Welcome to …

FOR 335/FOR 534

SILVICULTURE

Ralph D. Nyland
Distinguished Service Professor - Silviculture
Department of Forest and Natural Resources Management
SUNY College of Environmental Science
and Forestry
Syracuse, NY 13210

FACULTY PARTICIPANTS …

Ralph D. Nyland
-- the silvicultural system and its context
-- artificial regeneration
-- natural regeneration methods
-- managing even- and uneven-aged stands
-- other silvicultural treatments
-- coppice methods

Charles A. Maynard
-- forest tree improvement
-- seed selection, handling, and testing
-- genetic aspects of the reproduction methods
Also …

Ashley Simpson
Graduate Assistant
403 Bray Hall

- assists with field trips and lab exercises
- safety officer for field trips and labs
- assists with grading of reports and exams
- available for consultation about reports and other matters (Office hours TBA)

TEXT: *Silviculture: Concepts and Applications*

By Ralph D. Nyland
2ed 2002
Waveland Press

Available at the
Follett’s Orange Bookstore in Marshall Mall

… or order it online directly from waveland.com
using a credit card
Silviculture in action …

Some getting started things …
Class meets: M-W-F
10:35-11:30 am

315 Bray Hall

Lab/field trip: Bus *leaves* at 12:45 pm each Wednesday

All *MUST* ride the bus

First lab session **THIS WEEK** …

… this Wednesday
Field trips depart here

Attendance **REQUIRED** at all labs …

- A lab absence means no grade for an exercise with a graded lab report (NO GRADE = 0)
- For missed labs that have no report, you get a **2% DEDUCTION**

… from your final semester average
For ALL silviculture labs bring …

- Hard hat, long pants, and boots that protect your ankles
  (REQUIRED by the Department of Forest and Natural Resources Management)
- Clipboard and paper
- Pencils
- Ruler in 1/10-inch graduations (for use as needed)
- Hand compass

… we will tell you of other needs as they arise for specific fields sessions
LAB REPORTS

- Submit lab reports at the date specified in each lab assignment... *often one week after the we do the field trip*

- Type lab reports... *using a word processing program of your choice*

- Print your reports, and submit them at the beginning of class on the designated day

For graphs and figures you may use a pencil for the drawing...

... but type the titles and legends... and try a spreadsheet plotting routine to learn the method

AND EDIT CAREFULLY...

... check spelling and grammar... especially confirm that you use complete sentences
And make them of **professional** quality …

… *a factor in evaluating and assigning the grade for a report*

And as my mother-in-law frequently reminded me …

… *when all else fails, read the instructions*
Most problems with lab reports come from NOT completing the entire assignment …

... doing only part of the assigned task

So read the instructions and study the requirements …
A text quiz for each reading assignment …

… submit one each class meeting

*BEFORE* class begins
Consider the objectives …

My job …

- create an environment for **YOUR** study of silviculture

- facilitate **your** learning by sharing one perspective developed through study and experience

... with **your** active involvement
Help **YOU** to develop some professional experience …

– through serious work

– requiring serious preparation

– to satisfy a professional standard

... to function individually

... or in a group
Expected outcomes for *YOU* …

- **PROFICIENT USE** of technical language
- **CONCEPTUAL APPRECIATION** of the theory that underlies silviculture
- **FUNCTIONAL ABILITY** with stand assessment and beginning prescription making

- That *YOU* understand the responses *YOU* can cause by a treatment
- That *YOU* learn to anticipate …
  - *the kind of changes that YOU can evoke*
  - *the ways YOU can influence the magnitude of those changes*
The Dictionary of Forestry

... our final source for any definition of terms used in FOR 334 / 534

... you can find it in the references section of Moon Library

Or order a personal copy from

Society of American Foresters …

... check their web site for details
To help you study *silviculture* …

… before each class session you will receive a set of notes that summarize the topic of the day

Each set of lecture notes ends with citations for your reference, and to identify sources for ideas and diagrams …

**Background reading:**


**Sources cited:**


Questions and comments …

So consider silviculture …

… done by silviculturists
Under appropriate silviculture, forests of all kinds provide many values that help to sustain our lives.

My philosophy ...

Silviculture

The methods for establishing and maintaining healthy communities of trees and other vegetation …

… that have value to people
Silviculture deals with **STANDS** ...

... communities or groups of trees growing together at a particular place and that foresters can manage as a unit

... communities of trees and other vegetation having some unique vegetal characteristic that landowners can maintain by a particular set of treatments
Stands ...

... occupy a specific space

... like this
... the unit of land for on-the-site management

SILVICULTURE ...

In the context of ecosystem management ...

... creating, maintaining, and restoring desirable ecosystem conditions

... using stand-level treatments to sustain critical conditions at a landscape scale
In this context...

Hummel (2006) calls this …

... **LANDSCAPE SILVICULTURE**

... developing prescriptions for individual stands, but evaluating them collectively based on objectives for the landscape as a whole
A basic premise of forestry …

- Forested ecosystems have value because people demand goods and services from them …

  … and because forests provide essential ecologic functions

- We can enhance and better realize many of those values through some kind of management
So ultimately, a treatment must serve landowner objectives ...

- Institutional
- Social
- Financial

... the three factors of concern in economics

... because they own the land
... and pay the costs
At the same time any management **MUST** maintain or enhance …

… **LONG-TERM** ecosystem productivity

With no irreversible change likely to occur **IF** we insure …

- Trees after trees
- Stable soils
- Protected landforms
  (e.g., the drainages)
Silviculture draws upon managerial, social, financial, ecologic, and other scientific understanding to formulate prescriptions for STAND treatments.
FOREST RESOURCES MANAGEMENT

Silviculture

Quantitative methods

Economics (Financial, institutional and social)

Planning and administration

See Figure 1-1

... like this

...to insure a positive outcome
SILVICULTURE

The *ART* of producing and tending forest stands …

…by applying scientifically acquired knowledge

… to *CONTROL* stand establishment, composition, and growth

*ART* means using judgment and common sense …

… to identify treatments that satisfy a landowner’s interests

… and find a reasonable way to apply the treatments

To make the forest more useful …
...including non-traditional benefits

SILVICULTURE ...

... does NOT operate by recipe

In essence ...

... silviculture is a process of

PROBLEM SOLVING
Silviculture happens …

… *between your ears*

A *DELIBERATE* and

*DELIBERATED* process ….

In response to a landowner’s interests …
… to make forests sustainable through the long run

So always start by asking what seems appropriate …
THE PROBLEM SOLVING PROCESS:

1. Determine the landowner’s objectives
2. Evaluate existing stand conditions
3. Identify the options
4. Quantify the likely outcome of each one
5. Drop unsuitable options
6. Explain the viable alternatives
7. Help the landowner decide
8. Implement the prescription
9. Evaluate the results

Nyland 2002

Between your ears …

… for a desirable outcome
Learn the objectives …

… the rest will follow from your thoughtfulness
Background reading:


Sources cited:


