Undergraduate Programme in Science Education **Module Handbook**

Module Name:	*Anatomi dan Fisiologi Tumbuhan* (Plant Anatomy and Physiology)
Module Level:	Bachelor degree/Undergraduate Programme
Course Code:	8420103162
Abbreviation, if applicable:	Anfistum
Courses included in the module, if applicable:	Not applicable
Semester/term	III/second year (sophomore)
Module coordinator(s):	Enny Susiyawati, S.Si., M.Sc., M.Pd., Ph.D
Lecturer(s):	Dr. Rinie Pratiwi Puspitawati, M.Si. Enny Susiyawati, S.Si., M.Sc., M.Pd., Ph.D. Aris Rudi Purnomo, S.Si., M.Sc., M.Pd. Dhita Ayu Permata Sari, S.Pd., M.Pd. Wahyu Budi Sabtiawan, S.Si., M.Sc., M.Pd.
Language:	*Bahasa Indonesia* (Indonesian Language)
Classification within the curriculum:	Compulsory / ~~Elective~~
Teaching format/class hours per week during the semester:	3 contact hours of lectures (Indonesia credit semester or *sks**)
Workload:	3 x 50 minutes lectures, 3 x 60 minutes structured activity, 3 x 60 minutes individual activity, 14 weeks per semester, 119 total hours per semester ~ 4.77 ECTS**
Credit point:	3 *sks* (4.77 ECTS)
Requirements:	General Biology (8420103023) General Chemistry (8420103074)
Learning goals/competencies:	**Course Learning Outcomes (CLOs):** After taking this course, students will be able to: 1. explain phenomena and processes in plant anatomy and physiology using biology and chemistry concepts. 2. Apply principles/Laws/Theories to various phenomena in plat anatomy and physiology. 3. Apply substantive concepts (principles/laws/ theories) in the field of plant anatomy and physiology in solving relevant problems. 4. Design and conduct research about plant anatomy and physiology.
Content:	Anatomy and physiology of root, stem, and leaf; diffusion and osmosis; translocation; transpiration; photosynthesis; plant respiration; and plant hormones.
Attribute Soft skill:	Discipline, collaboration, responsibility, and critical thinking.
Study/exam achievements:	Students are considered to be competent and pass if at least get 40% of the maximum final grade. The final grade (NA) is calculated based on the following weight:

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<tr><th>Assessment Components</th><th>Percentage Contribution</th></tr>
<tr><td>Participation</td><td>20%</td></tr>
<tr><td>Assignment</td><td>30%</td></tr>
<tr><td>Mid-semester test</td><td>20%</td></tr>
<tr><td>Final semester test</td><td>30%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
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<tr><td>Learning Methods</td><td>Constructivist, student-centre approach, research-based learning, lecturing, discussion, and presentation.</td></tr>
<tr><td>Form of Media:</td><td>White Board, LCD projector, Laptop, electric microscopes, internet, power point slides, and worksheet.</td></tr>
<tr><td>Literature (primary references):</td><td>1. Beck, Charles B. 2010. An Introduction to Plant Structure and Development: Plant Anatomy for the Twenty-First Century, 2 Edition Book. New York: Cambridge University Press.
2. Adam, Jennifer W. Mac, 2008. Structure and Function of Plants. New Delhi: Willey Blackwell.
3. Taiz, L. and Zeiger E. 2010. Plant Physiology, Fifth Edition. Sinauer Associates. California: Sunderland.</td></tr>
<tr><td rowspan="2">Notes:</td><td>*1 sks in learning process = three contact hours that consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</td></tr>
<tr><td>**1 sks = 1,59 ECTS</td></tr>
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