UNIVERSITAS NEGERI YOGYAKARTA
BIOLOGY EDUCATION
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Bachelor of Education in Biology	**MODULE HANDBOOK**

Module name:	Laboratory Work in Plant Structure and Function
Module level, if applicable:	
Code:	BIP 6211
Sub-heading, if applicable:	Plant morphlogical variation Plant anatomical variation Variation of plant physiological activities
Classes, if applicable:	Biology Education Study program
Semester:	Odd semester
Module coordinator:	Ratnawati, M.Sc.
Lecturer(s):	Lili Sugiyarto Budiwati Suyitno Aloysius
Language:	Indonesian
Classification within the curriculum:	Common Ground (Department) Course
Teaching format / class hours per week during the semester:	200 minutes practice and 140 minutes structured activities per week.
Workload:	Total workload is 90.67 hours per semester which consists of 200 minutes lectures, 70 minutes structured activities, and 70 minutes individual study per week for 16 weeks.
Credit points:	2 SKS (3 ETCS)
Prerequisites course(s):	-
Program Learning Outcome(s)	PLO4. Understand to basic biology and other knowledge relevant to mathematics and natural science. PLO7. Being able to do independent laboratory work and fieldwork.
Targeted learning outcomes:	CO-1. Able to carry out scientific processes to find the understanding / basic concepts of biology through observational and / or experimental activities by applying scientific methods, sscientific processes and scientific attitudes. CO-2. Able to apply the scientific concepts, scientific methods and scientific attitudes in solving biological problems in dayly life
Content:	Discusses the morphological and anatomical structure of plant (cell. Tissues and organs) and its characteristics in relation to

	the role of physiological function, through theoretical and laboratory studies connected to the environmental factors (adaptation).
Study / exam achievements:	Portfolio, skill performance, attitude and student involvement in the activities
Forms of media:	Student guide, tools and materials of practicum
References:	1. Agus Pudjoarinto dan Issirep Sumardi, 1992. *Struktur dan Perkembangan Tumbuhan*. Fakultas Biologi UGM, Yogyakarta. 2. Esau, K (1992). *Anatomy of Seed Plants 2nd.* John Wiley and Sons, New York. 3. Halle, F. and Oldeman, R.A.A. 1975. *An Essay on The Architecture and Dynamics of Growth of Tropical Trees*. Penerbit Universiti Malaya. Kuala Lumpur. 4. Tjitro Soepomo, G. 1989. *Morfologi Tumbuhan*. Gadjah Mada University Press, Yogyakarta. 5. Hall, M.A. (ed.) 1976. *Plant Structure, Function and Adaptation*. The English Language Book Socie. and Macmillan. 6. **Salisbury**,F.B and C.W. **Ross**. 1992. *Plant Physiology*. 4th Ed. California. Wadsworth Publ. Co. 7. Ratnawati, Budiwati and Suyitno. 2017. Practicum Study Guide of Plant Struture and function. Biology Education Study Program.

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	PLO 12
CO 1				✓			v					
CO 2				v			v					