UNIVERSITI TEKNOLOGI MARA

BIO421: PLANT BIOLOGY

Course Name (English)	PLANT BIOLOGY APPROVED
Course Code	BIO421
MQF Credit	3
Course Description	This course is designed to provide students with principle of plant classification, fundamental of plant physiology, growth and development. The plant tissue culture and plant genetic manipulation will also be highlighted.
Transferable Skills	Recognizing and differentiating plant structure and system. Identifying monocots, dicots, orders, families, genus, species. Skills developed during practical classes and assessed by practical reports and tests
Teaching Methodologies	Lectures, Lab Work, Field Trip
CLO	CLO1 Describe plant structure in relation to physiological processes and sexual reproduction. CLO2 Relate plant structure with physiological processes in Biology experiments.
Pre-Requisite Courses	No course recommendations

Topics
1. Overview of Plant Classification 1.1) N/A
2. Main Features of Plant Phylum 2.1) 2.1 Classification of tracheophytes 2.2) 2.2 Main features of Angiosperms
3. The Organisation of Plant Body 3.1) 3.1 Cells, Tissues and Meristems 3.2) 3.2 Shoot System (stem and leaves) 3.3) 3.3 Root System
4. Photosynthesis 4.1) 4.1 Chloroplast structure 4.2) 4.2 Photosynthetic pigments 4.3) 4.3 Light reaction and enzymatic reactions 4.4) 4.4 Factors affecting productivity
5. Absorption and Transport System 5.1) 5.1 Transpiration and Water Flow 5.2) 5.2 Minerals Uptake and Transport 5.3) 5.3 Phloem Transport
6. The Flower and Sexual Reproduction 6.1) 6.1 The part s of complete flowers and their 6.2) functions 6.3) 6.2 Self pollination and cross pollination
7. Control of Growth and Development 7.1) 7.1 Growth Regulating Substances 7.2) 7.2 Functions and Application

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Assessment Breakdown	%
Continuous Assessment	50.00%
Final Assessment	50.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Lab Exercise	Lab experiments and lab test	20%	CLO2
Test	Cumulative of two tests	30%	CLO1

Reading List

Recommended Text

- **Kingsley Stern,Shelley Jansky,James Bidlack 2017, *Stern's Introductory Plant Biology*, Fourteenth Edition Ed., McGraw-Hill Education [ISBN: 978-125968274]**
- **James D Mauseth 2016, *Botany: An Introduction to Plant Biology*, Sixth Edition Ed., Jones & Bartlett Publisher [ISBN: 978-128407753]**

Reference Book Resources

- **Beck, Charles B 2010, *An Introduction to Plant Structure and Development : Plant Anatomy for the Twenty-First Century*, Second Edition Ed., ; New York : Cambridge University Press**

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

Other References: This Course does not have any other resources

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