

AGI3450 Land and Soil Tillage Management

Level	3
Course Code	AGI3450
Course Title	Land and Soil Tillage Management
Credit value	4
Core/Optional	Core
Course Aim/s	To provide knowledge on land tillage and traction principles and applications for sustainable agriculture
Course Learning Outcomes (CLO):	<p>At the completion of this course student will be able to:</p> <p>CLO1: Define properties of soil and identify the relationship of soil properties and crop growth [PLO1,PLO2,PLO3]</p> <p>CLO2: Describe soil nutrients, soil management strategies and conservation methods for a productive land[PLO1,PLO2,PLO4]</p> <p>CLO3: Explain the importance of land classification and management [PLO2, PLO3,PLO4]</p> <p>CLO4: Explain soil tillage and its impacts on agricultural land [PLO1]</p> <p>CLO5: Compare the importance of tillage related equipment [PLO1]</p>
Content (Main topics, sub topics)	<p>Outline Syllabus:</p> <p>Unit 01: Land and soil tillage management</p> <p>Session 1: Physical properties of soil</p> <p>Session 2: Relationship between physical properties of soil and crop growth</p> <p>Session 3: Physico-chemical properties of soils</p> <p>Session 4: Mechanical properties of soils</p> <p>Session 5: Biological properties of Soil</p> <p>Session 6: Soil nutrients</p>

Session 7: Soil management

Session 8: Soil conservation in agricultural lands

Unit 2: Land classification and management

Session 09: Land classification

Session 10: Land management

Session 11: Land grading

Session 12: Land levelling I

Session 13: Land levelling II

Session 14: Earth work calculation

Session 15: Land use planning

Session 16: Land reclamation I

Session 17: Land reclamation II

Unit 3: Soil tillage and tillage implements

Session 18: Soil tillage

Session 19: Impacts of soil tillage and tillage patterns

Session 20: Soil compaction

Session 21: Soil engaging implements I – Ploughs

Session 22: Equipments for seeding and transplanting

Laboratory work : Yes

1. To determine soil texture, soil pH and soil moisture
2. To get use of land levelling equipment and familiarize with book keeping
3. To draw a contour map using elevation measurements