VANCOUVER ISLAND UNIVERSITY

Forest Ecosystem Assessment & Mapping
Forestry 234

Fall/Spring
Fall Session: TBA
Spring Session: TBA
Instructors: TBA
Lec./Lab: TBA

INTRODUCTION

The aim of this course is to consolidate the knowledge and skills obtained from previous courses such as Soil Science, Forest Botany, Hydrology and Forest Ecology and to provide practical experience in identifying ecosystems in the field, assessing ecosystems and identifying critical site factors for forest management, and in describing/mapping ecological strata.
The Fall session will be a recap of the material covered in first year and a familiarization with BEC zones and sites from the CDF to the MH zones on eastern Vancouver Island.
The Spring session will include a familiarization with the wetter BEC zones of Vancouver Island and integrating skill obtained during second year to complete site specific inventories and develop management prescriptions.

LEARNING OUTCOMES

Upon successful completion of the course, the student will:

1. Assess the potential hazards of working in the forest; demonstrate safe work procedures for carrying out tasks, and use appropriate personal protective equipment requirements and describe emergency procedures.
2. Define and use technical terms applicable to forest ecosystem assessment in conversation with peers and in technical reports.
3. Based on field experience and reference material, differentiate between the following subzones and variants: CDF, CWH xm1, vm1, vm2, vh1, mm1, mm2 as well as MHmm1.
4. To assess and record field information in a systematic and well organized process.
5. Describe site physical factors such as soils and topography;
6. Identify biological critical site factors;
7. Interpret soil moisture and soil nutrient regimes;
8. Identify and interpret indicator plant species;
9. Determine site series and site productivity.
10. Map ecological strata and develop basic management prescriptions.

In addition to the subject-specific learning outcomes listed above, specific program learning outcomes will be covered. Upon successful completion of this course students will have furthered their ability to:

1. Read, comprehend and summarize material appropriate to the field of forestry – specifically Biogeoclimatic Ecosystem Classification and its practical application in the field.
2. Analyze information and think critically (e.g. interpreting the forest management implications of observed physical and biological factors while conducting exercises in ecosystem classification.)
3. Work collaboratively with others by mapping ecosystems in the field in crews; and jointly preparing management recommendations.

SCOPE

This course is designed for students in their second year of the Forest Resources Technology Program.

TEXT & SUPPLIES

There are no **new** required texts to purchase. Students will already have the **"Red Book**" for assessing ecosystems in the Coast Forest Region. (LMH 28: A Field Guide for Site Identification for the Vancouver Forest Region)

Standard woods clothing and equipment is required: hard hat, cruiser's vest, caulk boots & rain gear. You will also require soil pit equipment including a trowel, water bottle, pruning shears, and shovel (supplied).

Sample Evaluation

Field Exam	50%
Quiz 1	20%
Field Diary	20%
Professionalism*	10%
Total	100%

* Based on personal observations of student's attendance, effort, attitude, initiative, **participation in field discussions,** and promptness. **Note: Failure to attend** any given day may result in a failing grade.

A field dairy will be submitted by **each** student. The diary will:

- Document the learning objectives of **each day** as well as show the continual integration of concepts over the week.
- Include an ecological description of all the sites that are visited from Tuesday to Thursday, inclusive. The descriptions should emphasize, BEC classification (and rationale), critical site factors, and any site factors such as topography, soils and biological characteristics that were reviewed on site.
- Be presented using standard field note structure (title page, dates, page numbers, headings, name). **Organization** is worth **25%** of the field diary mark! The remaining marks will reflect **completeness of the detail (60%)** and **original thoughts (15%)!**

The field diaries will be due on day 3 and, and the Spring session diaries will be due on a date specified at the start of the session.

TENTATIVE SCHEDULE (SAMPLE)

Day 1	• Review BC's Biogeoclimatic Classification system, the Red Book, field procedures for eco-typing, and basis of ecological classification and site series typing • Purpose and value of ecological classification and the BEC system • Forest Floor Classification review • Stream/lake/wetland classification • Process of field data collection • The effects of topography and soil texture and moisture on a site and how they are used in site classification. • Review of silvics of selected tree species *(on going in the field)* • Field practice of eco-typing in a 2nd growth stand • Discussion of critical site factors that affect reforestation and harvesting **Location:** Room 105 in Building 370 (morning) and VIU Woodlot (after the quiz).
Day 2	• Field comparisons of subzones (CWHmm & MHmm) in terms of climate, vegetation and common trees (comparison of zonal sites) • Detailed field assessment of selected sites– students' fill-in field cards. • Students evaluate critical site factors and non-timber resource values. **Location**: Mount Washington **Quiz**

The remainder of the course program will be posted in the spring