**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 |