**Stage 2 Agricultural Production**

**Program**

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| Timeline | Topics and Key Understandings | | Resources | SIS opportunities | SHE opportunities | Assessment - formative | Assessment – Summative |
| **Term One** Week 1, 2 | **Production Investigation**   * Explain requirements of the task. * Look at exemplars. * Commence planning process, covering logistical issues, timeline, enterprise goals, financial forecasts |  | Investigation Planner  Exemplars from previous students | Discussion of data collection techniques | Discussion of animal welfare and ethical issues | Review Stage 1 Cattle Production Investigation  Investigation planner – due end Week 2. | **External Assessment**  Production Investigation – due Week 2 Term 3. |
| Week 3 | Return Production Investigation Planners and modify if needed. Students commence Investigation once planners are approved. | | | | | | |
| Week 3 - 9 | **Sheep and Wool**   * Wool characteristics * Preparation of wool for sale * Sheep management * Lifetimewool research * Sheep handling skills | Animal Production   * Animal nutrition * Animal welfare   Agribusiness   * Enterprise management * Marketing * Work health and safety |  | Collect and collate weight, condition score and FEC data  Analysis of data to inform worm control planning  Work collaboratively | Discussion of impact of research on animal welfare and animal production and future trends.  Formative HW tasks. | Sheep handling practical activities –weighing and condition scoring sheep, faecal egg counts, planning a worm control program | **Applications 1**  Sheep and Wool Test (Supervised)  A written test with short answer and extended response questions covering the key ideas from the sheep and wool topic, in a supervised setting. Will cover wool fibre and properties, lifetimewool principles, clip preparation, analysis of wool clip data, sheep management calendar and skills, issues around mulesing, breed selection and animal welfare. 90 minutes duration. |
| Week 4 | Collect soil samples and send for professional testing (preparation for Soils practical in Term 3) | | | | | | |
| Week 10, 11 | **Crop Establishment**   * Form teams and begin crop planning process * Meet with agronomist with prepared questions * Formulate crop plan and submit for assessment | Plant Production   * Nutrition * Production * Disease, pest & weed management   Agribusiness   * Enterprise management * Farm systems | Sowing Guide  Agronomist  Paddock records  *Productionwise* website | Work collaboratively | Discuss value to farmers of continual development of new varieties and future trends. | Formative SHE tasks. | **Agricultural Reports 1**  Crop Establishment Practical *Crop Plan*  The Crop Establishment prac will involve students working in teams to plan and carry out the establishment of a broadacre crop, including seeding and spraying. They will use the Production Wise software to assist decision making and monitoring. |
| **Term Two**  Anticipated Week 2 and 8 | Timing will depend on season: carry out cropping program. Conduct crop monitoring and collect crop data 6 weeks post-seeding |  | Crop Monitoring Guide | Work collaboratively to collect, collate and analyse crop data |  |  | **Agricultural Reports**  Crop Establishment Practical *Crop Assessment*  Students calculate yield potential and complete measurements of key crop data. Students will submit a written report following a set structure with a 1500 word maximum. Practical skills will be assessed. |
| Week 1 | Production Investigation: Checkpoint One  Revisit exemplars and discuss Investigation Checklist |  | Production Investigation Checklist |  |  | Checkpoint One |  |
| Week 1 - 8 | **Cropping and Grain Marketing**   * Crop management & rotations * Cropping calendar * Weed control * Revisit crop nutrition * Grain marketing options * Factors influencing grain markets | Plant Production   * Nutrition * Production * Disease, pest & weed management   Agribusiness   * Enterprise management * Enterprise analysis * Farm systems * Marketing | Sowing Guide  Grain marketing company guest speaker |  | Discuss impact of global market forces on local pricing | Crop monitoring practical sessions | **Applications 2**  Grain Marketing Assignment  Students select a virtual crop to manage across a fictitious season. Students will collect, present and analyse data, discuss relevant issues and evaluate their grain marketing strategies. |
| Week 6 | Production Investigation: Checkpoint Two | | | | | Checkpoint Two |  |
| Week 9 - 10 | Finalise Production Investigations – draft due end Week 10 |  | Production Investigation Checklist |  |  | Production Investigation draft |  |
| Week 9 - 10  **Term 3**  Week 1-3 | **Soils topic**   * Soil types * Physical and chemical properties * Analysis * Sustainable management of issues such as erosion, salinity | Resource management   * Soils * Water * Waste management | Soil testing kit  Lab results from professional soil tests | Collection, presentation & analysis of soil data  Design of an extension investigation, developing an hypothesis, identifying variables and planning a method | Exploration of sustainable land management practices and the challenges presented | Class practical analysis of school soil sample to practice the skills required for the investigation.  Class designs initial soil investigation together to reinforce investigation design principles so individual students can then successfully design their own extension investigations. | **Agricultural Reports 2**  Soils Investigation (Design practical)  The class will design and conduct an investigation comparing soil from the school farm with a sample from another agricultural site. Students will use the skills they have developed to then individually design an extension investigation where the outcome is uncertain, exploring a soil management issue.  Students will submit a formal scientific report with a 1500 word limit. |
| **Term 3**  Week 1 - 2 | Return Production Investigation drafts  Final due end of Week 2. | | | | | | **External Assessment**  Production Investigation |
| Week  4 – 8 | **Reproduction**   * Reproductive anatomy and physiology of agricultural animals * Traditional and innovative manipulation of reproduction * Breeding systems * Estimated breeding values | Animal Production   * Reproduction * Breeding systems * Animal welfare   Agribusiness   * Enterprise management * Farm systems * Marketing | Stud breeder guest speaker |  | Discussion of ethics of manipulating reproduction and exploration of future trends in this area | Simulation of an auction of breeding stock  Visual assessment of stud stock | **Agricultural Reports 3**  SHE task  Students select one aspect of a topic from the program to investigate a contemporary example of how agricultural science interacts with society. Students present their findings as a report in which the focus is the interaction between science and society. |
| Week  9 – 10  **Term Four**  Week 1 - 2 | **Chemical Use**   * Interpreting chemical labels * Chemical storage & transport * Maintenance of spray equipment * Planning spray programs * Interpreting weather data | Animal Production   * Animal welfare * Disease & pest management   Plant Production   * Disease, pest and weed management   Resource Management   * Soils * Water * Waste management * Biodiversity * Climate | *Spraywise* website  *Using Chemicals Safely* label kit  *Kestrel* weather meter  Local agri-chemical retailer | Collect, collate and interpret weather data | Discuss ethical use of chemicals and alternative options for pest, disease and weed control | Practical sessions collecting weather data and using spray equipment | **Applications 3**  Chemical Use assignment  The safe and efficient use of chemicals will be included in this assignment which will incorporate both practical and written assessment. Aspects covered include monitoring weather conditions, pre-operational checks of a spray unit, WHS, label interpretation, planning a spray program and sustainable use of chemicals. |