

Undergraduate Programme in Biology

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MODULE HANDBOOK

Module Name	Plant Ecophysiology
Module level, if applicable	Bachelor
Code, if applicable	BIO425054
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	6 th (sixth)
Person responsible for the module	Dias Idha Pramesty, M.Si
Lecturer(s)	Dias Idha Pramesty, M.Si Satiti Ratnasari, M.P
Language	Indonesia
Classification within the curriculum:	Elective subject
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.
Workload	Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total 16 weeks per semester, including mid exam and final exam.
Credit points	3 credits (4.5 ECTS)
Requirements according to the examination regulations	Students must meet a minimum attendance of 75% of the total meetings to be able to take the final exam
Recommended prerequisites	No prerequisites stated on
Module objectives/intended learning outcomes	After completing this course, the students: 1. Students are able to explain the concepts of ecology and physiology in plants 2. Students are able to relate the morphological, biochemical and biophysical structures of plants in response to environmental changes 3. Students are able to analyze plant responses to biotic and abiotic stress. 4. Students are able to analyze forms of inter- and intra-specific competition for plants in the environment
Content	1. Dynamics of environmental factors, biotic and abiotic factors, environmental change/global change 2. Plant response to environmental changes 3. Water, light and temperature stress 4. Salinity and heavy metal stress. 5. Biotic stresses: pathogens, herbivores and weeds 6. Adaptation and plant defense systems against biotic stress 7. Inter and intra specific competition of plants in the environment
Study and examination requirements and forms of examination	The final mark will be weighted as follows:

	NO	Assessment methods (components, activities)				Weight (percentage)
	1	Final Examination				35%
	2	Mid-Term Examination				35%
	3	Class Activities : Quiz, Homework, etc.				30%
	The final assessment is expressed in the form of a letter value converted from a number value with the following categories:					
	NO	Number Value	Letter Value	NO	Number Value	Letter Value
	1	≥ 95	A	7	65-69.99	B/C
	2	90-94.99	A-	8	60-64.99	C+
	3	85-89.99	A/B	9	55-59.99	C
	4	80-84.99	B+	10	50-54.99	C-
	5	75-79.99	B	11	55-34.99	D
	6	70-74.99	B-	12	<35	E
Media employed	Lcd Projector, e-learning (https://daring.uin-suka.ac.id/)					
Reading list	1. Espinosa, J.N., P. Garcia-Ibañez, A. Lopez-Zaplana , L. Yepes-Molina , L. Albaladejo-Marico and M. Carvajal. 2023. Confronting Secondary Metabolites with Water Uptake and Transport in Plants under Abiotic Stress. Int. J. Mol. Sci. 24, 2826. https://doi.org/10.3390/ijms24032826 2. Fauzia, A. N., M. Nampei, K. Jiadkong, Shinta, T. Sreewongchai, A.Ueda. 2024. Comparative Physiological and Transcriptomic Profiling Reveals the Characteristics of Tissue Tolerance Mechanisms in the japonica Rice Landrace Under Salt Stress. Journal of Plant Growth Regulation. https://doi.org/10.1007/s00344-024-11349-0 3. Lambers, H., F. S. Chapin III & T. L. Pons. 2008. Plant Physiological Ecology. Springer 4. Hopkins. 1997. Plant Physiology. John Wiley & Sons. New York 5. Lakitan, B. 2002. Dasar-dasar: Fisiologi Tumbuhan. Raja Grafindo Persada. Jakarta 6. Salisbury, F.B. and C.W. Roos. 1999. Plant Physiology. Wadsworth Publ. Co. New York 7. Taiz, L. and Zeiglaer. 2002. Plant Physiology. Sinauer Associates. Inc. Publ. Sunderland. Mass 8. Zagoskina, N. 2024. Special Issue “Advances in the Physiology of Primary and Secondary Plant Metabolism Under Abiotic and Biotic Stress”. Int. J. Mol. Sci. 25, 12339. https://doi.org/10.3390/ijms252212339					

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CO 1				✓	✓						✓
CO 2				✓	✓						✓
CO 3				✓	✓						✓
CO 4				✓	✓						✓