**Sample Course Outline**

Animal Production Systems

ATAR Year 11

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# Sample course outline

# Animal Production Systems – ATAR Year 11

## Unit 1 and Unit 2

#### Semester 1

| **Week** | **Key teaching points** |
| --- | --- |
| 1 | Introduction to APS ATAR Year 11, course outline, assessment outlines  Sustainable production   * complying with industry codes of practice   Produce for purpose   * identify legal requirements of owning livestock |
| 2–4 | 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   Produce for purpose   * implement a calendar of operations for a selected enterprise |
| 5–7 | Animal structure and function   * reproductive processes, including conception, pregnancy, birth, lactation * breeding cycles in selected livestock   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 |
| 8–12 | 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 |
| 13–14 | 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 |
| 15 | Semester 1 revision |
| 16 | Semester 1 examination |

#### Semester 2

| **Week** | **Key teaching points** |
| --- | --- |
| 1–3 | 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 |
| 4–5 | 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 |
| 6–8 | Breeding and improvement   * aims of breeding and selection, including profitability and meeting market requirements * sources of genetic variation * selection criteria, including subjective and objective characteristics * genetic terms, including * gametes * chromosomes * genes * alleles * dominant * recessive * genotype * phenotype * 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 |
| 9–10 | Systems ecology   * impact of animal production systems on natural ecosystems, including * the effects on soils * water quality * atmospheric and soil pollution * loss of biodiversity * effects of pesticides on the environment |
|  | * benefits to animal production systems of ecosystem components, including * clean water * plant pollination * nutrient cycling * pest and disease management |
| 11–13 | Sustainable production   * maintaining and improving the quality of soil and water * stewardship of natural and farming resources, including technologies * identify risks to sustainable production * review the sustainability of current management practices * Government legislation related to a selected enterprise |
| 14–15 | Revision of whole year |
| 16 | Semester 2 examination |