

Virginia Western Community College

FOR 115

Dendrology

Prerequisites

None.

Course Description

Studies trees and shrubs botanically and commercially important to the forests of eastern United States. Emphasizes field characteristics of trees and common shrubs of the eastern United States.

Semester Credits: 4

Lecture Hours: 3

Laboratory/Recitation Hours: 3

Required Materials

None.

Optional Text:

Peterson Field Guide to Eastern Trees, 1st Ed., Extended. George A. Petrides and Janet Wehr. Publisher: Houghton Mifflin Company ISBN: 9780395904558

Course Outcomes

Textbooks used in the course lecture content:

- Communities of the Southern Appalachian Mountains and Piedmont. Spira. 1st edition. The University of North Carolina Press. ISBN: 9780807871720
- Forest Ecology. Kimmins. 3rd edition. Benjamin Cummings. ISBN: 9780130662583
- Harlow and Harrar's Textbook of Dendrology. Hardin, Leopold, and White. 9th edition. McGraw-Hill. ISBN: 978-0073661711
- Physiology of Woody Plants. Pallardy. 3rd edition. Elsevier. ISBN: 9780080568713

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

- Demonstrate a basic knowledge of the Linnaean System of plant naming.
- List the major forest communities in the State of Virginia and understand the characteristics of their habitats and tree species found in them.
- Identify unknown trees and shrubs using the dichotomous keys in the VDOF Common Native Tree of Virginia and the Common Native Shrubs and Woody Vines of Virginia.
- Identify on sight a list of trees and shrubs designated for students to recognize (approximately 115 species observed and identified on field trips).
- Discuss the ecological importance of Virginia's forest communities, including the impacts of invasive, non-native species.

- Identify the morphology and terminology of leaf, stem, bud, flower, and fruit structures of trees.
- Understand the structure and basic physiology of meristematic tissue and ground tissue of woody plants.
- Understand the effects of climate, photoperiod, and seasonal variations on tree growth, dormancy, reproduction, and senescence.
- Understand the effects of abiotic environmental factors such as topography, climate, and soils that shape forest communities.
- Make basic forest measurements such as tree height, diameter, pacing distance, and acreage calculations.

Topical Description

<u>Week</u>	<u>Topic</u>
1-2	Classifications systems, nomenclature, and use of keys
3	Tree morphology and terminology
4	Sources of variation in tree species
5	Tree habitats, range, and communities
6-8	Forest Communities
9-10	Woody plant structure and growth
11-13	Field measurement techniques
14-15	Stem cambial growth, root growth, seasonal and climate variations

Laboratory Topics

The lab portion of this course is field based and is the hands-on tree identification component of the course. Labs take place at different field locations each week, all within the Roanoke Valley and an easy drive from the VWCC campus. Students will learn the common and Latin names of around 115 tree and shrub species. Most field locations are easily accessible for walking, although the field trips to Dragon's Tooth require moderate to strenuous walking. The weekly schedule varies due to weather, but the site locations are given below:

- Dragon's Tooth
- Explore Park
- Fishburn Park
- Mill Mountain
- Roanoke Greenway, Wasena neighborhood
- South County Public Library
- VWCC Campus and Arboretum

Notes to Instructors

1. Departmental policy dictates that instructors do not allow students to keep tests.
2. A comprehensive final exam counting 15%-20% of the total grade will be given at the end of the semester.
3. The syllabus should state what the course grade will be based on, such as tests, quizzes, a comprehensive final exam, and any other assignments made by the instructor.
4. The VWCC Biology Department uses a 10-point grading scale.