

# Dakota County Technical College

## LAHT 1010: Soil Science

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 1

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course covers the study of the fundamentals of soil and their use in horticulture. The course is an overview of the physical, chemical, and biological properties of soils, their classification and management, and soil fertility. Prerequisites: None

**B. COURSE EFFECTIVE DATES:** 03/23/1998 - 08/21/2017

**C. OUTLINE OF MAJOR CONTENT AREAS**

## **D. LEARNING OUTCOMES (General)**

1. describe soil formation
2. describe soil life forms
3. describe soil organic matter
4. describe soil water absorption and transport
5. describe the importance of soil
6. describe the soil profile
7. explain artificial drainage
8. explain basic chemistry
9. explain functions of organic matter
10. explain irrigation
11. explain significance of soil color
12. explain soil compaction
13. explain soil structure
14. explain soil texture
15. explain soil tilth
16. explain soil water behavior
17. explain the water cycle
18. identify soil texture
19. list functions of soil life forms
20. name other physical properties
21. describe changing soil reaction
22. describe composting
23. describe effects of soil reaction
24. describe organic soils
25. explain cation exchange capacity
26. explain concepts of soil fertility
27. explain micronutrients
28. explain nitrogen nutrition and management
29. explain nitrogen tie-up
30. explain phosphorus nutrition and management
31. explain potassium nutrition and management
32. explain secondary macronutrients
33. explain soil reaction
34. explain the nitrogen cycle
35. classify soils
36. describe common fertilization methods
37. describe soil conservation
38. describe soil erosion
39. describe soil sampling
40. describe soil testing
41. evaluate a soil for landscape use
42. interpret a soil survey
43. interpret a soil test report
44. list problems of urban soil

45. name common fertilizers
46. outline horticultural uses of soil
47. perform fertilizer calculation
48. sample and test a soil

**E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted