Print Date: 8/7/14

Course Objectives/Course Outline
Spokane Community College

Course Title: **Applied Silviculture**
Prefix and Course Number: **NATRS 209**

Course Learning Outcomes:
By the end of this course, a student should be able to:

- After completing the reading, attending the lectures and doing the exercises the student will understand the major concepts and principles of silviculture and ecosystem management as applied regionally and globally, perform basic field measurements and procedures used in silviculture and develop basic silvicultural plans.

Course Outline:

I. Introduction
   A. Course expectations and objectives
   B. Definitions of silviculture and ecosystem management
   C. Importance
II. Stands, Forest and Landscapes (LABS: Habitat/Silvics Lab, 1 Fieldtrip)
   A. Strand and Forest Ecology
      1. Definitions
      2. Strand Succession
      3. Environmental Factors
      4. Structure
      5. Old Growth Functions
      6. History of Inland Empire Forests
      7. Silvics of PNW species
      8. Habitat Typing Keys
   B. Landscapes and Ecosystems
      1. Viewpoints: Block versus linear
      2. Fragmentation
III. Silvicultural Tools (LABS: RMZ Lab)
   A. Silvicultural Systems
      1. Clear cutting
      2. Seed Tree
      3. Shelterwood
      4. Selection
   B. Site Preparation
      1. Mechanical
      2. Burning
      3. Chemical
   C. Reforestation
      1. Natural
         a. Site Preparation
         b. Control of composition and stocking
      2. Artificial
         a. Nursery terminology
         b. Planting techniques
         c. Genetic improvement
   D. Tending
      1. Thinning

2. Sanitation, Salvage
3. Liberation
4. Weeding
5. Pruning

E. Forest Chemicals
1. Fertilizers
2. Pesticides

IV. Measuring Resources (3 Inventory Labs)
A. Timber resources
1. Types of samples
a. Fixed radius plots
b. Variable radius plots (point sampling)
c. Line transect
2. Density: TPA, data, BA/A, SDI
3. Stocking: Curtis RD, GSL
4. Site: Site Index and Zeide's Curves
5. Growth: MAI, PAI, CAI, percent

B. Non-timber resources
1. Wildlife
a. Habitat and other measurement techniques
b. Factors in maintaining diversity
c. Animal species patterns of the PNW
2. Riparian
a. Terminology and Concepts
b. Measurement
c. Management principles

V. Planning: (Labs: Legos lab, 2 LMS labs)
A. Basic concepts and procedures
B. Planning rotations
1. Planning regeneration
2. Using GSL and SDI for thinning
3. Uneven-aged mgt versus even-aged

C. Developing presecriptions
D. Using computer modeling (LMS)

VI. Social, Economic and Political Structures
A. Management
1, History
3. Sustainable Forestry, Green Certification, BMP, etc.

C. FPA of Washington and other states.-overview