

Module Descriptions

Module designation	Plant Ecology (course code MPB 3122)
Semester(s) in which the module is taught	5 th semester of Bachelor Programme in Biology
Person responsible for the module	Prof. Dr. Rafdinal, S.Si., M.Si.
Lecture (s)	Prof. Dr. Rafdinal, S.Si., M.Si., & Irwan Lovadi, PhD
Language	Indonesia
Names of other study programmes with which the module is shared	-
Relation to curriculum	Compulsory course
Teaching methods	Lecture and practical sessions
Workload (incl. contact hours, self-study)	Total workload: 5.01 ECTS Lecture: 26.6 hours/27 = 0.97 ECTS Assignment (private study): 64 hours/27 = 2.37 ECTS Practical sessions (lab works): 45 hours/27 = 1.67 ECTS
Credit points	3 credits
Required and recommended prerequisites for joining the module	Students have taken Wetland Biology (course code MPB 2108)
Module objectives/intended learning outcomes	<p>Intended Learning Outcomes (ILO)</p> <p>Attitude (ILO-1) Having academic integrity, grounded in the principles of religion and Pancasila, is essential for contributing to the advancement of the nation and the state.</p> <p>Knowledge (ILO-2) Able to integrate and apply biological science and other scientific fields that support the development of biological science.</p> <p>General Skill (ILO-3) Able to collaborate effectively within a team and to communicate actively, both orally and in writing, in the domain of biology.</p> <p>Specific Skill (ILO-6) Able to apply biological methodology and use instruments by prioritising work safety and able to apply in the management of tropical wetland resources.</p>

Module objectives/intended learning outcomes	<p>Course Learning outcomes (CO)</p> <p>CLO 5. Students are able to integrate various scientific disciplines, including chemistry, physics, mathematics, and information technology, which is fundamental to the advancement and support of biological sciences.</p> <p>CLO 11. Students are able to analyze the interactions among living organisms, ranging from the population level to the biosphere for understanding ecological dynamics.</p> <p>CLO 17. Students are able to collaborate within a team to successfully complete case studies or projects in the field of biology and to present the findings effectively.</p> <p>CLO 18. Students are able to systematically compile and communicate biological research findings based on valid data across various scientific communication formats, including scientific reports, articles, posters, and oral presentations.</p> <p>CLO 27. Students are able to operate biological instruments and methodologies by prioritising work safety in the observation and measurement of biological and environmental objects.</p>
Content	<p>This course will introduce students to the principles and methods of plant ecology, including major approaches to sampling, analyzing and interpreting vegetation patterns. It will address general, contemporary ecological questions using plants as a focal system. Topics include how individual plants extract resources from their environments; population dynamics and plant life histories; species interactions in communities; and ecosystem and landscape processes. The course will emphasize distinctive ways that plant natural history affects their ecology (e.g., resource and mate acquisition) while also illustrating how plants can be ideal systems for studying general ecological problems.</p>
Examination forms	<ol style="list-style-type: none"> 1. Theory 70% <ol style="list-style-type: none"> a. Midterm (30%) b. Final Exams (40%) c. Assignment (20%) d. Group/Individual Activity 10% 2. Practical sessions 30% <ol style="list-style-type: none"> a. Activity/Report 15% b. Final Practical Test 15%
Study and examination requirements	75% attendance

Reading list	<ol style="list-style-type: none"><li data-bbox="624 192 1334 259">1. Schulze, E.-D., Beck, E., & Müller-Hohenstein, K. (2005). Plant Ecology. Springer.<li data-bbox="624 271 1374 338">2. Lack, A. J., & Evans, D. E. (2005). Plant Ecology and Conservation. Cambridge University Press.<li data-bbox="624 349 1374 416">3. van der Maarel, E., & Franklin, J. (2013). Vegetation Ecology (2nd ed.). Wiley-Blackwell.<li data-bbox="624 427 1358 495">4. Gurevitch, J., Scheiner, S. M. & Fox, G. A. (2002). The ecology of plants, Sunderland, Mass, Sinauer Associates.<li data-bbox="624 506 1318 573">5. Keddy, P. A. (2017). Plant Ecology: origins, processes, consequences, Cambridge, UK, Cambridge University Press.<li data-bbox="624 584 1318 674">6. Schulze, E.-D., Beck, E., Buchmann, N., Clemens, S., Muller-Hohenstein, K. & scherer-Lorenzen, M. (2019). Plant Ecology, Berlin, Germany, Springer Berlin Heidelberg.
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