



Forest to Landscape

Course Outline

Module 2.2: Describe and apply classification schemes using vegetative, climatic, and edaphic characteristics

**Standard 2 - Forest To Landscape: Structure, Function and Dynamics
Demonstrable Competency: 2) Describe and apply classification schemes using vegetative, climatic, and edaphic characteristics**

Note: This Module partially addresses Standard 2, Demonstrable Competency 2. In order to fully demonstrate the components of the competency listed above, participants must (a) successfully complete the related field training course (Module 2.5) or (b) arrange in advance with the provincial regulator an alternate “hands on” evaluation method in the field

Course Description

Overall objectives of Module 2.2 are to enhance students' knowledge of and abilities to apply forest ecosystem classification systems at multiple spatial scales, with an emphasis on the utility of different types of biophysical, biogeographic, and bioclimatic data, alone and in combination, to classify forest ecosystems. Participants are strongly encouraged to undertake related field training (Module 2.5)

Specific objectives are to enable students to: Describe how a classification scheme is developed and applied; Be able to identify soils and vegetation to the degree necessary to be used in an ecological classification scheme; and Describe and apply an ecological site classification system.

Course Schedule

This course involves a combination of recorded lectures, readings, assignments and participation in semi-synchronous online discussion forums and synchronous tutorials with instructors and other participants over an **8-week period**:

- **Week 1**
 - **Introductory lectures**

- “Introduction to Standard 2”
- **Core Lectures**
 - “Forest Ecosystem Classification – vegetation classification, global distribution of forests, forest biomes, Ontario’s Ecological Land Classification system and applications, ecozones, Hudson Bay Lowlands, Ontario Shield, Mixedwood Plain, Carolinian Forest, Ecoregions, Ecodistricts, Ecosite classification approaches, typical landscape associations, site characterization for forest management planning”
 - “Stand dynamics – “classical” 4-stage model of stand development, old growth concepts and associated definitions, old growth classification characteristics, proposed additional stages of stand development to classify forest ecosystem developmental patterns and processes”
- **Core readings**
 - Chapter 16 - Description, Classification, and Mapping of Forest Ecosystems. Kimmins, J.P. 1997. Forest Ecology: A foundation for sustainable management. 2nd ed. Prentice Hall, Upper Saddle River, N.J. 596 p.
- **Week 2**
 - **Core lectures**
 - “Coarse woody debris – definitions, CWD as habitat, fungi and associates, Elements and nutrient cycles, CWD in forest management CWD decay dynamics, CWD decay classification , transition matrix models”
 - **Core readings**
 - Forward (by E.O. Wilson) and Preface and Text Part 1. Foreman, R.T. 1997. Land Mosaics: The Ecology of Landscapes and Regions. Cambridge University Press, Cambridge, UK. 656 p.
 - M.D. Gillis, A.Y. Omule, and T. Brierley. 2005. Monitoring Canada’s Forest: The National Forest Inventory. Forestry Chronicle 81(2): 241-221.
 - **Online discussion forum**
- **Week 3**
 - **Online tutorial with instructor**
 - Discuss content to-date and assignment 1
 - **Introduction to assignment #1**
 - Briefly describe Ontario’s approach to forest ecosystem classification: what data are generally required, and what is the scale of measurement for these data. Also include in your description a discussion of some of the unique elements of Ontario’s different regional forest ecosystem classification systems.
- **Week 4**

- **Online discussion Forum**
- **Continue to work on Assignment #1**

- **Week 5**
 - **Assignment #1 due (submit online)**
 - **Online tutorial with instructor**
 - Discuss content to date and assignment #2
 - **Introduction to assignment #2**
 - Describe the factors and considerations that led to the development of Canada's National Forest Inventory initiative. Describe how the NFI was developed, including plot types, sizes and stratification strategies. Also summarize how the NFI has been applied in Ontario over the past decade. You are encouraged to refer to the NFI website, and make use of citations and footnotes: <https://nfi.nfis.org/en>

- **Week 6**
 - **Submit proposal for final paper**

- **Week 7-8**
 - **Continue to work on Assignment #2**
 - **Assignment #2 due end of week 8 (submit online)**

Grading

- Discussion forum posts: 20%
- Participation in tutorials: 10%
- Assignment 1: 20%
- Final paper proposal: 5%
- Assignment 2 - final paper: 45%



Bridge Training Program for Foresters

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