**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 outline  Systems 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 |