

Virginia Western Community College
HRT 205
Soils

Prerequisites

None

Course Description

Teaches theoretical and practical aspects of soils and other growing media. Examines media components, chemical and physical properties and soil organisms. Discusses management and conservation.

Semester Credits: 3 Lecture Hours: 2 Lab/Clinical/Internship Hours: 2

Required Materials**Textbook:**

Brady, N.C., Weil, R.R.: The Nature and Properties of Soils, 4th edition, Pearson, New York, NY, 2010, ISBN-9780133254594

Other Required Materials:

None

Course Outcomes

At the completion of this course, the student should be able to:

- Collect soil samples and analyze soil test results.
- Classify soil samples using textural characteristics.
- Identify soil-less media components and characterize their origin, water-holding capacities and drainage qualities.
- Describe technical data printed on commercial fertilizer containers and use this information to calculate application rates.
- Apply knowledge of pH to soil management practices.

Topical Description

1. The Soils Around Us
2. Formation of Soils from Parent Materials
3. Soil Classification
4. Soil Architecture and Physical Properties

5. Soil Water: Characteristics and Behavior
6. Soil and Hydrologic Cycle
7. Soil Aeration and Temperature
8. Soil Colloids: Seat of Chemical and Physical Activity
9. Soil Acidity, Alkalinity and Salinity
10. Organisms and Ecology of the Soil
11. Soil Organic Matter
12. Nutrient Cycles and Soil Fertility: Practical Nutrient Management
13. Practical Nutrient Management
14. Soil Erosion and Its Control
15. Soil Quality and Pollution

Notes to Instructors

- None