



UNIVERSITI TEKNOLOGI MARA

AGR154: PLANT PATHOLOGY

Course Name (English)	PLANT PATHOLOGY APPROVED
Course Code	AGR154
MQF Credit	3
Course Description	This course provides students with the basic concepts of plant disease development, common disease symptoms and some simple classification of phytopathogens. Some exposure to field identification of plant diseases are emphasized in this course. The students are also introduced to some basic groups of fungicides and the basic control measures and strategies of major plant diseases
Transferable Skills	Confident
Teaching Methodologies	Lectures, Lab Work, Field Trip
CLO	<p>CLO1 Explain and define plant disease concepts, definitions, symptoms, parasitism, disease development, epidemiology, pathogen mode of attack, common crop diseases and some major classes of fungicides</p> <p>CLO2 Discuss and relate disease concepts, symptoms, parasitism, disease development, epidemiology, pathogen mode of attack. some common crop diseases and major classes of fungicides</p> <p>CLO3 Identify and differentiate the disease symptoms, pathogen and relate with the concepts of disease development and control methods (fungicides)</p>
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction 1.1) General concepts of plant pathology 1.2) History of plant pathology 1.3) Characteristics of phytopathogens 1.4) Concepts and characteristic of plant diseases	
2. Plant disease concepts, definitions and symptoms 2.1) Plant disease definition 2.2) Plant disease symptoms	
3. Factors affecting plant diseases 3.1) Abiotic 3.2) Biotic	
4. Classification of phytopathogens 4.1) Classification and major characteristics of pathogen	
5. Parasitism and disease development 5.1) Definition and terminology 5.2) Plant disease triangle 5.3) Koch's postulate 5.4) Pathogenesis 5.5) Inoculum 5.6) Pre-penetration phenomenon 5.7) Disease cycle and infection cycle	
6. Epidemiology 6.1) Factors influencing epidemic	

<p>7. How pathogens attack plants</p> <p>7.1) Mechanical forces 7.2) Chemical weapons 7.3) Microbial toxins 7.4) Growth regulators</p>
<p>8. How do plants defend themselves</p> <p>8.1) Structural defences, chemical defences 8.2) Preexisting structural defences 8.3) Preexisting chemical defences</p>
<p>9. Disease management</p> <p>9.1) Prophylactic approach 9.2) Quarantine, eradication 9.3) Prevention 9.4) Treatment of planting materials 9.5) Disease free planting material 9.6) Host plant resistant 9.7) Integrated disease management</p>
<p>10. Common diseases of major crops</p> <p>10.1) n/a</p>
<p>11. Major fungicide groups and their classification</p> <p>11.1) Inorganic fungicides 11.2) Organic fungicides 11.3) systemic 11.4) non systemic</p>

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Lab Exercise	Students write a weekly report based on virtual laboratory session	20%	CLO3
	Presentation	Individual Video Presentation	20%	CLO2
	Test	Online Test	20%	CLO1

Reading List	Recommended Text
	<ul style="list-style-type: none"> • Agrios, G.N. 2004, <i>Plant Pathology</i>, 5th Ed., Academic Press New York • Strange, R.N. 2003, <i>Introduction to Plant Pathology</i>, John Wiley & Sons Ltd England

Article/Paper List	This Course does not have any article/paper resources

Other References	
	<ul style="list-style-type: none"> • Book Chaube, H.S. and V.S. Pundhir 2006, <i>Crop Diseases and Their Management</i>, Prentice Hall, India • Book Schumann, G. and C. D'Arcy. 2006, <i>Essential Plant Pathology</i>, APS Press, St. Paul, Minnesota • Book Koike, S.T., P. Gladders and A.O. Paulus 2007, <i>Vegetable Diseases: A Color Handbook</i>, Manson Publishing • Book Turner, P.D. 1981, <i>Oil Palm Diseases and Disorders</i>, Oxford Press, Kuala Lumpur • Book Ploetz, R.C. 2003, <i>Disease of Tropical Fruit Crops</i>, CABI Publication, United Kingdom