



USK
UNIVERSITAS
SYIAH KUALA

FACULTY OF AGRICULTURE
DEPARTMENT OF SOIL SCIENCE

UNDERGRADUATE PROGRAM

MODULE HANDBOOK

Module designation	Fundamental of Soil Science (SSOL1002)
Semester(s) in which the module is taught	2 nd Semester
Person responsible for the module	Yusnizar, SP., M.Si.
Language	Indonesian, English
Relation to curriculum	Compulsory module for Soil Science Department
Teaching methods	Lecture, interactive, small group discussion, presentation
Workload (incl. contact hours, self-study hours)	<ul style="list-style-type: none">✓ 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	<ul style="list-style-type: none">✓ Students can explain soil concepts from both pedological and edaphological perspectives, including soil-forming factors and soil mineralogy.✓ Students can explain the physical, chemical, and biological characteristics of soil, as well as their functions in the transformation of compounds within the soil and in maintaining soil fertility.✓ Students can explain the concepts of soil fertility, plant nutrients, and fertilisation practices, as well as their interrelationship in enhancing soil fertility.✓ Students can explain soil and water conservation, the principles of soil taxonomy and classification, soil management practices, land surveying and evaluation techniques, and the effects of pollution on soil and environmental quality.
Content	The lecture covers the concept of soil, soil-forming factors, soil formation processes, soil morphology and physical properties, soil biology, soil mineralogy, soil and plant nutrients, fertilization and soil fertility evaluation, methods of soil and water conservation, land classification, land management, land surveying and mapping, as well as land, soil, and environmental evaluation.
Exams and assessment formats	Quiz, Assignment, Midterm exam, Final exam

Study and examination requirements	<ul style="list-style-type: none">✓ Case Method: 50%✓ Quiz: 5%✓ Assignment: 5%✓ Midterm exam: 20%✓ Final exam: 20%
Reading list	<ol style="list-style-type: none">1. Anggriawan, R., dkk. (2024). Pengantar Ilmu Tanah: Mengenali dan Memahami Sifat Dasar Tanah. Sleman: Penerbit Deepublish Digital.2. Palupi, P. (2024). Dasar Ilmu Tanah. Sumatera Barat: Mitra Cendekia Media IKAPI.3. Yunus, A. I., dkk. (2024). Ilmu Tanah. Padang: CV. Gita Lentera.4. Aditya, H. F., & Wijayanti, F. (2023). Mengenal Karakteristik dan Jenis Tanah-tanah Pertanian di Indonesia. Yogyakarta: Jejak Pustaka.