



UNIVERSITI TEKNOLOGI MARA

AGR022: BASIC PLANT SCIENCE

Course Name (English)	BASIC PLANT SCIENCE APPROVED
Course Code	AGR022
MQF Credit	4
Course Description	This course provides an understanding on basic plant science. This course deals with introduction of plant and provide a basic life process. The fundamental concepts and processes that underlies their forms and functions will enhance understanding of a great diversity of plant and role of plants in the environment
Transferable Skills	Communication skill
Teaching Methodologies	Lectures, Blended Learning, Lab Work, Tutorial, Presentation
CLO	CLO1 Explain fundamental knowledge and describe the biological processes on plant science for plant growth and development CLO2 Conduct laboratory and perform skills related to the science of plant CLO3 Describe plant science concepts and integrate with the role of the plants in the environment
Pre-Requisite Courses	No course recommendations
Topics	
1. Plant taxonomy and Classification 1.1) Importance of taxonomy 1.2) Classification hierarchy	
2. The Basic Parts Of A Plant and theirs Functions 2.1) Plant cell-microscopic structure 2.2) Simple tissue-structure, distribution of plant tissues in root, stem and leaf in monocots and dicots 2.3) Complex tissues: structure and function-Phloem and xylem	
3. Plant Structure and theirs Functions 3.1) Identify the parts of a root, stem, leaves 3.2) Structure and functions of root, stem, leaves	
4. Seed 4.1) Structure and part 4.2) Seed germination 4.3) Seed formation and dispersal	
5. Morphology of flower 5.1) Structure and function 5.2) Pollination and fertilization process	
6. Physiology of plant 6.1) Chemical processes of photosynthesis 6.2) Cellular respiration 6.3) Important of photosynthesis and cellular respiration 6.4) Transpiration process	
7. Reproduction and Plant life cycle 7.1) Types of reproduction and their importance 7.2) Stage of plant life cycle: Example in Flowering plant	
8. Plant Growth and Development 8.1) Plant Growth 8.2) Requirement for plant growth 8.3) Essential mineral nutrient 8.4) Plant Growth regulators	

9. Transport in Plant

- 9.1) Simple diffusion and facilitate diffusion
- 9.2) Active transport
- 9.3) Water transport within plants-Osmosis
- 9.4) Absorption water and mineral by plants

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Presentation	Students are required to present on related basic knowledge of plant science and the role of the plants in the environment	10%	CLO3
	Writing Test	Test 1 will cover chapters 1-3	15%	CLO1
	Writing Test	Test 2 will cover chapters 4-6	15%	CLO1
	Written Report	Students are required to hand on with laboratory practice, equipment and techniques. Lab report will be submit for an evaluation	20%	CLO2

Reading List	Recommended Text	<ul style="list-style-type: none"> • Kingsley R. S, James E. B., Shelley H. J. 2008, <i>Introductory Plant Biology</i>, McGraw-Hill Higher Education • McMahon, Margaret J., Kofranek deceased, Anton M., Rubatzky, Vincent E 2007, <i>Plant Science: Growth, Development, and Utilization of Cultivated Plants</i>, 5 Ed., Pearson
	Reference Book Resources	<ul style="list-style-type: none"> • D. Hemming, <i>Plant Sciences Reviews 2012</i> [ISBN: 9781780643014] • Choong Ngok Mang, Lee Soon Ching dan Liew Shee Leong 2000, <i>Kuasai Peperiksaan Biologi STPM Jilid 1 dan 2</i>, Fajar Bakti. Shah Alam Selangor • Murray W. Nabors 2004, <i>Introduction to Botany</i>
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	