USK UNIVERSITAS SYIAH KUALA

FACULTY OF AGRICULTURE

DEPARTMENT OF SOIL SCIENCE

UNDERGRADUATE PROGRAM **MODULE HANDBOOK**

Module designation	Agroecology (SSOL6014)
Semester(s) in which the module is taught	6th semester
Person responsible for the module	Prof. Dr. Ir. Sufardi, M.S.
Language	Indonesian, English
Relation to curriculum	Elective module for Soil Science Department
Teaching methods	Lecture, small group discussion, presentation
Workload (incl. contact hours, self-study hours)	✔ 100 minutes lecture and discussion per week ✔ 120 minutes structured tasks per week ✔ 120 minutes learn to be independent per week
Credit points	2 SKS = 3.2 ECTS
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	✔ Students are able to explain the concepts, scope, and systems of agroecology in the context of sustainable agriculture, and understand the basic principles of agroecological systems and their historical perspectives. ✔ Students are able to explain the ten elements of agroecology and agroecosystems in sustainable agricultural systems and their relation to environmental quality and food health. ✔ Students are able to describe describe visual models of sustainable agriculture and their interdisciplinary linkages, as well as design and present future agricultural models such as generative agriculture, smart farming, and precision farming.
Content	Learn about the basic concepts of agroecological systems, their historical perception, and the relationship between the fields of science, keys to the development of agroecology and agricultural agrosystems, 10 elements of agroecology, agrosystems and their environment with the quality of agricultural products, environmental quality and food health, visualization of sustainable agricultural models, and smart farming models.
Exams and assessment formats	Quiz, Assignments, Midterm exam, Final exam
Study and examination requirements	✔ Assignments: 20% ✔ Quiz: 20% ✔ Midterm exam: 30% ✔ Final exam: 30%

Reading list	1. Benkeblia, N. 2019. Agroecology, Ecosystems, and Sustainability. CRC Press. 2. Gliessman, S.R. (Author). 2020. Field and Laboratory Investigations in Agroecology. 3rd Edition. CRC Press 3. Mendez et al. 2017. Agroecology: A Transdisciplinary, Participatory and Action-oriented Approach (Advances in Agroecology) 1st Edition. CRC Press. 4. A.Nurkidam, A.Nurkidam and Herawaty, Hasmiah. 2019. Arkeologi Sebagai Suatu Pengantar. Kaaffah Learning Center, Parepare, Indonesia. ISBN 978-623-7426-45-5. 5. Wojtkowski, P. (2019). Agroecology. Cham: Springer International Publishing, 22. 6. Snapp, S., & Pound, B. (Eds.). (2017). Agricultural systems: agroecology and rural innovation for development: agroecology and rural innovation for development. Academic Press. 7. Altieri, M. A. (2018). Agroecology: the science of sustainable agriculture. CrC press. 8. Vandermeer, J., & Perfecto, I. (2017). Ecological complexity and agroecology. Routledge.