine their nutritional requirements.
- Knowledge of the effect of malnutrition on one or more species of domestic or wild animals
- Ability to provide advice on:
 - (a) Good feeding practice of one or more species of domestic or wild animals.
 - (b) Prevention or correction of malnutrition in one or more species of domestic or wild animals
 - (c) Formulation of diets for one or more species of domestic or wild animals.

Animal Nutritionists will be expected to show leadership in animal nutrition and animal nutrition-related issues and the determinants of the following:

- Surveillance and assessment
- Promotion and education
- Collaborative working practices
- Policy and strategy development and implementation
- Strategic planning, research and development
- Ethical management of self, people, animals and resources.

Registered Animal Nutritionists will develop an understanding of and commitment to abide by guidance on ethical aspects of managing self and others, as set out in the **NSA Code of Ethics and Statement of Professional Conduct**.