UNIVERSITI TEKNOLOGI MARA

AGA706: ORGANIC FOOD CROP PRODUCTION

Course Name (English)	ORGANIC FOOD CROP PRODUCTION APPROVED
Course Code	AGA706
MQF Credit	3
Course Description	This course is intended to provide a science-based overview of the ecological processes that are relied on in organic food crop productions. Emphasis will be placed on management strategies for vegetable and short-term crop productions. Students are also exposed to the requirements of certification of organic food production. Students should understand the challenges associated with organic food production certification in making it a sustainable production system.
Transferable Skills	knowledge and skill of organic food crop production
Teaching Methodologies	Lectures, Discussion, Journal/Article Critique
CLO	CLO1 Explain the principles of diversity, interdependency and recycling in organic food production systems CLO2 Utilize the plant resource availability and agroecosystem interactions in organic food crop production CLO3 Relate the requirements of organic food production in certification of organic agricultural systems including the challenges associated with making the system sustainable
Pre-Requisite Courses	No course recommendations

Topics
1. Crop Production and Environment 1.1) The agroecosystem: plant-environment interactions 1.2) Environmental impact 1.3) Minimal off farm resources 1.4) Socio-economic factor
2. Land Preparation 2.1) Soil formation, property and land classification 2.2) History of land use 2.3) Water resources 2.4) Terrain modification and tillage 2.5) Lining and soil amendment
3. Soil Fertility 3.1) Soil conservation 3.2) Green manure and soil organic matter 3.3) Soil biodiversity and biological activities 3.4) Composting 3.5) Crop rotation
4. Pest and Disease Control 4.1) The concept of suppression of pest and pathogen population 4.2) Plant health 4.3) Cultural practices and sanitation 4.4) Organic pesticides and biopesticides 4.5) Biological control 4.6) Resistant varieties

5. Weed Control 5.1) Plant spacing 5.2) Cultural control 5.3) Biological control 5.4) Biotic influences and allelopathy
6. Certification of Organic Food 6.1) Historical origin of organic food certification 6.2) Certification schemes 6.3) Field evaluation 6.4) Post harvest management 6.5) Case study of certification of organic vegetables
7. Challenges 7.1) Vitality of biological corridors 7.2) Self regenerating food system

Assessment Breakdown	%
Continuous Assessment	70.00%
Final Assessment	30.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Assignment 1	15%	CLO1 , CLO2 , CLO3
Assignment	Assignment 2	15%	CLO1 , CLO2 , CLO3
Attendance	n/a	5%	CLO1 , CLO2 , CLO3
Presentation	Engagement	5%	CLO1 , CLO2 , CLO3
Test	Mid Term Test 1	30%	CLO1 , CLO2 , CLO3

Reading List	This Course does not have any book resources
Article/Paper List	This Course does not have any article/paper resources
Other References	• **Book Barker, A.V. 2002, *Science and Technology of Organic Farming.* , CRC Press.** • **Book Barker, A.V. and Pilbeam, D.J. 2007, *Handbook of Plant Nutrition,*, CRC Press.** • **Book Gupta, H.M. 2005, *(2005). Organic Farming and Sustainable Agriculture.* , ABD Publishers.** • **Book Hopkins, W.G. and Huner, N.P.A. 2009, *Introduction to Plant Physiology (4th Edition).* , John Wiley & Sons, Inc.** • **Book Insam, H., Riddeck, N. and Klammer, S. 2002, *Microbiology of Composting*., Springer.** • **Book Lichtfouse, E. 2009, *Organic Farming, Pest Control and Remediation of Soil Pollutants.* , Springer.** • **Book Rees, R.M., Ball, B.C., Campbell, C.D. and Watson, C.A. 2001, *Sustainable Management of Soil Organic Matter.* , CABI.** • **Book Sathe, T.V. 2004, *Vermiculture and Organic Farming.*, Daya Publishing House, New Delhi.**