**Sample Course Outline**

Plant Production Systems

General Year 11

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# Sample course outline

# Plant Production Systems – General Year 11

## Unit 1 and Unit 2

#### Semester 1 and Semester 2

| **Week** | **Key teaching points** |
| --- | --- |
| 1–3 | Structure of the syllabus   * course outline * assessment outline   Systems ecology   * structure of natural, urban and agricultural ecosystems * natural resources used in agriculture, including soils, water and air * water cycles in landscapes   Plant environment   * indicators of soil health and fertility * factors affecting soil fertility * soil profiles and textures   **Task 1:** Investigation – Soil characteristics   * conduct an investigation considering aspects of experimental design * interpret data, including calculating means * present data using appropriate methods * draw conclusions based on experimental data   **NB:** Integrate the investigation process as appropriate with other content during the course of the year |
| 4–7 | Plant environment   * influences on the location of plant production including climate and growing system * determinants of growing seasons of a region   Plant structure and function   * major agricultural and horticultural crops of Western Australia   Produce for purpose   * identify types and features of plant enterprises * select and use equipment for a given enterprise * identify quality criteria for selected plant products * develop a calendar of operations for an enterprise production cycle * monitor the physical environment, including the weather   **Task 2:** Production project – Choosing crop varieties  **Task 3:** Production project – Crop production enterprise (part 1) – Production plan |
| 8–12 | Plant environment   * macro-nutrients and micro-nutrients required for growth * function of macro nutrients in plants and symptoms of deficiency * symptoms of water stress   Plant structure and function   * life cycles of plants, including annuals and perennials * reproductive and vegetative parts of plants * photosynthesis process (inputs and outputs) and its purpose * requirements for growth, including nutrients, water, light, heat and gases * response of growth to temperature and nutrients * water use by evapotranspiration * propagation by seeds and vegetative parts, including tubers, cuttings, buds and grafts |
|  | Produce for purpose   * select equipment and resources when working with plants * comply with occupational safety and health requirements (OSH)   **Task 4:** Production project – Production practices project – Plant propagation techniques  **Task 5:** Test – Plant structure and function and plant environment |
| 13–18 | Plant health   * identification of selected pests and diseases and their impact * interpretation of information provided on labels for safe and effective use of registered products * interpret agricultural chemical labels to determine which product to select * application of codes of practice concerning chemical use   Produce for purpose   * monitor growth and development of plants * monitor the impact of the weather on plant enterprises * perform routine care of plants * select equipment and resources when working with plants * comply with occupational safety and health requirements (OSH)   **Task 6:** Production project – Crop production enterprise (part 2) – Plant health  **Task 7:** Test – Plant health |
| 19–23 | Breeding and improvement   * natural selection and plant adaptation * selection of plant types for specific purposes * cultivars and their characteristics * plant types, their origins and development into current cultivars   **Task 8:** Production project – Production practices report – Breeding and improvement report |
| 24–27 | Economics, finance and markets   * farming as a business * identify resources used in production, including land, labour, capital * recording production costs and incomes * identification of inputs and outputs * farming systems and enterprises * available markets * calculation of costs, returns and profits   **Task 9:** Test– Marketing |
| 28–32 | Sustainable production   * efficient use of resources without compromising the environment * renewable and non-renewable resources * identification of market requirements to be met for selected products * the role of quarantine in preventing pests, diseases and weeds * prevention of the spread of pests, diseases and weeds to natural ecosystems   **Task 10:** Production project – Sustainable production report  **Task 11:** Test– Grain sampling practical  **Task 12:** Test– End of year |