

Course Name	Code/No	Number of Units			
		Theo.	Lab	Train.	Credit
Soil Chemistry	AGR 412	2	3	-	3
Prerequisite		AGR 311			

Course Objectives

This course aims to teach the students the chemical and mineralogical structure of soil, characteristics of soil, the effect of soil pH on chemical properties of soil solution and soil organic matter.

Course contents

1. Some basics of chemistry.
2. Properties of soil components.
3. The differences between physical and chemical weathering of clay minerals.
4. Reactions of soil solution and their characteristics.
5. Ionic exchange phenomenon.
6. Soil chemistry under dry conditions and its affects by soil pH.

Expected Outputs

The student will be able to:

1. Know the chemical structure of soils and the properties of soil components.
2. Physical and chemical weathering of clay minerals.
3. Soil organic matter and its role in plant and soil.

Evaluation Methods

The student assessment will be done via written, mid-term and final exams, Term papers.

Assisting References

Sparks, D.L. (2003) *Environmental Soil Chemistry*, Academic Press, Elsevier, USA.