

NORTHWEST COMMUNITY COLLEGE



FORESTRY TECHNOLOGY PROGRAM

BOX 338, HAZELTON, B.C. PHONE: 604-842-5291



NORTHWEST COMMUNITY COLLEGE — HAZELTON, B.C.

CAMPUS ADMINISTRATION

Director Lois G. Shannon
Student advisor Anne Yunkws
Office Staff Marg Brown
Leah Marshall

FORESTRY PROGRAM

Co-ordinator Shane Campbell,
Forest Technologist
Northern Alberta Institute of Technology,
Edmonton, Alberta

Program Instructors Leonard Vanderstar,
B. Sc. Forestry,
B.Ed. University of Toronto
R.P.F., Ontario

John Clement
B.Sc. Forestry, R.P.F., Ontario
Forest Fire Management Course
University of Toronto



INTRODUCTION

Northwest Community College Forestry Technology Program is unique not only to British Columbia, but to Canada. Training consists of blending contemporary technical forestry management methods with traditional methods that have been applied by the native peoples of Northwestern British Columbia for thousands of years.

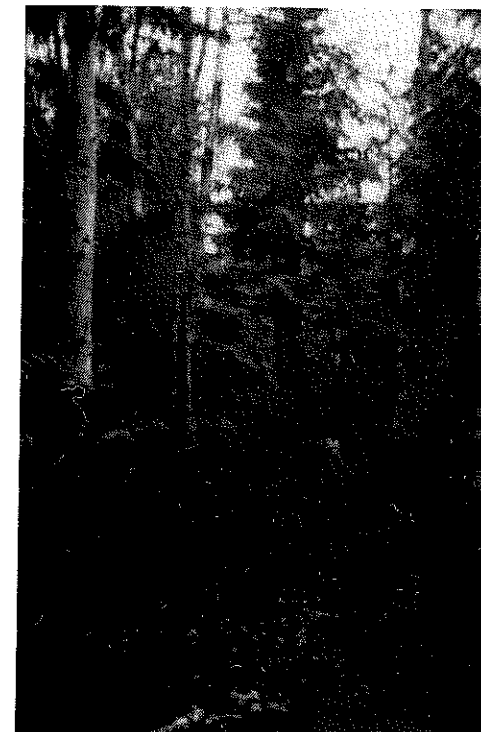
This technical scope and level of the program is comparable with other two year forestry technologist programs existing elsewhere in British Columbia. Emphasis is placed on Integrated Resource Management Planning. The blending of traditional and modern forest management perspectives will result in quality graduates who are more capable in resource management for the overall benefit of the community as a whole.

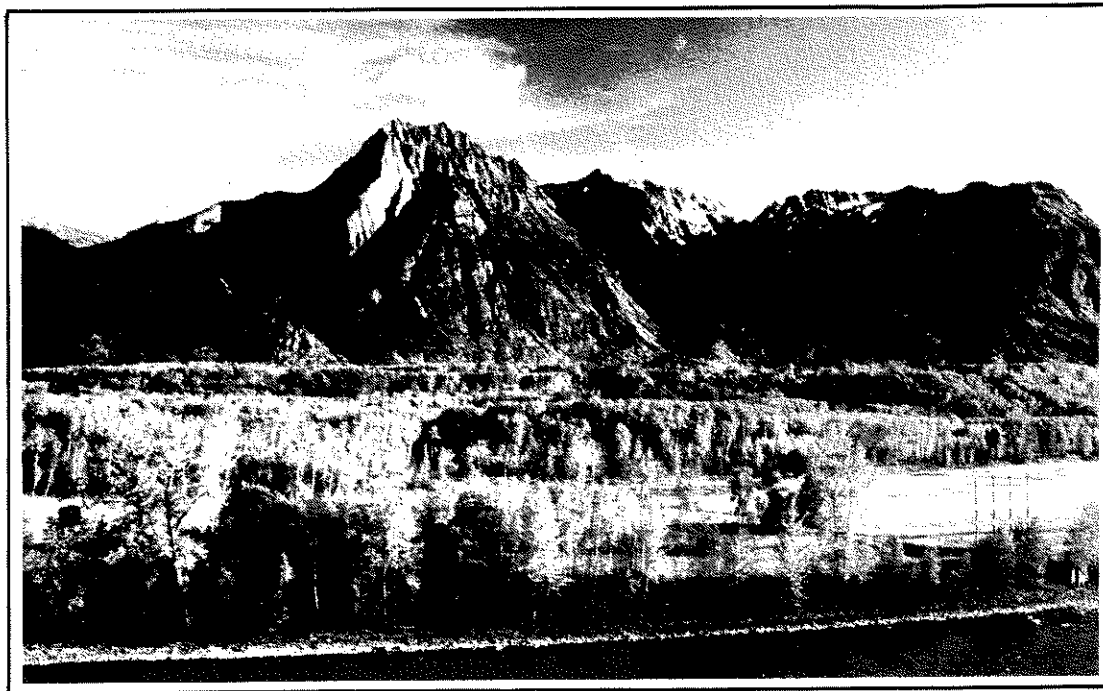
PROGRAM OBJECTIVES

The program objectives are:

1. To meet the academic and technical standards for forest technologists as set forth by the Applied Science Technologist and as demonstrated by the other forest technology programs of British Columbia.
2. To produce graduates who are familiar with the concepts of traditional Indian resource management philosophy and how these concepts may be incorporated with Provincial forest management policies.
3. To provide the community with qualified forest technologists who understand the complexities of integrated resource management and who are able to effectively apply these management principles within local forest industries.

Northwest Community College intends to change the format of the Forestry Technologist Program to a Co-operative model by the Fall of 1990





PROGRAM LOCATION

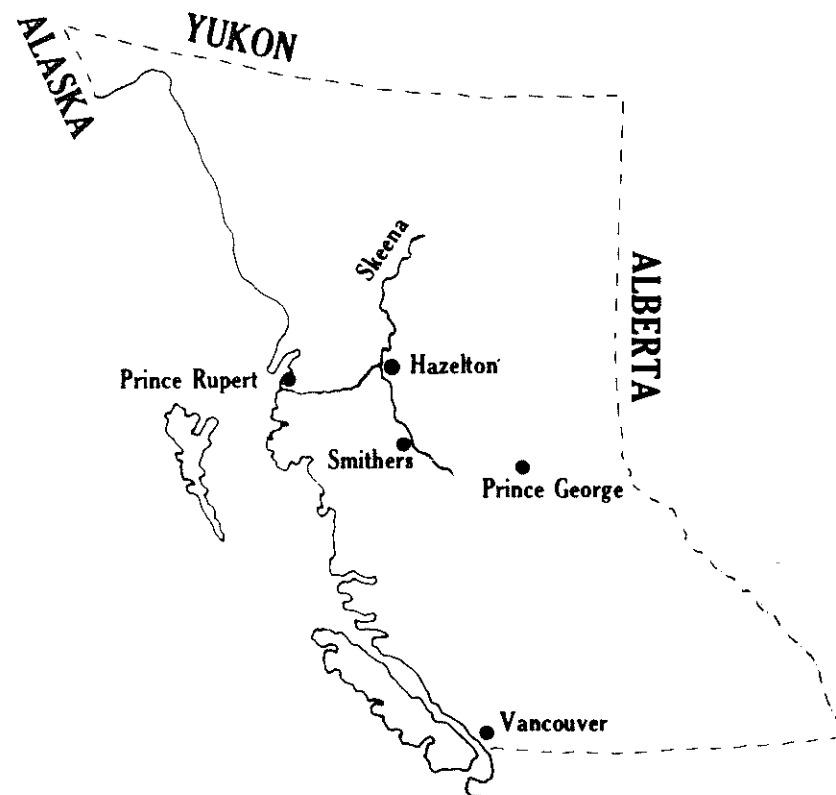
The Hazelton area along the Yellowhead Highway 16 corridor, often referred to as the "Three Rivers" region, consists of 14 independent communities located in the Bulkley, Skeena and Kispiox watersheds.

The geography of the area is characterized by isolated groups of rugged mountains, separated by prominent valleys formed by glaciation and river erosion. A transitional climatic zone results from the "coastal marine" and "interior continental" influences.

The Hazelton area is unique for its rich native Indian and pioneer history. The region was first settled by people of the Gitksan and Wet'Suwet'en up to 8,000 years ago. The culture, language and traditions of the Gitksan Wet'Suwet'en have remained intact.

TABLE OF CONTENTS

Program Objectives	page 1
Program Location	2
Student Services	3
Admission Requirements	4
Course Outline	5
Course Descriptions	6
Field Trips & Guest Lectures	12
Program Advisory Committee	13



STUDENT SERVICES NORTHWEST COMMUNITY COLLEGE HAZELTON

The following are services offered to students of Northwest Community College:

1. Orientation for new students.
2. Assistance in locating and selecting programs and courses appropriate to defined career goals.
3. Assistance in locating information and application forms for financial aid and bursaries and / or scholarships
4. Assistance for students in need of counselling personal, school related or otherwise by referrals made to appropriate agencies. All information will be strictly confidential.
5. Effective liaison between student association activities and faculty.
6. Assistance in planning and implementing recreational activities for new students.

FINANCIAL AID

Financial aid for education takes many forms. There are loans, scholarships and bursaries. A student may borrow money, interest free, with a Canada Student Loan of B.C. Student Loan Programs. The College provides over \$16,000.00 each year in non-repayable bursaries as well as an Entrance Scholarship program which may pay full tuition. (For further information, contact the College office.)

HOUSING

A current list of rental accommodation is maintained by the College. In offering this free service the college does not assume responsibility for agreements made between students and householders. Students may make use of this service at any time and are urged to use the housing list during the summer to seek suitable accommodation for the winter session.

CAMPUS LIFE MORE THAN JUST BOOKS

"student activities because not all learning takes place in the classroom."

We believe that campus recreation enhances the quality of life for the student through social interaction and team effort, individual endeavor, healthy release of stress, achieving a state of overall well-being, and developing a sense of college spirit and pride.

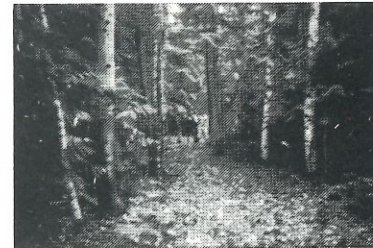
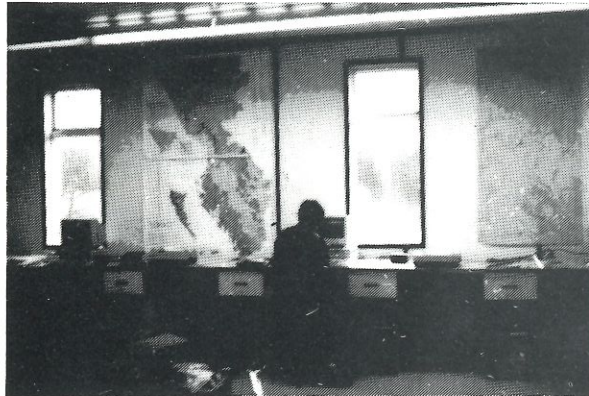


ADMISSION REQUIREMENTS

Applicants for the program must have Grade 12, including English 12, Math 12 and Biology 11 or equivalents. Mature student entry is possible without these formal requirements, provided the student demonstrates mastery of equivalent knowledge or background.

ACCREDITATION

Program accreditation by the Applied Science and Technologists and Technicians of British Columbia will be applied for this year.



L
S
S
A
DiContract

FORESTRY TECHNOLOGIST PROGRAM COURSE OUTLINE

YEAR ONE — TERM 1

• Botany	FRST 151 (4)
• Cartography	FRST 178 (1)
• Communications 1	ENGL 153 (4)
• Computer Science	COM 170 (4)
• Introduction to Resource Management	FRST 150 (4)
• Math Review	MATH 161 (3)
• Silvics and Dendrology	FRST 153 (4)
• Surveying	FRST 152 (4)
• Traditional Land Management	FRST 155 (4)

• Computers

YEAR ONE — TERM 11

• Communications 11	ENGL 262 (4)
• Fish and Wildlife	FRST 274 (4)
• Fire Control 1	FRST 259 (4)
• Forest Ecology	FRST 273 (4)
• Forest Measurements 1	FRST 240 (4)
• Geology and Landforms	FRST 272 (4)
• Meteorology	FRST 271 (4)
• Summer Practicum	FRST 200 (4)
• Policy & Legislation	

YEAR TWO — TERM 111

• Business Studies	ENGL 362 (4)
• Fire Control 11	FRST 359 (4)
• Forest Harvesting	FRST 377 (4)
• Forest Measurements 11	FRST 340 (4)
• Forest Soils and Hydrology	FRST 372 (4)
• Integrated Resource Management Plan	FRST 300 (2)
• Remote Sensing	FRST 376 (4)
• Silviculture 1	FRST 375 (4)

YEAR TWO — TERM 1V

• Forest Engineering	FRST 477 (4)
• Forest Entomology and Pathology	FRST 481 (4)
• Forest Products	FRST 482 (4)
• Forest Recreation	FRST 483 (4)
• Integrated Resource Management Plan (con'd)	FRST 400 (2)
• Management Skills	FRST 462 (4)
• Silviculture 11	FRST 475 (4)



**FORESTRY TECHNOLOGIST PROGRAM
COURSE DESCRIPTION**

YEAR ONE — TERM I

BOTANY

FRST 151 (4)

This course is an introduction to the principles of Botany, including plant physiology, plant tissues and structures, photosynthesis and respiration, genetics and evolution and binominal classification of plants with emphasis on forest trees and shrubs.

CARTOGRAPHY

FRST 178 (1)

The Cartography course is designed to introduce the student to a variety of drafting and map reading techniques. Emphasis is placed on the skills required to read topographic maps and to produce various types of geographical presentation from given data. Included in the course, will be computer drafting.

INTRO TO RESOURCE MANAGEMENT

FRST 150 (4)

This course is a basic introduction to the concepts of forest resource management. Lectures introduce the basics of courses to be held later throughout the program. Topics include:

1. The world's forest types
2. Forest Regions of Canada
3. B.C. Forest types
4. Introduction to forest harvesting
5. Introduction to silviculture practices
6. Management Planning for Natural Resources
7. Provincial Forest Legislation

MATH REVIEW

MATH 161 (3)

This course consists of a review of senior high school math. Topics to be covered, include:

1. Numbers and operations
2. Linear equations in one variable
3. Operations of polynomials
4. Algebraic fractions
5. Fractional equations and applications
6. Graphing points and lines
7. Linear systems in two variables

SURVEYING

FRST 152 (4)

The course is an introduction to the principles of Forest Surveying. The course will provide the student with the skills to select and use the proper surveying tools for carrying out basic land surveys such as, but not restricted to, Road layout leveling, open and closed transects for the first four levels of forest surveys.



SILVICS AND DENDROLOGY

FRST 153 (4)

Silvics and dendrology will introduce the students to the collection of plant material and to the identification of forest trees and shrubs of British Columbia. Further, the course will introduce the concept of plant associations and biogeoclimatic zoning in British Columbia.

TECHNICAL COMMUNICATIONS

ENGL 153 (4)

This course is designed to improve the reading, writing, and oral skills of the students and to introduce students to the production of technical essays and reports. Lecture topics will include report writing techniques, as well as, where to find materials and how to write technical essays.

**TRADITIONAL LAND MANAGEMENT,
NATIVE CULTURE AND HISTORY**

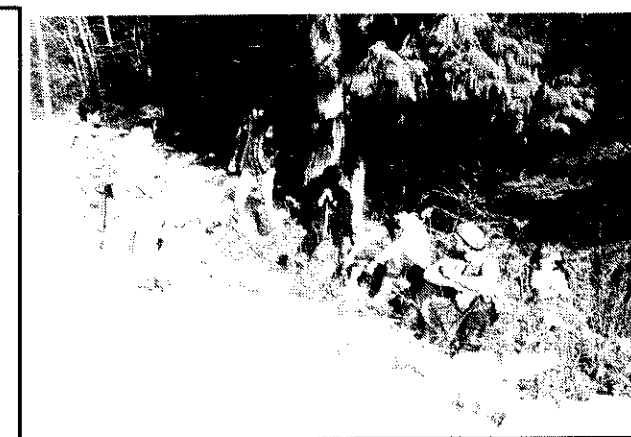
FRST 155 (4)

Native culture and history deals with the Native people of this region and their long standing tie and commitment to the land and resources of Northern British Columbia. The intent and purpose of this program has several facets, not the least of which is to introduce the potential land manager to the hopes, expectations, needs and the role of the Native people with respect to the natural resources and land based upon which their culture depends.

COMPUTER SCIENCE

COM 170 (4)

The goal of computer science is to familiarize the student with computers and show how computers can be used as a tool.



YEAR ONE — TERM II

FISH AND WILDLIFE

FRST 274 (4)

This course discusses the diverse bird and animal population that is an integral and vital part of our forest lands. The student will also learn of the significance of the British Columbia fish resource to the people and of the importance of the ecological relationships between the fish and the forest lands of the region.

FIRE CONTROL I

FRST 259 (4)

Topics discussed include fire weather, fire behavior, fire control techniques, use of the equipment and manpower on wildfires and the Canadian Forest Fire Danger Rating System.

FOREST MEASUREMENTS I

FRST 240 (4)

An introduction in basic forest measurements used while timber cruising and an introduction to statistics.

COMMUNICATIONS II

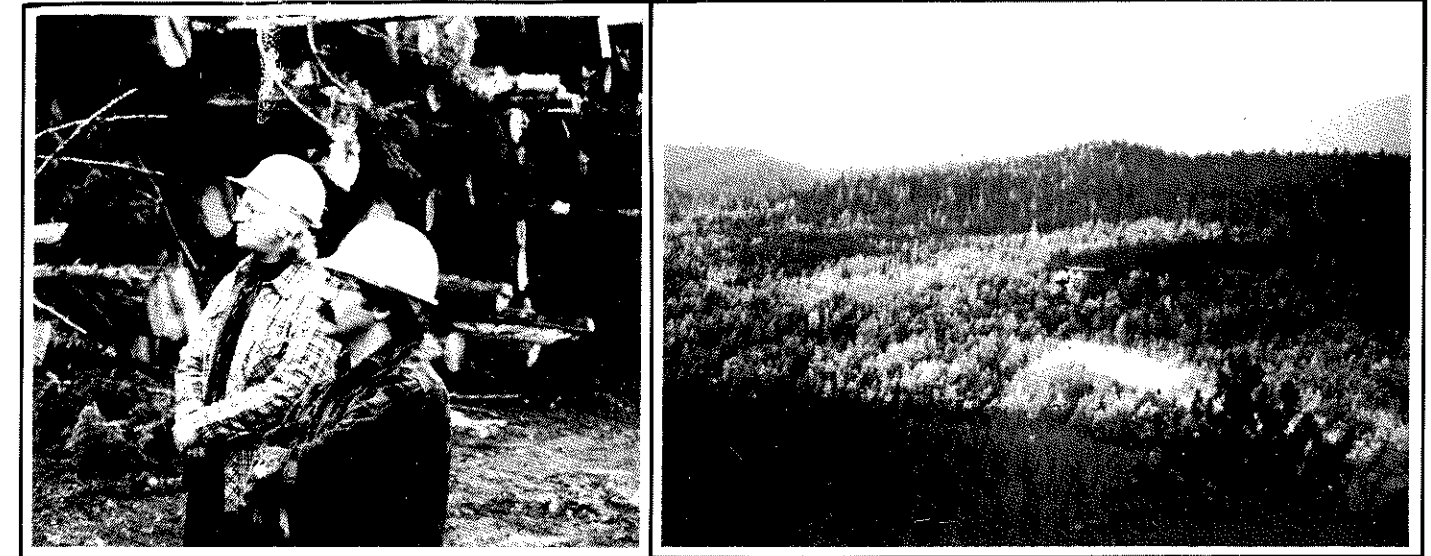
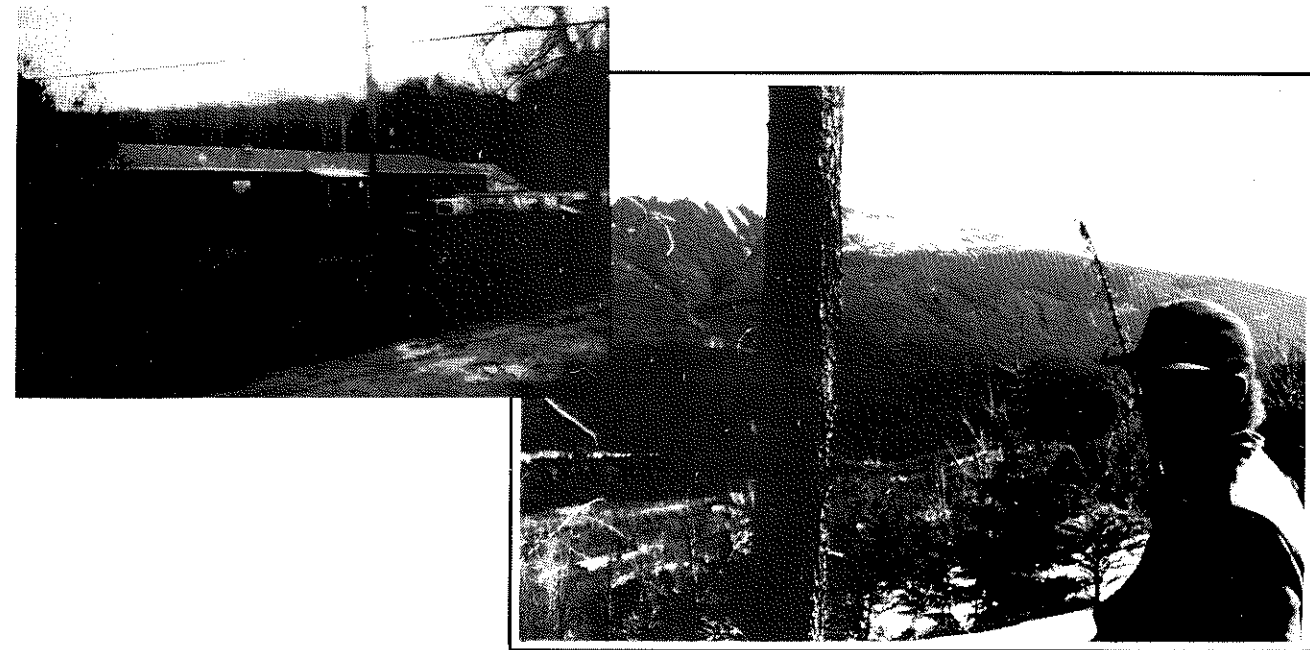
ENGL 262 (4)

This course is designed to prepare students for the complex writing tasks which will be part of their education. It will emphasize technical report writing and cover all aspects of this type of report.

METEOROLOGY

FRST 271 (4)

Since weather is a state of the atmosphere the course is grounded in an understanding of the gaseous envelope that surrounds our planet. The energy that drives the earth's atmospheric weather patterns is studied to cause the student to appreciate the global air currents and how these dominant forces affect the formation of pressure cells, jet streams, arctic fronts and other atmospheric phenomena. The student will keep a record of local weather data and observations and attempt to predict future weather patterns from his observations.



GEOLOGY AND LAND FORMS

FRST 272 (4)

This course is designed to provide the student with a good background into the theories of earth's coastal development, land forms, processes of mineralization, rock types and erosion processes. The course will be taught with emphasis on the use of aerial photographs and photo interpretation techniques.

FOREST ECOLOGY

FRST 273 (4)

Forest Ecology is a course designed to give the student a solid background in the science of Ecology, the forest ecosystems of British Columbia especially the Temperate Rain forest of the Northern Coastal area. The transition forest of the Skeena and the valleys of the Gitksan Wet'suwet'en area and the spruce-cedar-hemlock forests of the Northern Interior region are the major area of study. The married relationships and systems that drive the dynamic working of the living forest are studied from the perspective of the land manager and especially show how management practices may affect the forest and harm or benefit the land manager's goals.

SUMMER PRACTICUM

FRST 200 (4)

The summer practicum is conducted so that the student can practice and become more proficient with Forestry related work that was taught during the school year. The practicum will also allow the student to learn new methods and ideas related to the practice of Forestry.

Important objectives that the student will learn are:

1. Responsibility.
2. Positive work attitudes.
3. Ability to work with others.
4. That he/she may not want a career in the field of Forestry.

YEAR TWO — TERM III

BUSINESS STUDIES

ENGL 362 (4)

This course is designed to give the student an understanding of how a business operates, and how the markets work. The emphasis will be on resource based industry, but the ideas are transferable to any business.

FOREST STUDIES AND HYDROLOGY

FRST 372 (4)

Forest Soils and Hydrology is a course designed to give the student a basic understanding of forest soil; biology, physical and chemical properties. In addition, an understanding of soil classification, forest site and forest hydrology is emphasized.

FOREST HARVESTING

FRST 377 (4)

Forest Harvesting provides the student with an introduction to the logging systems presently in use in British Columbia. Areas discussed include the following:

1. elements of logging
2. planning and costing

FOREST MEASUREMENTS II

FRST 340 (4)

This course is a continuation of Forest Measurements 1. Students will gain sufficient knowledge and field training to be able to sample forest types to the standards established by the B.C. Ministry of Forests. Forest statistics and their application to control sampling errors are also discussed

FIRE CONTROL II

FRST 359 (4)

Fire control 11 discusses fire ecology, prescribed burning and burning plans. Fire suppression and concepts are also studied through the use of simulation exercises.

INTEGRATED RESOURCES MANAGEMENT PLAN

FRST 300 (2) FRST 400 (2)

This is a two semester, self study course, where the student is required to prepare an Integrated Resource Management Plan, using information and knowledge gained during the two year Forestry Technologist Program.

REMOTE SENSING

FRST 376 (4)

Remote Sensing is a course designed to introduce the student to the variety of means available to aid the land manager in inventory and interpreting that land and forest resources under his care. The major emphasis of the course is on the use of aerial photographs. This course will prepare the student to use and interpret the information on aerial photographs for a variety of applications.

SILVICULTURE I

FRST 375 (4)

The course will introduce the student to the role of silviculture in forest and wildland management, the classification of forest lands with special emphasis on the ICHG zone, tree growth characteristics, tree stands and stand dynamics and manipulation of forests for the purpose of maximizing forest production and benefits.

YEAR TWO — TERM 1V

FOREST ETOMOLOGY AND PATHOLOGY

FRST 481 (4)

Forest Pests is an introduction to the major diseases and insects that are critical in forest protection, silviculture, management and forest products.

FOREST PRODUCTS

FRST 482 (4)

Forest Products introduces the student to the various commercial woods of Canada with particular reference to those found in British Columbia.

Wood structure, identification, strength and physical properties and chemistry of wood will be discussed. Also, the various products that are derived from wood will be discussed.

Field trips to various industrial sites that produce a wood product or byproduct will be included in the Forest Products course.

FOREST RECREATION

FRST 483 (4)

The course will give the student a good understanding of the nature of wildland recreation, the nature of the people involved in recreation activities and the importance of other forestry related activities in the development of forest recreation. Further, the course will discuss the role of the Ministry of Forests in the administration of forest lands for wildland recreation.

FOREST ENGINEERING

FRST 477 (4)

Forest Engineering is designed to provide the student with a good background in the theories of forest road design and layout and logging layout.

SILVICULTURE 11

FRST 475 (4)

The second part of the course will acquaint the student with the current silvicultural practices in use in British Columbia. This course is designed to give the student a working knowledge of the policies and practices of the Ministry of Forests and industry with regard to such activities as stand tending, contract planting, seeding, site preparation, preharvest assessment etc. This part of the course is more practically oriented and will require more time in the field by the student.

MANAGEMENT SKILLS

FRST 462 (4)

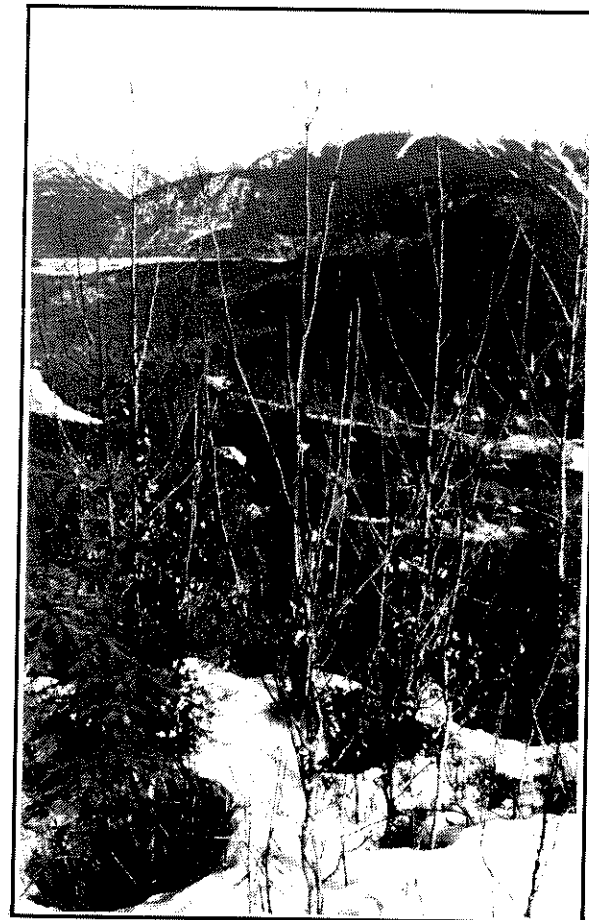
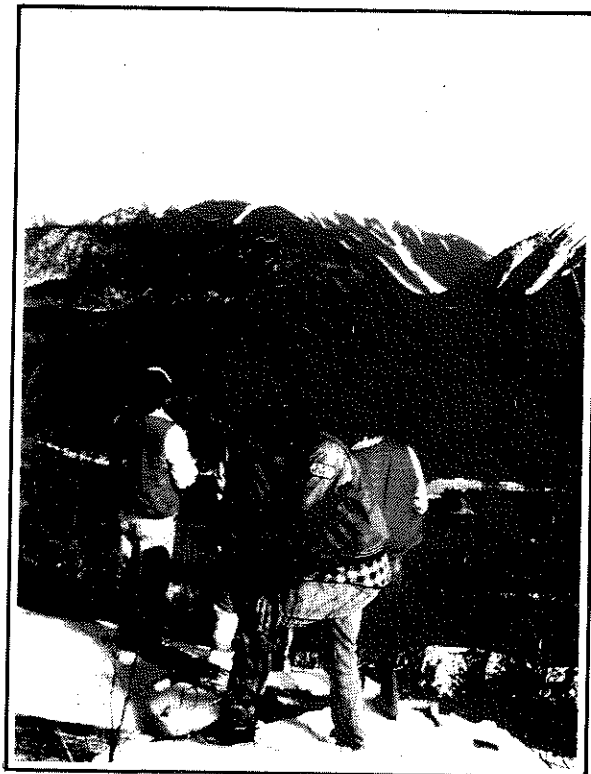
Professional Development introduces the student to supervision, communications and leadership in Management. The student will also look at setting up and managing a small business to do contract work relating to the forest industry

FIELD TRIPS & GUEST LECTURES

Field trips and guest lectures are an integral part of the Forestry Technologist training.

Practical experience is of utmost importance, so approximately 40% of school time is spent performing practical field exercises and viewing pertinent forestry related activities on various field trips.

Guest lectures provide exposure and personal opinion to various forestry related topics.



NORTHWEST COMMUNITY COLLEGE—HAZELTON FORESTRY TECHNOLOGIST PROGRAM

PROGRAM ADVISORY COMMITTEE

Al Gorley
RPF District Manager,
Ministry of Forests
Houston, B.C.

Doug Carrol
Bulkley Valley Forest Services Ltd.
Smithers, B.C.

Ken Smith
Former Student '87 - '88
Kitwanga, B.C.

Dan Tumi
RPF Skeena Cellulose
Terrace, B.C.

David Wilford
RPF Regional Office
Ministry of Forests
Smithers, B.C.

Doug Holmes
Houston Forest Products
Houston, B.C.

Bob Wilson
Regional Office, Silviculture
Ministry of Forests
Terrace, B.C.

Neil Floyd
Manager
Canada Employment and Immigration
Smithers, B.C.

Gary Adolf
RPF District Manager
Ministry of Forests
Prince Rupert, B.C.

Matt Vickers
Executive Director
Gitksan Wet'suwet'en Government Commission
Hazelton, B.C.

Mike Geisler
RPF Operations Manager
Ministry of Forests
Hazelton, B.C.

Val Napoleon
Gitksan Wet'suwet'en Education Society
Hazelton, B.C.

Dave Eaglestone
RPF Woodlands Manager
Groot Lumber
Box 2237
Smithers, B.C.

Doug Aberly
Town Clerk / Planner
Village of Hazelton
Hazelton, B.C.

^{Dady}
Dean Dady
RPF Westar Timber
Carnaby Division
South Hazelton, B.C.

CURRICULUM CONSULTANT
Gary Markel, R.P.F.
Regional Forester
Indian & Northern Affairs Canada
Vancouver, B.C.





BOX 338, HAZELTON, B.C. PHONE: 604-842-5291 FAX 604-842-5813