

Module designation	<i>Sustainable Agriculture</i>
Semester(s) in which the module is taught	<i>3th</i>
Person responsible for the module	<i>Prof. Dr. Jamalam Lumbanraja, M.Sc</i>
Language	<i>Indonesian language</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>Lectures (100 minutes)</i>
Workload (incl. contact hours, self-study hours)	<i>Contact hours : 14 weeks x 100 minutes Structured learning: 14 weeks x 120 minutes Independent study: 14 weeks x 120 minutes</i>
Credit points	<i>2 (2-0) CP or 3.17 (ECTS) ((14 weeks x 100 minutes) + (14 weeks x 120 minutes) + (14 weeks x 120 minutes) : 60 minutes/hour = 79,33 hours : 25 study hours/ECTS = 3.17 (ECTS)</i>
Required and recommended prerequisites for joining the module	<i>-</i>
Module objectives/intended learning outcomes	<ul style="list-style-type: none"> <i>- Students are able to apply the basic concepts and principles of cultivation technology and the development of sustainable agriculture technology</i> <i>- 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)</i>
Content	<i>The Sustainable Agriculture course is a 2 (2-0) credit course. (1). Reasons for the need for Sustainable Agricultural Management; (2) the concept of sustainable agriculture; (3) components of sustainable agricultural management: cropping pattern regulation, nutrient and fertilization management, management of organic matter and soil conditioner, soil and water conservation, genetic engineering of soil and plant organisms, integrated management of pest organisms, integration of livestock in Sustainable Agriculture; (4) Sustainable Agricultural management models: organic farming, integrated mixed farming, agroforestry, lowland rice systems, and integration of agriculture with post harvest management; (5) the impact of sustainable agriculture on environmental resources; (6) Sustainable Agricultural socio-economic: concept and analysis of sustainable agricultural economics, institutional and cultural aspects; (7) Agricultural risk management: risk issues and sustainable agricultural risk management.</i>
Examination forms	<i>oral presentation, essay</i>

Study and examination requirements	<p><i>Participants are evaluated based on their performance in class (lectures) (100%)</i></p> <p><i>Performance in theory (100%):</i> <i>Mid Exam (20%)</i> <i>Final Exam (20%)</i> <i>Assignments (40%)</i> <i>Class participation (10%)</i> <i>Individual quiz (10%)</i></p>
Reading list	<ol style="list-style-type: none"> 1. Altieri, M.A. 1995. <i>Agroecology. The Science of Sustainable Agriculture. Second Edition.</i> Westview Press. 433 pp. 2. Ellis, F. 1994. <i>Agricultural policies in developing countries.</i> Cambridge University Press. Cambridge. 3. FAO. 2003. <i>Soil biodiversity and agricultural context.</i> Soil Biodiversity Portal 4. Kraas, F., Leggewie, C., Lemke, P., Matthies, E., Messner, D., Nakicenovic, N., ... & Butsch, C. 2016. <i>Humanity on the move: Unlocking the transformative power of cities.</i> WBGU-German Advisory Council on Global Change Lynch, G.M. 1988. <i>Soil Biotechnology.</i> Blackwell. 5. Schrettle, S., Hinz, A., Scherrer -Rathje, M., & Friedli, T. 2014. <i>Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance.</i> <i>International Journal of Production Economics</i>, 147, 73-84. 6. Sitanala, A., I. Amien, T. Sheng and W. Moldenhauer. 1992. <i>Conservation Policies for Sustainable Hillslope Farming.</i> Soil Water Coservation Society. Ankeny, Iowa, 367pp