



UNIVERSITI TEKNOLOGI MARA

AGR182: PLANTATION CROPS I

Course Name (English)	PLANTATION CROPS I APPROVED
Course Code	AGR182
MQF Credit	3
Course Description	This course will interactively engage students cognitively on major industrial crops such as oil palm and rubber. Students will identify, discuss and explain economic importance of the above crop as well as the agronomic practices. Topics such as crop protection and harvesting activities including primary processing of the above crops will also be part of the interactive learning process. Lecture sessions employ a mixture of lectures and active learning (self peer discussions). The outcomes shall be assessed through a variety of tools which include the traditional paper examination, group presentation and assignment.
Transferable Skills	Demonstrate ability to identify and articulate self skills, knowledge and understanding confidently and in a variety of contexts.
Teaching Methodologies	Lectures, Field Trip, Discussion
CLO	CLO1 Describe the regulatory attributes of crop production in plantation. CLO2 Explain and communicate basic crop husbandary practices in plantation. CLO3 Discuss the problems in crop production and its possible solutions towards sustainable farming operations. CLO4 Explain agronomic and management practices for oil palm and rubber production.
Pre-Requisite Courses	No course recommendations
Topics	
1. Brief history and overview of Malaysia natural rubber industry, morphology, climatic requirements & soil requirement and Varieties of rubber. 1.1) Brief History and overview of Malaysia Natural rubber industry 1.2) Characteristic of rubber tree 1.3) Climatic requirements & soil requirement	
2. Nurseries and planting materials production of rubber 2.1) Nursery site selection, types and establishment 2.2) Preparation and budded stumps and polybag budding 2.3) Mini stumps, stumped three-part tree and soil-core budding 2.4) Nursery management: Fertilisation, root induction	
3. Planting and transplanting of rubber 3.1) Land preparation: Land clearing, planting design, lining, holing, drainage, terracing 3.2) Method of planting 3.3) Planting system	
4. Agronomic practices in rubber plantation 4.1) Fertiliser requirements and programmes 4.2) General pests and disease 4.3) Weeds control 4.4) Replacement and thinning out 4.5) Pruning methods, objectives and techniques	
5. Rubber latex harvesting and processing 5.1) Tapping systems and techniques: normal tapping, controlled and upward tapping 5.2) Latex yield stimulation: Ethephon, Gaseous (RRIMFLOW & REACTORRIM) 5.3) Latex collection: cuplump, polybag 5.4) Tapping management	

6. Morphology, clones, soil and climatic requirements for oil palm 6.1) Morphology of oil palm 6.2) Principal clones in Malaysia, their characteristics, potential for commercial growing and crop diversification 6.3) Climatic requirements & soil requirement
7. Propagation of oil palm 7.1) Sexual and vegetative propagation 7.2) Methods of propagation and types of planting materials, advantages and shortcomings of various propagation methods 7.3) Seeds preparation 7.4) Nursery site selection and preparation 7.5) Nursery management: Fertilisation, culling
8. Planting and replanting of oil palm 8.1) Land preparation: Land clearing, zero burning, BSR census, ploughing, replanting, planting design, staking, lining, terracing, holing, drainage, roads and mechanical path 8.2) Planting techniques including spacing and planting density
9. Agronomic practices in oil palm plantation 9.1) Fertilizer programmes and deficiency symptoms 9.2) Pests and diseases 9.3) Weeds control 9.4) Canopy management 9.5) Irrigation and drainage
10. Harvesting and processing of oil palm 10.1) Ablation, scout harvesting 10.2) Harvesting standard 10.3) Harvesting methods, bunch grading, in-field transportation and problems involved

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Written Assignment	20%	CLO3
	Presentation	Presentation	20%	CLO2
	Test	Problem Sheet	20%	CLO1

Reading List	Recommended Text	<ul style="list-style-type: none"> • Mohd Rafi Yaacob 2011, <i>The Development of Malaysian Palm Oil Industry and Environment</i>, Universiti Malaysia Kelantan Publishing. • 2009, <i>Rubber Plantation and processing technologies</i>, Institut Penyelidikan Getah Malaysia, Kuala Lumpur • Abu Bakar Haji Ahmad 1985, <i>Teknologi Getah Asli</i>, Institut Penyelidikan Getah Malaysia, Kuala Lumpur.
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	