



UNIVERSITI TEKNOLOGI MARA

AGR464: CROP INSECT MANAGEMENT

Course Name (English)	CROP INSECT MANAGEMENT APPROVED
Course Code	AGR464
MQF Credit	3
Course Description	The course will provide students with the identification of plantation insect pests. The students are exposed to insect management strategies of plantation insect pests. Students will have the opportunity to carry out hands-on exercise which involves laboratory and collection of insects for identification and preservation.
Transferable Skills	Students are able to identify and apply the control strategies for managing plantation crop pests
Teaching Methodologies	Lectures, Lab Work, Discussion
CLO	CLO1 Explain and describe plantation crop pests for oil palm, rubber and paddy CLO2 Identify and apply the control strategies for managing plantation crop pests CLO3 Collaborate and interact cooperatively with group members on identification of plantation crop pests and their management (written report)
Pre-Requisite Courses	No course recommendations
Topics	
1. Identification of Insect Pest 1.1) 1.1 Type of insect injury/damage 1.2) 1.2 Morphology of insect 1.3) 1.3 Census	
2. Insect Management 2.1) 2.1 General Principles 2.2) 2.2 Pest-resistant Crops 2.3) 2.3 Cultural Control 2.4) 2.4 Physical and Mechanical Control 2.5) 2.5 Biological Control 2.6) 2.6 Chemical Control 2.7) 2.7 Integrated Pest Management (IPM)	
3. Major Insect and pest of Oil Palm 3.1) 3.1 Leaf Eating Caterpillars 3.2) Taxonomy 3.3) Detection and Census 3.4) Damage and Economic importance 3.5) Control Management 3.6) 3.7) 3.2 Rhinoceros beetle 3.8) Taxonomy 3.9) Detection and Census 3.10) Damage and Economic importance 3.11) Control Management 3.12) 3.13) 3.3 Potential Insect pest 3.14) Taxonomy 3.15) Detection and Census 3.16) Damage and Economic importance 3.17) Control Management	

4. Major Insect Pest of Rubber

- 4.1) 4.1 Termites
- 4.2) Taxonomy
- 4.3) Detection
- 4.4) Damage and Economic importance
- 4.5) Control Management
- 4.6)
- 4.7) 4.2 Grasshopper
- 4.8) Taxonomy
- 4.9) Detection and Census
- 4.10) Damage and Economic importance
- 4.11) Control Management
- 4.12)
- 4.13) 4.3 Potential Insect Pest
- 4.14) Taxonomy
- 4.15) Detection and Census
- 4.16) Damage and Economic importance
- 4.17) Control Management

5. Major Insect Pest of Paddy

- 5.1) 5.1 Brown Planthopper
- 5.2) Taxonomy
- 5.3) Detection
- 5.4) Damage and Economic importance
- 5.5) Control Management
- 5.6)
- 5.7) 5.2 Green Leafhopper
- 5.8) Taxonomy
- 5.9) Detection
- 5.10) Damage and Economic importance
- 5.11) Control Management
- 5.12)
- 5.13) 5.3 White Backed Planthopper
- 5.14) Taxonomy
- 5.15) Detection
- 5.16) Damage and Economic important
- 5.17) Control Management
- 5.18)
- 5.19) 5.4 Rice stem borer
- 5.20) Taxonomy
- 5.21) Detection
- 5.22) Damage and Economic importance
- 5.23) Control Management

6. Other Non Insect Pest

- 6.1) 6.1 Rodents
- 6.2) 6.2 Birds
- 6.3) 6.3 Snails and slugs
- 6.4) 6.4 Animals

7. Laboratory Practical

- 7.1) LAB 1
- 7.2) Briefing on insect collection and its procedure
- 7.3)
- 7.4) LAB 2
- 7.5) Chemical Control – Pesticide Application Technique
- 7.6)
- 7.7) LAB 3
- 7.8) Identification of Symptom and Damage in Major Plantation Crops:
- 7.9) Oil Palm
- 7.10)
- 7.11) LAB 4
- 7.12) Identification of Symptom and Damage in Major Plantation Crops: Rubber
- 7.13)
- 7.14) LAB 5
- 7.15) Identification of Symptom and Damage in Major Plantation Crops: Paddy

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Poster Assignment	20%	CLO2
	Presentation	Individual presentation	20%	CLO3
	Written Report	Written report assessment	20%	CLO2

Reading List	Recommended Text
	<ul style="list-style-type: none"> • Gullon, P.J. and Cranston, P.H. 2010, <i>The Insects: An Outline of Entomology</i>, 4th Edition Ed., Wiley-Blackwell London • Elzinga, R.J. 2001, <i>Fundamentals of Entomology</i>, 8th Edition Ed., Prentice Hall Inc New Jersey
Reference Book Resources	<ul style="list-style-type: none"> • Romoser, W.S. and Stoffolano, J.G. 2000, <i>The Science of Entomology</i>, 6th Edition Ed., The McGraw-Hill Companies, Inc. • Hill, D.S. 1997, <i>The Economic Importance of Insects.</i>, Chapman and Hall 2-6 Boundary Row, London • Peters, T.M. 1988, <i>Insects and Human Society.</i>, Van Norstrand Reinhold Company New York • Yunus, A. and A. Balasubramaniam. 1981, <i>Major Crop Pests in Peninsular Malaysia.</i>, Ministry of Agriculture Malaysia Kuala Lumpur • Atkins, M.D. 1988, <i>Insects in Perspectives (Tinjauan Terhadap Serangga Terjemahan Syed Tajuddin Syed Hassan).</i>, Dewan Bahasa dan Pustaka Kuala Lumpur. • Hill, D. 1975, <i>Agricultural Insect Pests of the Tropics and their Control</i>, Cambridge University Press London • Ibrahim, Y. dan K.K. Chong. 1989, <i>Serangga Perosak Utama Tanaman di Malaysia.</i>, Dewan Bahasa dan Pustaka Kuala Lumpur • Ciancio, A and Mukerji, K.G. 2007, <i>General Concepts in Integrated Pest and Disease management.</i>, Springer Netherlands
Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources