Module designation	*Soil Biology*
Semester(s) in which the module is taught	*7th*
Person responsible for the module	*Prof. Dr. Ir. Dermiyati, M.Sc*
Language	*Indonesian language*
Relation to curriculum	*Elective*
Teaching methods	*Lectures (100 minutes)* *Practicum sessions (170 minutes)*
Workload (incl. contact hours, self-study hours)	*Contact hours : 14 weeks x 100 minutes* *Structured learning: 14 weeks x 120 minutes* *Independent study: 14 weeks x 120 minutes* *Practicum sessions: 14 weeks x 170 minutes*
Credit points	*3 (2-1) CP or 4.76 (ECTS)* *((14 weeks x 100 minutes) + (14 weeks x 120 minutes) +* *(14 weeks x 120 minutes) + (14 weeks x 170 minutes)) :* *60 minutes/hour* *= 119 hours : 25 study hours/ECTS* *= 4.76 (ECTS)*
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	- *Students are able to apply the basic concepts and principles of cultivation technology and the development of sustainable agriculture technology* - *Students are able to identify, formulate, solve problems, and apply plant science, plant protection, soil science, socio-economic agriculture, and plant production engineering principles that are oriented towards good agricultural practices (GAP)*
Content	*The soil Biology course is a 3 (2-1) credit course.* *This course contains studies on: The history of the development of soil biology, soil as habitat for organisms, interaction of environmental factors with organisms, components of soil organisms, presence and distribution of soil organisms, overhaul of organic matter and the carbon cycle, transformation of nitrogen, phosphorus, and sulfur, transformation of metallic elements, association of soil organisms and plant roots, the role of organisms in the soil, the overhaul of solid organic waste and pollutants, enzymes in the soil, hormones and toxins from soil organisms, the biology of earthworms and nematodes.*
Examination forms	*oral presentation, essay*

Study and examination requirements	*Participants are evaluated based on their performance in class (lectures) (70%) and lab (practicum) (30%).* *Performance in theory (100%):* *Mid Exam (20%)* *Final Exam (20%)* *Assignments (40%)* *Class participation (10%)* *Individual quiz (10%)* *Performance in practicum (100%):* *Practicum exam (30%)* *Pre-test or post-test (10%)* *Experiment reports (60%)*
Reading list	1. *Alexander, M. 1977. Introduction to Soil Microbiology, 2nd ed. John Wiley, New York, 361 pp.* 2. *Coleman, D.C. and D.A. Crossley Jr. 2003. Fundamental of Soil Ecology. Academic Press, USA, 205 pp.* 3. *Metting, F.B. Jr. 1993. Structure and Physiological Ecology of Soil Microbial Communities. In F.B. Metting Jr. (Ed). Soil Microbial Ecology.. Pp 3-25. Marcel Dekker, Inc, New York.* 4. *Paul, E.A. and Clark. 2007. Soil Microbiology, Ecology, and Biochemistry, Academic Press is an imprint of Elsevier, AMSTERDAM.* 5. *Van Elsas, J.D. and J.T. Trevors. 1997. Modern Soil Microbiology. Marcel Dekker, New York, pp 375-439*