



UNIVERSITI TEKNOLOGI MARA

AGR242: GENERAL FIELD MAINTENANCE

<b>Course Name (English)</b>	GENERAL FIELD MAINTENANCE <b>APPROVED</b>
<b>Course Code</b>	AGR242
<b>MQF Credit</b>	3
<b>Course Description</b>	This course will provide an introduction of general field maintenance operations in estate. The student will be able to conduct simple land surveying by using modern and conventional surveying instruments, develop and maintain the infrastructures and structures for estate such as roads, paths, estate housing, and drainage, and manage land preparation for nursery, field planting, field upkeep and harvesting operations on various slopes of terrains in estate.
<b>Transferable Skills</b>	Be able to state, discuss, recognize and conduct land surveying, land clearing and land preparation operations on various terrain slopes in estate.  Be able to plan and develop a design concept of an estate, calculate the areas, supervise field upkeep operations in estate.  Be able to communicate to peers verbally and to the facilitator in writing, through critical and systematic thinking on land surveying, land clearing, land preparation and field maintenance operations in estate.
<b>Teaching Methodologies</b>	Lectures, Lab Work, Tutorial, Discussion, Presentation
<b>CLO</b>	CLO1 Discuss the activities of land surveying, land clearing and land preparation operations on various terrain slopes in the estate CLO2 Explain a design concept of an estate, area calculation and supervise field maintenance operations in the estate CLO3 Demonstrate to peers verbally and in written submission to the facilitator, through critical and systematic thinking on land surveying, land clearing, land preparation and field maintenance operations in the estate
<b>Pre-Requisite Courses</b>	No course recommendations
<b>Topics</b>	<b>1. 1.0 Land surveying</b> 1.1) 1.1 Types of land surveys and their Instruments. 1.2) 1.2 Measurements 1.3) 1.4 Leveling 1.4) 1.5 Angles, bearings, azimuths 1.5) 1.6 Traversing, computations and adjustment of measurements 1.6) 1.7 Global navigation satellite system (GNSS) 1.7) 1.8 Area calculations and partitioning of parcels  <b>2. 2.0 Land clearing</b> 2.1) 2.1 Clearing of jungles 2.2) 2.2 Clearing of existing plants 2.3) 2.3 Felling- method and machinery/equipment . 2.4) 2.4 Burning techniques 2.5) 2.5 Plants disposal management 2.6) 2.6 Ground preparation- plowing, harrowing, rotovating

**3. 3.0 Estate maintenance**

- 3.1) 3.1 Road maintenance
- 3.2) 3.2 Path maintenance
- 3.3) 3.3 Drainage maintenance
- 3.4) 3.4 Estate workers housing maintenance
- 3.5) 3.5 Sanitation maintenance
- 3.6) 3.6 Power and estate electrification maintenance

**4. 4.0 Terracing**

- 4.1) 4.1 Necessity of terracing
- 4.2) 4.2 Terraces maintenances
- 4.3) 4.3 Anti erosion maintenance

**5. 5.0 Nursery maintenance**

- 5.1) 5.1 Nursery irrigation system maintenance
- 5.2) 5.2 Pre-nursery bed maintenance
- 5.3) 5.3 Main nursery maintenance

**6. 6.0 Field maintenance**

- 6.1) 6.1 Planting legume cover
- 6.2) 6.2 Planting inter-row vegetation
- 6.3) 6.3 Post-planting maintenance and supplying
- 6.4) 6.4 Harvesting path maintenance
- 6.5) 6.5 Fruits collecting point/loading rump maintenance

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Design concept of an estate	20%	CLO3
	Practical	Lab report	20%	CLO2
	Test	Test 1 - Chapter 1-2 Test 2 - Chapter 3-6	20%	CLO1

Reading List	Recommended Text	<ul style="list-style-type: none"> <li>• Wolf, P and Ghilani, C. 2012, <i>1.lementary surveying: an Introduction to Geomatics. Prentice Hall.</i>, Prentice Hall.</li> <li>• Turner, P.D and Gilbanks, R.A., 1974, <i>Oil palm cultivation and management</i>, 2.Incorporated Society of Planters (ISP). Malaysia.</li> </ul>
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	