UNIVERSITI TEKNOLOGI MARA

AGR534: WEED SCIENCE

Course Name (English)	WEED SCIENCE APPROVED
Course Code	AGR534
MQF Credit	3
Course Description	This course provides a background on weed identification and biology and weed interference in crops. Various weed control means are covered in detail. Special emphasis is given to weed control by herbicides; classification; mode of action; plant-herbicide interaction, environmental impact; equipment calibration and dosage calculations. The students also acquire skills to identify herbicide injury symptoms and to troubleshoot ineffective herbicide applications. The effects of herbicide application on environment will also be elaborated in this course.
Transferable Skills	Knowledge, practicals, life long learning
Teaching Methodologies	Lectures, Practical Classes, Discussion, Self-directed Learning
CLO	CLO1 Identify and explain the biology and ecology of major weeds in plantations CLO2 Discuss the various weed control practices CLO3 Apply the knowledge of agrochemicals as herbicides, sprayer hardware and spray distribution and demonstrate spray calibration CLO4 Discuss the effects of chemical weed control on environment
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction to Weed Science 1.1) Definition of weed 1.2) Types of weeds
2. Weed Biology 2.1) Propagation of weeds 2.2) Establishment and growth of weeds 2.3) Weed ecology
3. Weed Control 3.1) Weeds and effects on yield 3.2) Historical development of weed control 3.3) Methods of weed control
4. Herbicide 4.1) Herbicide chemistry 4.2) Herbicide and mode of action 4.3) Surfactant technology 4.4) Safe handling of herbicide
5. Physiology of weed control by herbicide 5.1) Structural and biochemical changes 5.2) Effects on photosystems 5.3) Herbicide symptomology 5.4) Herbicide resistant crops
6. Sprayer Hardware and Calibration 6.1) Components and types of sprayer hardware 6.2) Nozzle selection 6.3) Field calibration and calculation

7. Herbicide and environment
7.1) Residual effects
7.2) Pollution of water bodies and air
7.3) Bioaccumulation
7.4) Bioremediation and phytoremediation

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Individual Project	Herbarium Collection	20%	CLO1
Lab Exercise	Laboratory Report	20%	CLO3
Test	Test	20%	CLO2

Reading List

Reference Book Resources

- **Booth, B.D., Murphy, S.D. and Swanton, C.J. 2003, *Weed Ecology in Natural and Agricultural Syst*, Ed., , CABI Publishing [ISBN:]**
- **California Weed Science Society 2002, *Principles of Weed Control (3rd edition)*, Ed., , California Weed Science Society [ISBN:]**
- **Monaco, T.J., Weller, S.C. and Ashton, F.M. 2002, *Weed Science: Principles and Practices (4th e*, Ed., , Wiley-Blackwell [ISBN:]**
- **Ross, M.A. and Lembi, C.A. 2008, *Applied Weed Science*, Prentice Hall USA**

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

Other References: This Course does not have any other resources