

## GENERAL CONSIDERATIONS

The Faculty of Animal Science and Veterinary Medicine (FZMV/UFLA) is recognized with reference in the area of Animal Production and Science and Public/Unique Health. FZMV's area of activity is very important for Brazil, since it is a country with a natural vocation for agriculture due to its favorable climatic and territorial characteristics and its great diversity, making agriculture one of the main bases of the country's economy. In 50 years, Brazil went from being an importer to an exporter of meat, to one of the largest exporters of beef, pork, poultry and, more recently, fish. The increase in animal protein production occurred thanks to research carried out in the area of Animal Production and Science and Public/Unique Health. At FZMV/UFLA, professors/researchers have national and international recognition in the generation of scientific knowledge in the different chains linked to the production of food of animal origin, as well as in the guarantee of quality, processing, and food safety.

The professors/researchers are linked to one of the 4 Postgraduate programs of the FZMV, they are: Postgraduate Program in Animal Science; Graduate Program in Veterinary Sciences; Postgraduate Program in Science and Technology of Animal Production and Veterinary Medical Residency. Below is a brief description of the programs:



## LINES OF RESEARCH OF INTEREST IN PARTNERSHIPS WITH CHINESE UNIVERSITIES

### B1. MONOGASTRIC NUTRITION:

B1.1. ASIH (ANIMAL SCIENCE AND INTESTINAL HEALTH), focusing on:

- Microbiome
- Immune response
- Intestinal barrier function

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### B2. PRODUCTION AND NUTRITION OF RUMINANTS:

B2.1. MEAT SCIENCE AND NUTRIGENOMICS, focusing on:

- Nutrition of confined beef cattle
- Nutritional factors that influence meat and carcass quality of beef cattle
- Molecular biology applied to ruminant nutrition.
- Modeling Applied to Animal Growth
- Effect of genetic and environmental factors on muscle development and meat quality
- Gestational Nutrition and Fetal Programming

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### B3. ANIMAL HEALTH AND PUBLIC HEALTH, focusing on:

- Bacterial infectious diseases of importance to animal health and public health
- One Health strategy and seek to contribute to the search for new or more effective vaccines, investigate the parasite-host relationship, improve or develop diagnostic strategies,
- Determine the epidemiological situation and disease risk factors
- Imuno-proteomic, genomic and metagenomic

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### B4. PHARMACOLOGY AND ANIMAL THERAPEUTIC, focusing on:

- Veterinary drug development;
- Veterinary pharmacometrics (PopPK, PBPK, PKPD)
- Precision veterinary therapeutics

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# FZMV UFLA



## PARTNERSHIP PROSPECTS WITH CHINESE UNIVERSITIES

## 1. GRADUATE PROGRAM IN ANIMAL SCIENCE

It has concept 6 by CAPES, therefore, recognized by as a program of excellence and with international insertion. The program features the following areas of concentration and lines of research:

### **Production and Nutrition of Non-Ruminants:**

- Nutritional, physiological and metabolic aspects in the production and reproduction of non-ruminants;
- Evaluation of additives for non-ruminant animals;
- Molecular biology applied to nutrition and genetic improvement in non-ruminants;
- Determination of nutritional requirements and evaluation of feeds in non-ruminants;
- Production factors that influence meat quality in non-ruminants;
- Breeding, nutrition and reproduction in freshwater fish.

### **Production and Nutrition of Ruminants:**

- Nutritional, physiological and metabolic aspects in the production and reproduction of ruminants;
- Evaluation of additives for ruminant animals;
- Molecular biology applied to nutrition and genetic improvement in ruminants;
- Determination of nutritional requirements and evaluation of food in ruminants;
- Production factors that influence meat quality in ruminants;
- Forage evaluation, production and conservation.

## 2. GRADUATE PROGRAM IN VETERINARY SCIENCES

It has concept 5 by CAPES, therefore, recognized by as a program of excellence. The program features the following areas of concentration and lines of research:

### **Clinic, Surgery and Veterinary Pathology:**

- Veterinary cardiology, orthopedics and toxicology;
- Imaging diagnosis and medicine of domestic, exotic and wild animals;
- Pathology of the main animal diseases.

### **Animal Physiology and Metabolism:**

- Physiology and metabolism in different freshwater fish species;
- Incubation management and its influence on the physiological and metabolic parameters of the birds;
- Nanotechnology and pharmacokinetics based on physiological and pathophysiological mechanisms;
- Use of animal models for studies of toxicity and disease mechanisms.

### **Animal production and reproduction:**

- Biotechnology, physiology and nutrition applied to animal reproduction;
- Management of cattle production systems;
- Nutrition, metabolism and well-being of cattle and other species;
- Quality of products of animal origin in production systems.

### **Animal Health and Collective Health:**

- Epidemiology and unique health applied to disease control and health promotion;
- Immunoparasitology and nanotechnology applied to immunology;
- Mastitis and bacterial resistance to antimicrobials;
- Parasite-host relationship and tick control.

## 3. GRADUATE PROGRAM IN ANIMAL PRODUCTION SCIENCE AND TECHNOLOGY

The Program is offered in the Stricto Sensu professional postgraduate training modality, designed to meet the educational needs of professionals working in the Animal Agroindustry and aims to train masters to preferentially exercise other activities that do not involve academic teaching and scientific research. . The CTPA emphasizes a qualification aimed at applied research, technology production and process innovation and production management in the Animal Agroindustry complex. It comprises training guided by well-qualified demands and emphasis on the development of superior skills at a critical, strategic, creative, analytical and interpretive level in solving advanced problems in the animal production sector. Since 2022, the Program has been offering the professional master's degree in climate change and low-carbon agriculture.

## 4. VETERINARY MEDICAL RESIDENCE

The Veterinary Medical Residence brings together the programs of Internal Medicine for Companion Animals; Surgical Clinic and Anesthesiology for Companion Animals; Large Animal Medical Clinic; Animal Pathology; Surgical Clinic and Large Animal Anesthesiology; Diagnostic Imaging in Veterinary Medicine and Veterinary Clinical Pathology.