AGRI12002 *Crop Protection*
Term 2 - 2019

All details in this unit profile for AGRI12002 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This unit covers planning and management of long-term weed, pest and disease control in crops, including the principles and practices of crop protection in a crop management system. You will identify the standard required to interpret information, implement and monitor control procedures and strategies, evaluate and record control strategies and plan land use according to control strategies. You will have access to real crop production systems to develop underpinning knowledge and practices.

Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *7*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Prerequisite AGRI11002 Crop Management Systems
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2019

- Bundaberg
- Emerald
- Mixed Mode
- Rockhampton

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**
Weighting: 50%
2. **Written Assessment**
Weighting: 50%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Student feedback

Feedback
Add some practical activities.

Recommendation
Practical activities will be incorporated for next year delivery.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Explain the pest, weed and/or diseases relevant to a given crop production enterprise.
2. Analyse data to determine long-term weed, pest and/or disease control strategies.
3. Assess the effect on crops of weeds, pests and/or diseases.
4. Develop an integrated weed, pest and/or disease management plan for a crop production system.
5. Evaluate weed, pest and/or disease control strategies for a crop production system.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level	• Introductory Level	• Intermediate Level	• Graduate Level	○ Professional Level	○ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 50%	•		•		
2 - Written Assessment - 50%		•		•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Communication	•	•	•	•	•
2 - Problem Solving			•	•	•
3 - Critical Thinking		•	•	•	•
4 - Information Literacy	•	•	•	•	•
5 - Team Work				•	•

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
6 - Information Technology Competence		•		•	•
7 - Cross Cultural Competence	•	•	•	•	•
8 - Ethical practice		•	•	•	•
9 - Social Innovation					
10 - Aboriginal and Torres Strait Islander Cultures					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 50%	•	•	•	•		•	•	•		
2 - Written Assessment - 50%	•	•	•	•	•	•	•	•		

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [Harvard (author-date)](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Michael Tausz Unit Coordinator
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Schedule

Week 1 - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic

Introduction
During this week students will be introduced to the Unit and get an overview over learning outcomes, assessments and schedule.
General aspects of crop protection and its relationship to plant pathology and weed science, the definitions of important terms such as disease, pests and weeds, and concepts of plant health and disease, and competition will be introduced.

Background reading will be set through the Moodle site.

Week 2 - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic

Weeds
Students will be introduced to the principles of weed science and important aspects of weed biology. Some basics of weed identification and classification will be covered, and examples of important agricultural weeds discussed. Functional aspects of the interaction between crops and weeds, such as competition for resources, will be underlined.

Week 3 - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic

Crop diseases
Introduction to plant pathology and pathogens such as fungi, bacteria, nematodes, and viruses will build the foundation to understand the biology of plant pathogen interactions. Aspects of disease symptoms and pathogen diagnostics will be introduced and plant defence and tolerance mechanisms will be pointed out.

Week 4 - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic

Pest insects
Students will receive an introduction to pest insects and other invertebrates as a foundation to understand plant-pest interactions. The biology of insects and aspects of plant defence responses to insect attack will be presented this week.

Week 5 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic

Non-insect pests and crop disorders caused by abiotic factors

In this week students will learn about other organisms that can be crop pests, such as vertebrates (mice, rabbits) or non-insect invertebrates (snails, nematodes).
Crop damages caused by abiotic factors will be explained and compared to pest and disease damages.

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 26 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Weed control and management 1 The principles of control and management options for weeds will be presented and discussed, including aspects of chemical control (herbicides), biological controls, and agronomic management options.		Assessment Piece 1 due - Crop Protection Handbook **Identification and diagnostic report** Due: Week 6 Friday (30 Aug 2019) 11:59 pm AEST

Week 7 - 02 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Weed control and management 2 Continuation of week 6. The significance of the evolution herbicide resistance in weeds will be discussed with special consideration to the engineering of glyphosate resistant transgenic crops. Control and management options will be discussed in relation to an integrated weed management concept.		

Week 8 - 09 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Disease control and management 1 The principles of control and management options for crop diseases will be presented and discussed, including aspects of chemical control (fungicides), biological controls, management options and use of disease resistant crop varieties.		

Week 9 - 16 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Disease control and management 2 Continuation of week 8. The significance of the evolution in pathogens of resistance to control measures will be discussed. Control and management options will be discussed in relation to an integrated disease management concept.		

Week 10 - 23 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Pest control and management 1 The principles of control and management options for crop pests will be presented and discussed, including aspects of chemical control (insecticides), biological controls, management options and aspects of crop defence against pests. Biotechnology applications will be explained at the example of transgenic crops producing the Bt-toxin.		

Week 11 - 30 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic

Pest control and management 2
Continuation of week 10. Insecticide
resistant pests and environmental
effects of large scale insecticide use
are underlined. Control and
management options will be discussed
in relation to the integrated pest
management (IPM) concept.

Week 12 - 07 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic

Economics and Emerging Issues
The economics of pest, disease, and
weed management decisions will be
explained. Emerging issues in weeds,
pest and crop diseases will be
identified and used as an outlook.
Revision session

Review/Exam Week - 14 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment 2 due - integrated pest management plan. **Integrated Pest Management Plan** Due: Review/Exam Week Friday (18 Oct 2019) 11:59 pm AEST

Exam Week - 21 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Identification and diagnostic report

Assessment Type
Written Assessment

Task Description
You are required to write a report in form of information sheets on each of one selected pest, one selected disease and one selected weed of economical importance for Australia in a crop or in selected crops of your choice. For each pest, disease and weed, you must provide the scientific and common names, identify and describe the main symptoms in the selected crop, describe important aspects of the biology and their relationship with the crop (e.g. damage, susceptibility), provide data related about the importance in relation to geographical distribution, climate or weather variables and any other significant aspects in the spread of the disease. Word limit is 2000 words. The report should adhere to the format of a given exemplar so that the collected reports can form sections of a crop protection handbook.

Assessment Due Date
Week 6 Friday (30 Aug 2019) 11:59 pm AEST

Return Date to Students

10 working days after due date.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
Marks are awarded for:
1. the quality of the background information review (40%);
2. the discussion of this information in context of the question asked (40%);
3. the clarity of English expression, spelling, grammar, accuracy of referencing, use of figures and tables, appropriate

length, adherence to the given template (20%).

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Explain the pest, weed and/or diseases relevant to a given crop production enterprise.
- Assess the effect on crops of weeds, pests and/or diseases.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

2 Integrated Pest Management Plan

Assessment Type
Written Assessment

Task Description
Integrated Pest Management Plan.
In this assessment you will develop an Integrated Pest Management Plan for a selected cropping system with the aim of ensuring a profitable crop. The written assessment will include the identification of weeds, pests and diseases that affect the selected cropping system, and provide economical data that describe the importance of the disease, pest and weed for the selected crop. You will evaluate the practical and financial viability of your plan, its environmental sustainability and possible impacts on other farm enterprises. Total word limit is 3000 words. The report should include an introduction, main body of your report containing the points above and a summary or conclusion.

Assessment Due Date
Review/Exam Week Friday (18 Oct 2019) 11:59 pm AEST

Return Date to Students

10 days working days after due date.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
Marks are awarded for:
1. the quality of the background review (30%);
2. the discussion of this information in context of the required integrated pest management plan (50%);
3. the clarity of English expression, spelling, grammar, accuracy of referencing, use of figures and tables, appropriate length (20%).

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Analyse data to determine long-term weed, pest and/or disease control strategies.
- Develop an integrated weed, pest and/or disease management plan for a crop production system.
- Evaluate weed, pest and/or disease control strategies for a crop production system.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem