



Universitas Negeri Surabaya
Faculty of Mathematics and Natural Sciences
Biology Education Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Mycology	8420502162	Study Program Elective Courses	T=2	P=0	ECTS=3.18	5	April 28, 2023
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Guntur Trimulyono, S.Si., M.Sc.		Prof. Dr. Mahanani Tri Asri, M.Si.			Dr. Rinie Pratiwi Puspitawati, M.Si.	

Learning model	Project Based Learning																
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																
	Program Objectives (PO)																
	PO - 1	Describe the terms used in studying fungi															
	PO - 2	Developing the basics of fungal classification for various purposes															
	PO - 3	Describe the characteristics, physiology and reproduction and benefits of cellular slime molds															
	PO - 4	Describe the characteristics, physiology, reproduction and benefits of plasmodial slime mold															
	PO - 5	Describe the characteristics, physiology, reproduction and benefits of Oomycetes															
	PO - 6	Describe the characteristics, physiology, reproduction and benefits of Chytridiomycetes															
	PO - 7	Describe the characteristics, physiology, reproduction and benefits of Zygomycetes															
	PO - 8	Describe the characteristics, physiology, reproduction and benefits of Ascomycetes															
	PO - 9	Describe the characteristics, physiology, reproduction and benefits of Basidiomycetes															
	PO - 10	Describe the characteristics, physiology, reproduction and benefits of Deuteromycetes															
	PO - 11	Applying research principles to the cultivation of wood mushrooms															
	PO - 12	Conduct research related to fungal succession in various habitats															
	PO - 13	Describe the symbiosis between fungi and algae (lichen) and describe the characteristics, physiology, reproduction and benefits of lichen in life															
	PO - 14	Describe the differences between fungi and plants (mycorrhiza) and describe the characteristics, physiology, reproduction and benefits of mycorrhiza in life															
PLO-PO Matrix																	
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr><td>P.O</td></tr> <tr><td>PO-1</td></tr> <tr><td>PO-2</td></tr> <tr><td>PO-3</td></tr> <tr><td>PO-4</td></tr> <tr><td>PO-5</td></tr> <tr><td>PO-6</td></tr> <tr><td>PO-7</td></tr> <tr><td>PO-8</td></tr> <tr><td>PO-9</td></tr> <tr><td>PO-10</td></tr> <tr><td>PO-11</td></tr> <tr><td>PO-12</td></tr> <tr><td>PO-13</td></tr> <tr><td>PO-14</td></tr> </tbody> </table>	P.O	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PO-13	PO-14	
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PO-14																	
PO Matrix at the end of each learning stage (Sub-PO)																	

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PO-1																
PO-2																
PO-3																
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PO-14																

Short Course Description	This course examines the concept of mycology (yeasts and molds), which includes an introduction to the terms used in studying fungi, classification of fungi with various basic types of classification, cellular slime molds, plasmodial slime molds, aquatic fungi which include Oomycotina and Chytridiomycotina, terrestrial fungi which includes Zygomycotina, Ascomycotina, Basidiomycotina and Deuteromycotina from the aspects of diversity, reproduction, ecology, role and cultivation methods. In this course, several mutualistic symbiosis related to fungi such as lichen and mycorrhiza are also studied and practice research related to fungi such as fungal succession in various media/environments. This course is presented in the form of lectures and active student-based practical experience of cultivating edible mushrooms to solidify the concept of fungi.
References	<p>Main :</p> <ol style="list-style-type: none"> Tortora, G.J., Funke, B.R. & Case, C.I. 2007. Microbiology An Introduction, Addison Wesley Longman, Inc. San Francisco. Ostry, M.E., Neil A.A. & Joseph, G.O., 2010. Field Guide to Common Macrofungi in Eastern Forests and Their Ecosystem Functions. USA: U.S. FOREST SERVICE 11 CAMPUS BLVD SUITE 200 NEWTOWN SQUARE PA 19073. Schwab, A., 2010. Mushrooming with Confidence. New York: Skyhorse Publishing. Webster, J. & Weber, R.W.S. 2007. Introduction to Fungi. New York: Cambridge University Press. Muvidha, A. 2020. Lichen di Jawa Timur. Tulungagung: Akademia Pustaka <p>Supporters:</p> <ol style="list-style-type: none"> Isnawati. 2013. Mikologi. Surabaya: Jurusan Biologi FMIPA UNESA Trimulyono, G., Isnawati & Asri, M.T. 2021. Pedoman Praktikum Mikologi: Sukses Jamur. Surabaya: Jurusan Biologi FMIPA UNESA
Supporting lecturer	Prof. Dr. Mahanani Tri Asri, M.Si. Dr. Isnawati, M.Si. Guntur Trimulyono, S.Si., M.Sc.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (offline)	Online (online)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Describe the terms used in studying fungi	<ol style="list-style-type: none"> Describe terms related to fungal biology Describe terms related to fungal reproduction Describe terms related to fungal classification 	<p>Criteria:</p> <ol style="list-style-type: none"> Practical reports and products are assessed as ASSIGNMENTS with a weight of 30% USS weight 20% Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% US weight 30% Essay questions are assessed jointly on USS and US Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Lectures and discussions 2 X 50	Lectures and discussions 2 X 50	<p>Material: a. Introduction to the fungal kingdom; b. Terms used in studying fungi</p> <p>References: Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</p> <p>Material: a. Introduction to the fungal kingdom; b. Terms used in studying fungi</p> <p>Library: Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</p>	5%

2	Developing the basics of fungal classification for various purposes	<ol style="list-style-type: none"> 1. Identify reasons for studying fungi 2. Understand the basics of fungal classification 3. Describe several fungal classification systems 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Practical reports and products are assessed as ASSIGNMENTS with a weight of 30% 2. USS weight 20% 3. Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 4. US weight 30% 5. Essay questions are assessed jointly on USS and US 6. Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Lectures and discussions 2 X 50	Lectures and discussions 2 X 50	<p>Material: a. Position of fungi in the classification of living things, b. Basics of fungal classification, c. Examples of fungal classification systems</p> <p>References: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Position of fungi in the classification of living things, b. Basics of fungal classification, c. Examples of fungal classification systems</p> <p>References: <i>Tortora, GJ, Funke, BR & Case, CI 2007. Microbiology An Introduction, Addison Wesley Longman, Inc. San Francisco.</i></p> <hr/> <p>Material: a. Position of fungi in the classification of living things, b. Basics of fungal classification, c. Examples of fungal classification systems</p> <p>References: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p>	5%
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3	Describe the characteristics, physiology and reproduction and benefits of cellular slime molds	<ol style="list-style-type: none"> 1.Explain the special characteristics of cellular slime molds 2.Explain the physiology of cellular slime molds 3.Explain the reproduction of cellular slime molds 4.Explain the uses of cellular slime molds 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of cellular slime mold, b. Life cycle of cellular slime mold, c. Cellular slime mold physiology, d. Use of cellular slime molds</p> <p>References: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of cellular slime mold, b. Life cycle of cellular slime mold, c. Cellular slime mold physiology, d. Utilization of cellular slime molds</p> <p>References: <i>Tortora, GJ, Funke, BR & Case, CI 2007. Microbiology An Introduction, Addison Wesley Longman, Inc. San Francisco.</i></p> <hr/> <p>Material: a. Characteristics of cellular slime mold, b. Life cycle of cellular slime mold, c. Cellular slime mold physiology, d. Utilization of cellular slime mold</p> <p>Reference: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%
4	Describe the characteristics, physiology, reproduction and benefits of plasmodial slime mold	<ol style="list-style-type: none"> 1.Explain the special characteristics of plasmodial slime molds 2.Explain the physiology of plasmodial slime molds 3.Explain the reproduction of plasmodial slime molds 4.Explain the use of plasmodial slime mold 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of plasmodial slime mold, b. Oomycotina, c. Life cycle of plasmodial slime mold, d. Physiology of plasmodial slime mold, e. Use of plasmodial slime molds</p> <p>References: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of plasmodial slime mold, b. Oomycotina, c. Life cycle of plasmodial slime mold, d. Physiology of plasmodial slime mold, e. Utilization of plasmodial slime mold</p> <p>Reference: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%

5	Describe the characteristics, physiology, reproduction and benefits of Oomycetes	<ol style="list-style-type: none"> 1.Explain the special characteristics of Oomycetes 2.Explain the physiology of Oomycetes 3.Explain Oomycete reproduction 4.Explain the use of Oomycetes 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of Oomycotina, b. Oomycotina life cycle, c. Physiology of Oomycotina mold, d. Use of Oomycotina</p> <p>Bibliography: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of Oomycotina, b. Oomycotina life cycle, c. Physiology of Oomycotina mold, d. Utilization of Oomycotina</p> <p>Library: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%
6	Describe the characteristics, physiology, reproduction and benefits of Chytridiomycetes	<ol style="list-style-type: none"> 1.Explain the special characteristics of Chytridiomycetes 2.Explain the physiology of Chytridiomycetes 3.Explain the reproduction of Chytridiomycetes 4.Explain the use of Chytridiomycetes 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of Chytridiomycotina, b. Chytridiomycotina life cycle, c. Physiology of Chytridiomycotina, d. Use of Chytridiomycotina</p> <p>Bibliography: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of Chytridiomycotina, b. Chytridiomycotina life cycle, c. Physiology of Chytridiomycotina, d. Utilization of Chytridiomycotina</p> <p>References: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%

7	Describe the characteristics, physiology, reproduction and benefits of Zygomycetes	<ol style="list-style-type: none"> 1.Explain the meaning and purpose of identification 2.Explain the identification system and identification strategy 3.Explain the characteristics of microbes 4.Explain methods of microbial identification 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of Zygomycotina, b. Life cycle of Zygomycotina, c. Zygomycotina physiology, d. Use of Zygomycotina</p> <p>Bibliography: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of Zygomycetes, b. Life cycle of Zygomycetes, c. Physiology of Zygomycetes, d. Use of Zygomycetes</p> <p>Bibliography: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of Zygomycetes, b. Life cycle of Zygomycetes, c. Physiology of Zygomycetes, d. Utilization of Zygomycetes</p> <p>Library: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%
8	U.S.S	-	<p>Criteria: USS weight 20%</p> <p>Form of Assessment : Test</p>	- 2 X 50			10%
9	Describe the characteristics, physiology, reproduction and benefits of Ascomycetes	<ol style="list-style-type: none"> 1.Explain the special characteristics of Ascomycetes 2.Explain the physiology of Ascomycetes 3.Explain the reproduction of Ascomycetes 4.Explain the use of Ascomycetes 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of Ascomycetes, b. Life cycle of Ascomycetes, c. Physiology of Ascomycetes, d. Use of Ascomycetes</p> <p>Bibliography: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p> <hr/> <p>Material: a. Characteristics of Ascomycetes, b. Life cycle of Ascomycetes, c. Physiology of Ascomycetes, d. Utilization of Ascomycetes</p> <p>Library: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%

10	Describe the characteristics, physiology, reproduction and benefits of Basidiomycetes	<ol style="list-style-type: none"> 1.Explain the special characteristics of Basidiomycetes 2.Explain the physiology of Basidiomycetes 3.Explain the reproduction of Basidiomycetes 4.Explain the use of Basidiomycetes 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of Basidiomycetes, b. Basidiomycetes life cycle, c. Physiology of Basidiomycetes, d. Utilization of Basidiomycetes</p> <p>Bibliography: <i>Schwab, A., 2010. Mushrooming with Confidence. New York: Skyhorse Publishing.</i></p> <hr/> <p>Material: a. Characteristics of Basidiomycetes, b. Basidiomycetes life cycle, c. Physiology of Basidiomycetes, d. Utilization of Basidiomycetes</p> <p>Bibliography: <i>Ostry, ME, Neil AA & Joseph, GO, 2010. Field Guide to Common Macrofungi in Eastern Forests and Their Ecosystem Functions. USA: US FOREST SERVICE 11 CAMPUS BLVD SUITE 200 NEWTOWN SQUARE PA 19073.</i></p> <hr/> <p>Material: a. Characteristics of Basidiomycetes, b. Basidiomycetes life cycle, c. Physiology of Basidiomycetes, d. Utilization of Basidiomycetes</p> <p>Bibliography: <i>Webster, J. & Weber, RWS 2007. Introduction to Fungi. New York: Cambridge University Press.</i></p>	5%
11	Describe the characteristics, physiology, reproduction and benefits of Deuteromycetes	<ol style="list-style-type: none"> 1.Explain the special characteristics of Deuteromycetes 2.Explain the physiology of Deuteromycetes 3.Explain the reproduction of Deuteromycetes 4.Explain the use of Deuteromycetes 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities</p>	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Characteristics of Deuteromycetes, b. Deuteromycetes life cycle, c. Deuteromycetes physiology, d. Utilization of Deuteromycetes</p> <p>Library: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	5%

12	Applying research principles to the cultivation of wood mushrooms	<ol style="list-style-type: none"> 1.Explains the process of making wood mushroom growing media 2.Explains the process of making wood fungus seeds in seed bottles 3.Explain the process of making mushroom seeds in polybags 4.Explain how to trigger the formation of fungal fruiting bodies 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Practical Assessment</p>	Discussion and practicum 2 X 50	Discussion and practicum 2 X 50	<p>Material: a. Wood fungus growing medium, b. factors that influence the growth of wood fungi, c. Process of cultivating wood mushrooms</p> <p>Library: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i></p>	15%
13	Conduct research related to fungal succession in various habitats	<ol style="list-style-type: none"> 1.Explain the meaning of succession and its benefits for life 2.Write down succession procedures for various materials and habitats 3.Identifying fungal diversity throughout the succession process 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning <p>Form of Assessment : Participatory Activities, Practical Assessment</p>	Discussion and Practicum 2 X 50	Discussion and Practicum 2 X 50	<p>Material: Procedures for implementing wood fungal succession in various habitats</p> <p>Reference: <i>Trimulyono, G., Isnawati & Asri, MT 2021. Mycology Practical Guidelines: Fungal Succession. Surabaya: Biology Department, FMIPA UNESA</i></p>	10%
14	Describe the symbiosis between fungi and algae (lichen) and describe the characteristics, physiology, reproduction and benefits of lichen in life	<ol style="list-style-type: none"> 1.Explain aspects of lichen biology 2.Identifying the role of symbionts in lichens 3.Describe the role of lichen in life 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.Practical reports and products are assessed as ASSIGNMENTS with weight 2.30% 3.USS weight 20% 4.Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5.US weight 30% 6.Essay questions are assessed jointly on USS and US 7.Performance questions are integrated during learning 	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	<p>Material: a. Lichen biology, b. Types of lichen, c. The role of each symbiont, d. Explain the function of lichen in life, e. Lichen reproduction</p> <p>Bibliography: <i>Muvidha, A. 2020. Lichens in East Java. Tulungagung: Academic Library</i></p>	5%

15	Describe the differences between fungi and plants (mycorrhiza) and describe the characteristics, physiology, reproduction and benefits of mycorrhiza in life	1.Explain aspects of mycorrhizal biology 2. Identifying the role of symbionts in mycorrhiza 3. Describe the role of mycorrhiza in life	Criteria: 1. Practical reports and products are assessed as ASSIGNMENTS with weight 2. 30% 3. USS weight 20% 4. Students' attendance, activities and responses during learning activities, especially practicums, are assessed as participation, with a weight of 20% 5. US weight 30% 6. Essay questions are assessed jointly on USS and US 7. Performance questions are integrated during learning Form of Assessment : Participatory Activities	Cased-based learning and peer-interaction 2 X 50	Cased-based learning and peer-interaction 2 X 50	Material: a. Mycorrhiza biology, b. Types of mycorrhiza, c. The role of each symbiont, d. Explain the function of mycorrhiza in life, e. Mycorrhizal reproduction Reference: <i>Isnawati. 2013. Mycology. Surabaya: Biology Department, FMIPA UNESA</i>	5%
16		Sub-CPMK 1 to 14	Form of Assessment : Test	- 2 X 50	- 2 X 50		15%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	55%
2.	Practical Assessment	20%
3.	Test	25%
		100%

Notes

- Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- Indicators for assessing** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities or performance of student learning outcomes accompanied by evidence.
- Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- Forms of assessment:** test and non-test.
- Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.