

APF Net Curriculum 6

Course Syllabus

Forest Resource Management and Protection

Semester Year

Course Title:	Forest Resource Management and Protection
Credits:	3 credits

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Course Description

This course will focus on managing the key factors that impact the quantity and quality of forest resources such as tree growth, disturbances like invasive species and fire, human management, and socio-economic factors. Theories and techniques for forest resource inventory, monitoring, and yield modeling will be addressed. Students upon completion of this course will be able to: (1) know concepts and methods in forest resource management and protection; (2) identify major factors that threaten the sustainable use of forest resources; (3) analyze real-world problems and apply the appropriate principles of forest management in formulating integrated forest resource management and protection strategies.

This course is designed for Master's level students studying forest management, forest protection, forest economics, and for advanced-level undergraduates. It assumes a basic understanding in a range of disciplines, but in recognition that not everyone taking the course will have this knowledge, links are provided to sources of further information.

Course Prerequisites

None.

Course Format

This course is designed to be taken as an open, online course. Course materials can be

accessed by anyone/anytime. Participants will learn through a self-directed learning approach; there are no course activities and communications.

Course Objectives

The course will introduce you to the six main topics that influence how forest resource should be managed and protected.

- Silviculture basis for managing forest resources
- Tools and techniques for forest resource management
- Forest pest control technique
- Strategy of managing invasive species
- Forest fire management
- Social-economic aspects of forest resource management and protection

The first topic provides a foundation for forest resource management. The second topic provides the tools and techniques needed for forest resource management. The third to the fifth topics deal with forest disturbances. The sixth topic outlines the social-economic context of forest resource management and protection.

By the end of this course students will be able to:

- Recognize concepts and methods in forest resource management.
- Identify major factors that threaten the sustainable use of forest resources.
- Construct knowledge on forest resource management.
- Analyze real-world problems and apply the appropriate principles of forest management in formulating integrated forest resource management and protection strategies.

Course Materials

Supplementary Readings

There are several supplementary readings that accompany this course. The titles are:

Castello, J. D., Teale, S. A. (Eds.). (2011). *Forest health: An integrated perspective*. Cambridge University Press. ISBN: 9780521747417.

Mooney, H. A., Hobbs, R. J. (2000). *Invasive species in a changing world*. Washington, DC: Island Press. ISBN: 1559637811.

Lindenmayer, D. B., Franklin, J. F. (2002). *Conserving forest biodiversity: A comprehensive multiscaled approach*. Washington, DC: Island Press. ISBN: 1559639342.

Zhang, D. W., Pearse, P. H. (2012). *Forest Economics*. Vancouver, BC: UBC Press. ISBN-13: 9780774821537.

You will be expected to read a considerable amount of supplementary materials. This is referred to in the individual topics.

Course Schedule

As this is a self-directed online course, you can complete the topics and modules at your own pace. The speed at which you progress through the course will depend on a number of factors, including how well you can understand English, how much you already know about forest management, and how familiar you are with the materials.

Start Week	Module/Unit	Core Ideas	Learning Activities
Module 1: Silviculture As a Basis for Forest Management			
1	Module 1 Topic 1 Principles of Silviculture	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
2	Module 1 Topic 2 Basic Practices of Silviculture	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
3	Module 1 Topic 3 New Techniques and Trends in Silviculture	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
Module 2: Forest Resource Management			
4	Module 2 Topic 1 Forest Inventory and Monitoring	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
5	Module 2 Topic 2 Forest Growth and Yield Modeling	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.

6	Module 2 Topic 3 Forest Carbon Accounting	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
Module 3: Dealing with Forest Disturbances			
7	Module 3 Topic 1 Forest Pest Control	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
8	Module 3 Topic 2 Manage Invasive Species	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
9	Module 3 Topic 3 Forest Fire Management	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
Module 4: Social-economic Aspects of Forest Resource Management and Protection			
10	Module 4 Topic 1 Forest Resource Policy	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
11	Module 4 Topic 2 Economic Analysis for Forest Management	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.
12	Module 4 Topic 3 Local Community Engagement in Forest Management	TBD	Read background information Watch online video lectures Investigate resources Do a self-test.

Course Structure

The course is organized into four modules. Each module typically consists of background information, online video lectures, resources, and a self-test.

- Module 1: Silviculture As a Basis for Forest Management

Topic 1: Principles of silviculture

Topic 2: Basic practices of silviculture

Topic 3: New techniques and trends in silviculture

- Module 2: Forest Resource Management

Topic 1: Forest inventory and monitoring

Topic 2: Forest growth and yield modeling

Topic 3: Forest carbon accounting

- Module 3: Dealing with Forest Disturbances

Topic 1: Forest pest control

Topic 2: Manage invasive species

Topic 3: Forest fire management

- Module 4: Social-economic Aspects of Forest Resource Management and Protection

Topic 1: Forest resource policy

Topic 2: Economic analysis for forest management

Topic 3: Local community engagement in forest management

Students taking this course should work through the course methodically. You are strongly advised to study the topics in the order that they are presented, but bear in mind that it is always possible to return to particular topics to study them in greater detail.

Student Evaluation

As this course is taken independently, you will not gain any official credits. You can assess your learning and understanding of the material through the self-administered quizzes that you will find associated with each module.

Technical Requirements

There are no special technical requirements for taking this course other than being able to access Internet.