UNIVERSITI TEKNOLOGI MARA

AGR611: WATER AND IRRIGATION

Course Name (English)	WATER AND IRRIGATION APPROVED
Course Code	AGR611
MQF Credit	3
Course Description	Courses emphasize the use of water in agricultural irrigation and drainage system. The study will evaluate on the relationship of land, water and plants. Detailed knowledge of pumps for irrigation, irrigation practices for commercial crops and plans on farm irrigation and drainage system design.
Transferable Skills	Knowledge Communication skills Leadership Team work Life long learning
Teaching Methodologies	Lectures, Discussion, Presentation, Work-based Learning
CLO	CLO1 Identify and describe the basic concepts of Irrigation and Drainage system in plantations. CLO2 Understanding the various irrigation and drainage system method, tool design, parameter and calculation. CLO3 Calculate and Evaluation on right water flow and movement, selection of equipment, materials and equipment for irrigation and drainage system CLO4 Apply suitable irrigation and drainage on crop plantation project CLO5 Collaborate and truthful in the laboratory, fields and in lecture room to solve irrigation and drainage problems
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction 1.1) 1. Water balance and cycle 1.2) 2. Irrigation and drainage system
2. Soil physical properties 2.1) 1. Definitions and units 2.2) 2. Soil measurements properties.
3. Soil water content 3.1) 1. Definitions and measurements 3.2) 2. Water measurements in soils
4. Soil, water and plant relationship 4.1) 1. Measurement in process 4.2) 2. Requirement of process
5. Irrigation system 5.1) 1. Structure and design 5.2) 2. Types and application
6. Drainage system 6.1) 1. Structure and design 6.2) 2. Types and application
7. Irrigation and drainage scheduling 7.1) 1. Definition and methods 7.2) 2. Management and identification

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	To assess in irrigation type and drainage system	15%	CLO2
Case Study	To apply and manage home farming through sustainble irrigation	15%	CLO3
Test	Students be seated for test to identify and describe the system for irrigation and drainage in crop plantation	30%	CLO1

Reading List

Recommended Text

- **Brook K.N 2002, *PLANNING AND MANAGING SOIL AND WATER: ROLE OF WATERSHED MANAGEMENT***
- **Australian CENTER FOR INTERNATIONAL AGRICULTURAL RESEARCH 2002, *IMPROVING WATER EFFICIENCY IN CROPPING***
- **Wan Ishak Wan Ismail and Mohd Hudzari Razali 2012, *Machine Vision to Determine Agricultural Crop Maturity, Trends in Vital Food and Control Engineering*, InTech Publisher [ISBN: 978- 953-51-0]**

Article/Paper List: This Course does not have any article/paper resources

Other References: This Course does not have any other resources