

Years 11–12 Agriculture



Syllabus outcomes and related content that require knowledge and understanding of animal welfare are listed below.

Stage 6 Preliminary course

Overview

Outcomes

A student:

- P1.1 describes the complex, dynamic and interactive nature of agricultural production systems
- P1.2 describes the factors that influence agricultural systems

Content

Students learn about:

- agricultural systems
 - the impact of physical, biological, social, historical and economic factors on systems

Farm Case Study

Outcomes

A student:

- P1.2 describes the factors that influence agricultural systems
- P3.1 describes the role of decision-making in the management and marketing of agricultural products in response to consumer and market requirements
- P5.1 identifies the role of associated technologies and technological innovation in producing and marketing agricultural products.

Content

Students learn about:

- farm management
 - the key factors involved in the decisions made by the farm manager
 - current management practices, with reference to sustainability
- marketing
 - the various ways in which agricultural products are marketed on the farm
- farm technology
 - technology used in management and production on the farm
 - technology used in marketing the products of the farm
- the agricultural workplace
 - animal welfare requirements.

8.4 Animal Production

Outcomes

A student:

P3.1 describes the role of decision-making in management and marketing of agricultural products in response to consumer and market requirements

P5.1 identifies the role of associated technologies and technological innovation in producing and marketing agricultural products.

Content

Students learn about:

- animals and their commercial production
 - basic nutritional requirements
 - growth and development
 - safe handling and management techniques for the care and welfare of animals
 - the legal requirements relating to the care and welfare of the animal
 - consumer and market requirements for commercial animal products

- technology
 - use of technologies in producing and marketing animal products within animal welfare guidelines

Students learn to:

- manage and monitor the growth and development of a farm animal
- select and perform appropriate and safe handling and management techniques for the care and welfare of farm animals
- design and/or conduct a simple trial using appropriate methodology within animal welfare guidelines.

Stage 6 HSC course

9.1 Plant/Animal Production

Outcomes

A student:

- H1.1 explains the influence of the physical, biological, social, historical and economic factors on sustainable agricultural production
- H2.2 describes the inputs, processes and interactions of animal production systems.

Content

Students learn about:

- animal production systems
 - the nutritional requirements of a selected animal
 - the fate of energy in animal nutrition
 - breeding systems and their genetic basis to improve quality and production of animals
 - the role of hormones in the regulation of animal reproduction and behaviour
 - the factors that limit the fertility of farm animals
 - ethics, welfare and legal issues and requirements

Students learn to:

- use nutritional data to determine the suitability of animal feeds
- measure and monitor plant and animal production systems within animal welfare guidelines

9.2 Farm/Product Study

Outcomes

A student:

- H3.1 assesses the general business principles and decision-making processes involved in sustainable farm management and marketing of farm products
- H3.2 critically assesses the marketing of a plant OR animal product
- H3.3 critically examines the technologies and technological innovations employed in the production and marketing of agricultural products
- H3.4 evaluates the management of the processes in agricultural systems.

Content

Students learn about:

- decision-making processes and management strategies
 - assessment of the performance of systems and decision-making based on measurements of quality and quantity
 - the problems that may occur in meeting market specifications
- agricultural technology
 - the impact that scientific research and associated technology has had on agricultural production and marketing.

Students learn to:

- schedule the timing of operations in a production cycle

Elective 2: Animal Management

This elective examines the principles of animal production. This study is based on an understanding of the biology of animals and their interactions with the environment.

Outcomes

A student:

- H3.4 evaluates the management of the processes in agricultural systems
- H4.1 applies appropriate experimental techniques, technologies, research methods and data presentation analysis in relation to agricultural problems and situations
- H5.1 evaluates the impact of innovation, ethics and current issues on Australian agricultural systems.

Content

Students learn about:

- processes in agricultural systems by:
 - relating knowledge of animal hormonal systems and reproductive anatomy to breeding techniques and reproductive management
 - evaluating management techniques available to farmers to manipulate the rates of growth, development and reproduction in farm animals, including the use of chemicals and hormones
 - outlining the role of objective measurement and heritability on the breeding programs of farms, using at least one specific program used in one animal industry
 - describing the nature of the immune system in terms of antibody, antigen, vaccine, immunity, antitoxin and linking it to the prevention of diseases by vaccination
- research methodology and presentation of research by:
 - analysing a study of a current technique/technology which is advancing productivity in animal production systems
- innovation, ethics and current issues by:
 - discussing the impact or potential impact of genetic engineering and associated genetic technologies on animal production systems
 - evaluating changes being made to breeding systems and techniques in terms of their impact on reproductive efficiency, product quality, individual farm breeding programs and animal adaptability in a wide range of commercial industries
 - discussing the advantages and disadvantages of various management practices associated with disease control, with emphasis on animal welfare issues, environmental protection, chemical resistance in target organisms and human safety
 - outlining some of the issues (for example economic, management, social, legal and ethical) that may have an impact on the successful implementation of new technologies in animal production systems.