AGRI30032 Plant Health and Improvement

Credit Points:	12.5
Level:	3 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 24 hours of lectures, 36 hours of practicals. A total of 60 hours. Total Time Commitment: 170 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	**AGRI20026 Plant Growth Processes (../../view/2015/AGRI20026)** or equivalent
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Prof Paul Taylor
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Subject Overview:	This subject outlines the methods used to identify pathogens causing plant diseases, the consequences of diseases for plant productivity; and techniques used in breeding for plant disease resistance. The links between these two areas are explored as plant breeders and pathologists seek novel genetic material capable of resisting or tolerating plant pathogens. Topics covered include: # Taxonomy, identification and biology of the main groups of plant pathogens and abiotic causes of plant diseases # Host pathogen relationships, and the nature of disease resistance and pathogenesis # Methods to identify pathogens, and development of tools for diagnosis # Processes leading to plant disease epidemics and their evaluation # Principles and methodology of plant breeding for disease resistance # Evolutionary processes and genetic variability of plant and pathogen populations # World-wide distribution and conservation of plant genetic resources # Methods of breeding self– and cross-pollinating plants # Management and integrated control of plant diseases Practical work includes: # Identification and diagnosis of common diseases # Development of skills in research techniques and methodology in plant pathology
Learning Outcomes:	On completion of this subject students will: # Understand the importance of genetic resources

	# Understand the principles and methodology of plant breeding and improvement # Be familiar with the biology and taxonomy of the major biotic causes of disease # Be aware of the factors leading to disease epidemics # Be capable of diagnosing common diseases of agricultural and horticultural crops # Be able to formulate a practicable approach to integrated disease control in commercial plant species
Assessment:	A one-hour mid-semester examination worth 30% One 1000 word assignment comprising a collection of plant diseases due at the end of semester worth 30% A two-hour exam to be held during the end-of-semester exam worth 40%
Prescribed Texts:	G. N. Agrios 2005. Plant Pathology. 5th ed. Academic Press, Harcourt/Academic Press, USA.
Recommended Texts:	G.L. Schumann & C.J. D'Arcy. 2010 Essential Plant Pathology 2nd Ed. American Phytopathological Society Press, USA
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject, students should have developed their: # Capacity to tackle unfamiliar problems # Ability to integrate knowledge from different disciplines # Communication skills, through written and oral presentations # Quantitative analysis skills # Sense of intellectual curiosity
Related Majors/Minors/ Specialisations:	Agricultural Economics Agricultural Science Plant and Soil Science Production Animal Health Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED Sustainable Production