**Sample Course Outline**

Animal Production Systems

General Year 12

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# Sample course outline

# Animal Production Systems – General Year 12

## Unit 3 and Unit 4

#### Semester 1

| **Week** | **Syllabus content** |
| --- | --- |
| 1–2 | Introduction to Animal Production Systems General Year 12 course outline and assessment outlineSystems ecology * impact of animal production systems on natural ecosystems
 |
| 3–4 | Systems ecology * effects of pesticides on the environment
* benefits to animal production systems of ecosystem components

Produce for purpose* implement a calendar of operations for a selected enterprise
* identify legal requirements of owning livestock

**Task 1:** Production project – Audit of on-farm natural ecosystems and improvement plan**Task 2:** Production project – Calendar of operations |
| 5–8 | Sustainable production* maintaining and improving the quality of soil and water
* stewardship of natural and farming resources, including technologies
* complying with industry codes of practice
* identify risks to sustainable production
* review the sustainability of current management practices
* Government legislation related to a selected enterprise

**Task 3:** Test – Systems ecology and Sustainable production |
| 9–11 | Economics, finance and markets* quantity and value of domestic animal production
* assess resources used in enterprises
* marketing options for animal products
* factors affecting supply and demand
* interpretation of supply and demand information for a product

**Task 4:** Test – Economics, finance and markets |
| 12–15 | Animal health * impact of pests and diseases on production systems
* life cycles of selected external and internal pests and diseases
* assess pest and disease risk
* biosecurity measures to reduce risk from pests and diseases
* factors influencing pest and disease control programs
* immune system, including antibody, antigen, immunity, antitoxin, passive and active immunity
* use of vaccination programs to promote immunity
* monitoring pests and diseases in a production system
* pest and disease management options, including integrated pest management (IPM)
* factors affecting the selection of pesticides, including withholding periods

**Task 5:** Investigation – Monitoring of blow fly population**Task 6:** Externally set task**Task 7:** Test – Animal health  |

#### Semester 2

| **Week** | **Syllabus content** |
| --- | --- |
| 1–3 | Produce for purpose* select animals to meet market requirements
* manage animals to optimise profitability
* assess quality of produce against market specifications
* identify quality assurance programs for selected animal production systems, including their purpose and major features
* identify transport and storage and requirements for animal products

**Task 8:** Production project – Managing animals to meet market requirements**Task 9:** Production project – Assessing animals for quality assurance |
| 4–5 | Economics, finance and markets* preparation of budgets for an enterprise and identification of items likely to impact on profit
* applying the law of the minimum to animal production

**Task 10:** Production project – Budgeting |
| 6–7 | Investigating animal production* develop hypotheses to test, based on prior information
* design and conduct an investigation considering aspects of experimental design, including variables and controls
* analyse and interpret data, including calculating means
* present data using appropriate methods
* draw conclusions based on experimental data and validate from other sources

**Task 11:** Investigation – The effect of sheep age on fleece weight |
| 8–11 | Animal structure and function* processes of gastric digestion
* microbial digestion in herbivores

Animal nutrition* feed rations for maintenance, growth and reproduction
* feed on offer (FOO), stocking rates, and dry sheep equivalent (DSE)
* feed intake and feed conversion ratios

**Task 12:** Production project – Feeding plan**Task 13:** Test – Animal structure and function and Animal nutrition |
| 12–15 | Animal structure and function* reproductive processes, including conception, pregnancy, birth, lactation
* breeding cycles in selected livestock

Breeding and improvement* aims of breeding and selection, including profitability, meeting market requirements and environmental conditions
* sources of genetic variation
* selection criteria, including subjective and objective characteristics
* genetic terms
* predict outcomes of crosses using punnett squares
* interactions between genotype and environment (GxE)
* breeding systems, including inbreeding, line breeding, and crossbreeding
* management of natural breeding programs

**Task 14:** Production project – Livestock breeding and improvement plan**Task 15:** Test –Breeding and improvement |