

Module Handbook

Modul Name	Plant Embryology (Practical Work)
Modul Level	Bachelor
Abbreviation, if applicable:	BIB302
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester	Odd (5 th semester)
Module Coordinator(s)	Dwi Kusuma Wahyuni, S.Si., M.Si
Lecturer(s)	Prof. Hery Purnobasuki, M.Si., Ph.D Dr. Edy Setiti Wida Utami., M.S Dr. Hamidah, M.Kes Dr. Junairiah, M.Kes
Languange	Bahasa Indonesia
Classification Within The Curriculum	Compulsory Course / Elective Studies
Teaching format/ class hours per week during semester	300 minutes/ week
Workload per semester	100 min lecture + 100 min structural assignment + 100 min self-assignment x 13 weeks; total 3900 min = 65 hours 65/25 = 2.6 ECTS
Credit point	1
Requirement	Plant Anatomy (Practical Work)
Learning goals/ competencies	<p>General competence (skill): Students are expected to discuss the mechanism of embryo formation in plants properly</p> <p>Specific competence:</p> <ol style="list-style-type: none"> 1. Ability to describe and to draw the anatomical structure of Angiospermae reproduction organs and their function 2. Ability to describe and to draw the microporegenesis and microgametogenesis 3. Ability to describe and to draw the macrosporogenesis and macrogametogenesis 4. Ability to describe and to draw the structure of the pollens 5. Ability to describe and to draw the mechanism of the fertilization and pollination 6. Ability to describe and to draw the structure and development of plant endosperm, embryo, and poliembryoni 7. Ability to describe and to draw the structure and development of fruits and seed.
Content	The structure of reproductive organs. Formation stages of gametes. Stages of embryonic development in Bryophyta, Pteridophyta, Gymnosperms, and Angiospermae. Seed anatomical structures. Types of seed germination.
Soft skill Attribute	Dicipline and cooperation
Study/ exam achievements	<p>Students are considered to be competent and pass if at least get 40 of maximum mark of the final score. Final score: Paper project (30, mid exam (30%), final exam (30%), and soffskill (10%)</p> <p>Final index is defined as follow: A = 75-100 AB = 70-74,99 B = 65-69,99</p>

	BC = 60-64,99 C = 55-59,99 D = 40-54,99 E = 0-39,99
Forms of Media	Laboratory Equipment
Learning Methods	Practical work
Literature	<ul style="list-style-type: none"> a. Bhojwani, S.S. and Bhadnagar, S.P. 1981. <i>The Embriology of Angiospermae</i>. Vikas Publishing House Ltd,. b. Loveless, A.R. 1983. <i>Prinsip-prinsip Biologi Tumbuhan Untuk Daerah Tropik</i>. Penerbit PT Gramedia, Jakarta. c. Soerodikosoemo,W. dan Soemardi, I. 1991. <i>Embriologi Tumbuhan</i>. Fakultas Pascasarjana UGM, Yogyakarta. d. Suradinata, T.S. 2002. <i>Embriologi Tumbuhan</i>. Pusat Penerbitan Universitas Terbuka , Jakarta.
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