



UNIVERSITI TEKNOLOGI MARA

AGR302: SECONDARY CROPS PRODUCTION

Course Name (English)	SECONDARY CROPS PRODUCTION APPROVED
Course Code	AGR302
MQF Credit	3
Course Description	This course will interactively engage students cognitively on currently important industrial crops such as pineapple, sugarcane, banana, pepper, coffee and tea. Students will recognize, discuss and explain the economic importance of crops as well as the agronomic practices. Topics such as crop protection and after harvest activities including processing of products of the above crops will also be part of the interactive learning process. Lecture sessions employ a mixture of lectures and active learning (self and peer discussion).
Teaching Methodologies	Lectures, Discussion, Presentation, Self-directed Learning
CLO	CLO1 Explain the economic importance, geographical distribution, climate and soil requirements, and status of important industrial crop in Malaysia. CLO2 Recognize the major varietal characteristic of the industrial crop as well as their production and commercial potential. CLO3 Explain nursery development techniques and management for the crops. CLO4 Demonstrate the technique of planting, maintenance, and harvesting of crops and able to relate with the climate, soil and varietal factors.
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction 1.1) Current scenario of the industrial crop production to the development of agricultural sector in Malaysia.	
2. Economic importance of respective industrial crops 2.1) Geographical Distribution 2.2) Utilization 2.3) Hectarage	
3. Climate and soil 3.1) Effect of temperature, rainfall, soil pH, topography on production potential	
4. Variety 4.1) Recommended varieties 4.2) Major characteristics, potential for commercial production	
5. Propagation 5.1) Planting materials 5.2) Nursery preparation, technique and management	
6. Field Planting 6.1) Methods and materials used in field preparation 6.2) Site selection 6.3) Planting technique including planting density and spacing 6.4) Shade requirement 6.5) Inter-cropping	
7. General Maintenance 7.1) Fertilizer need, deficiency symptoms and application schedule 7.2) Pest and diseases management 7.3) Pruning objective and technique	
8. Harvesting 8.1) Criteria, method and problems 8.2) Post harvest handling	

9. Agro-Industry

9.1) Processing

9.2) Added-value processing of crops

10. Marketing

10.1) Marketing channel, problem and means to minimize problems

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Individual or group. Assignment must be submitted in report.	15%	CLO1 , CLO2 , CLO4
	Presentation	Presenting the project or assignment.	15%	CLO1 , CLO3 , CLO4
	Test	Test 1	10%	CLO1 , CLO2 , CLO3
	Test	Test 2	10%	CLO1 , CLO2 , CLO3
	Test	Test 3	10%	CLO1 , CLO2 , CLO3

Reading List	Recommended Text	Wan Hanisah, W.I, Ahmed Azhar,J. and Neni Katini, C.M.R. 2003, <i>Production of Secondary Crops</i> , 2 Ed., UPENA, UiTM, Pahang UiTM Malaysia
	Reference Book Resources	<ul style="list-style-type: none"> • A T G Elzebroek, K Wind 2008, <i>Guide to Cultivated Plants</i>, 1 Ed., CABI Kyodo Press, Singapore [ISBN: 9781845933562] • Jason Clay 2004, <i>World Agriculture and the Environment</i>, Island Press United States of America [ISBN: 1559633670] • Tengku Ab. Malik, T.M, Ahmad Tarmizi, S., Zainal Abidin, M., and Teng.C.M. 1996, <i>Panduan Penanaman Mangga</i>, 1 Ed., Institut Penyelidikan dan Kemajuan Pertanian Malaysia (MARDI) Kementerian Pertanian Malaysia [ISBN: 967-936-281-7] • Abd. Rahman.A 1991, <i>Pengeluaran Kopi</i>, 1 Ed., Institut Penyelidikan dan Kemajuan Pertanian Malaysia (MARDI) Kementerian Pertanian Malaysia [ISBN: 967-937-106-3] • Muhamad, G.M. 2005, <i>Teknologi Penanaman Kopi Robusta Berhasil Tinggi</i>, 1 Ed., Institut Penyelidikan dan Kemajuan Pertanian Malaysia (MARDI) Kementerian Pertanian Malaysia
Article/Paper List	Reference Article/Paper Resources	Nelson, S.C., and Eger, K.T. 2011, Black Pepper (<i>Piper nigrum</i>), <i>Farm and Forestry: Production and Marketing Profile for</i> , 13
Other References	This Course does not have any other resources	