



## Module Description/Course Syllabi

Study Program : Bachelor Program (S1)  
 Faculty of Agriculture  
 University of Andalas

### **1. Course number and name**

PIT621 02 Soil Biology

### **2. Credits and contact hours/Number of ECTS credits allocated**

3 credits ( 2 classes, 1 practicum)

### **3. Instructors and course coordinator**

1. Dr. Ir. Agustian
2. Is. Lusi Maira, MAgrSc
3. Ir. Octane Emalinda, MP

### **4. Text book, title, author, and year**

1. Sylvia, DM et.al. 1998. Principles and Applications of Soil Microbiology
2. Metting. F.B. Jr. 1993. Soil Microbial Ecology. Applications in Agricultural and Environmental Management
3. Paul, E.A and F.E Clark. 1996. Soil Microbiology and Biochemistry.
4. Waksman, A.S. 1967. Soil Microbiology
5. Martin. A.. 1980. Introduction of Soil Microbiology
6. Teja Imes, et al. 1990. Soil Microbiology
7. Publications in research journals related to related topics.

### **5. Specific course information**

#### **A. Brief description of the content of the course (catalog description)**

After completing this course, students are expected to be able to explain: the role of soil biota in nutrient transformation that can increase nutrient availability and plant growth and yield

#### **B. Level of course unit (according to EQF: first cycle Bachelor, second cycle Master)**

First Cycle Bachelor

#### **C. Semester when the course unit is delivered**

Even Semester

#### **D. Mode of delivery (face-to-face, distance learning)**

Face to face
<b>6. <i>Intended Learning Outcomes (CPL)</i></b>
ILO-1: Able to apply basic agricultural sciences widely in overcoming agricultural problems for sustainable agricultural development (P) P1.1. Explain agricultural sciences related to soil science P1.2 Analyze agricultural problems with a soil science approach and agricultural sciences in general
ILO-2: Able to identify, analyze, and solve land problems in improving productivity and quality of agricultural products for sustainable agricultural development P2.1. Characterizing soil fertility (physics, chemistry, soil biology)
ILO-3: Able to use various methods for soil and crop analysis appropriately in land resource management P3.1 Using laboratory equipment for soil analysis and follow-up crops with SOPs P3.2 Able to analyze soil and plants precisely, meticulously using the latest methods
ILO-4: Able to apply their professional responsibilities to make decisions in land and environmental management 4.1 Assessing soil properties and features
<b>7. <i>Course Learning Outcomes (CPMK) ex. The student will be able to explain the significance of current research about a particular topic.</i></b>
1. Explain agricultural sciences related to soil science
2. Analyze agricultural problems with a soil science approach and agricultural sciences in general
3. Characterizing soil fertility (physics, chemistry, soil biology)
4. Using laboratory equipment for soil analysis and compiling plants with SOPs
5. Able to analyze soil and plants precisely, meticulously using the latest methods
6. Assess soil properties and characteristics
<b>8. <i>Learning and teaching methods</i></b>
Cooperative Learning and Case Method Learning

**9. Language of instruction**

Indonesian

**10. Assessment methods and criteria**

**Summative Assessment :**

1. Assignment
2. UTS
3. UAS
4. Internship

**Formative Assessment:**

1. Thumb up and thumb down
2. Minutes paper