



*CANADIAN
MILL
SERVICES
ASSOCIATION*

*CURRICULUM OF
EDUCATION
PROGRAMS*

ORGANIZATION HISTORY

The formation of Canadian Mill Services Association came about in early 1994 after an in-depth review and organization of the Council of Forest Industries. At that time, the Lumber Operations Department formed an autonomous agency to provide a package of services to include grade stamping, quality assurance, training and education, plant health certification, JAS certification, mill audits and other special programs on a fee for service basis.

Our membership companies are located throughout the British Columbia. From our offices in New Westminster, British Columbia we represent:

- 76 voting members who receive our full range of services
- 45 Associate Members who receive Heat Treatment/Kiln Dry certification services
- 19 mills certified to various JAS wood products accreditations
(As of June, 2003)

All aspects of the forest products industry are represented in the CMSA membership to include the primary sawmills, secondary manufacturers, wholesalers and shippers.

There is 10 Board of Directors of the Association from member mills, who are elected annually from member mills, to direct the affairs of CMSA.

FEES:

	MEMBER FEE (GST INCLUDED)	NON-MEMBER FEE (GST INCLUDED)
Coast All Species Lumber Grading (Books are \$85.00 extra)	\$ 375.00	\$ 475.00
Western Red Cedar Lumber Grading (Books are \$85.00 extra)	\$ 375.00	\$ 475.00
Spruce-Pine-Fir Lumber Grading	\$ 250.00	\$ 350.00
Basic Lumber Figuring (Lumber Tallying)	\$ 120.00	\$ 180.00
Quality Assurance Seminar	\$ 450.00	\$ 650.00
Lumber Products Knowledge Seminar	\$ 350.00	\$ 550.00
Seminar on Sawing and Wood Machining	\$ 350.00	\$ 550.00
Seminar on Lumber Mfg & Recovery	\$ 350.00	\$ 550.00
Workshop on Size Control	\$ 595.00	\$ 795.00
Log Scaling Overview	\$ 350.00	\$ 550.00
Lumber Drying Seminar	\$ 350.00	\$ 550.00

COURSE DESCRIPTION & FORMAT

An in-depth lumber grading class designed to explain the fundamentals of lumber grading practice to those employed in the production, distribution and use of lumber. Students are taught a uniform application of the NLGA, R List and British Standard grading rules so that consistent values of quality will exist throughout the forest industry.

The main species covered are Douglas Fir, Hem-Fir (Western Hemlock/Amabilis Fir), Western Red Cedar, Pacific Coast Yellow Cedar, and Sitka Spruce. The most common grade categories and softwood species manufactured in coastal B.C. is covered which include the following:

- R List Export Rules
Clears (including W.R. Cedar) • Construction (Merch) Lumber including 6/4" to 3" Dimension, 3" to 5" Dimension, 6" larger Timbers.
- N.L.G.A.
Industrial Clears • Factory Grades including Shop, Flitches, Door Stock • Structural Lumber (CLS) and Boards - Light Framing (2 x 4, 4 x 4), Structural Light Framing, Studs, Joists and Planks, Boards
- BS 4978
British Standard Grading Rule for Structural Lumber

Classes begin in early January and early September. The January classes are conducted over a period of seventeen weeks. The September classes are offered on Saturdays and are limited to 25 people all of which are first time writers. This class is conducted over a nine week period because two lessons are taught per class instead of one in the January classes. Both classes provide approximately forty-six hours of instruction and grading. At the end of the course, there will be examinations in both the practical and theoretical aspects of lumber grading. Certificates will be awarded to students attaining the required percentage levels.

For the practical examination, students will be expected to identify the specie and grade of 100 pieces of lumber within a four (4) hour time limit. At centres using the two semester format (Vancouver Island Centres and Saturday classes only), students must identify the specie and grade of 50 pieces of lumber within a two (2) hour time limit. For the theory examination, students will be expected to answer 100 multiple choice questions within a one (1) hour time limit.

MASTER LUMBERMAN CREDITS

AA ticket - 25 credits
A ticket - 20 credits
B ticket - 10 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

COAST ALL SPECIES LUMBER GRADING CLASSES

**WESTERN
RED CEDAR
LUMBER
GRADING
CLASSES**

COURSE DESCRIPTION & FORMAT

An in-depth lumber grading class designed to explain the fundamentals of lumber grading practice to those employed in manufacturing W.R. Cedar lumber and specialty products. Students are taught the most common grade categories manufactured from W.R. Cedar in coastal B.C. which include the following:

- R List Export Rules
 - Clears (2 Clr & Btr, No. 4 Clr)
 - Factory Lumber
 - Shop

- N.L.G.A.
 - Clears
 - Industrial Clears
 - Bevel Siding
 - Finish
 - Panelling and Ceiling
 - Factory Grades
 - Flitches
 - Structural Lumber (CLS)
 - Light Framing (2 x 4, 4 x 4)
 - Joists and Planks
 - Boards
 - Knotty Bevel Siding
 - Knotty Specialty products
 - Knotty Panelling and Siding

Classes begin in early September and are conducted over a period of eight weeks with approximately forty hours of instruction and grading. Classes are held twice a week with a new item taught at each class. At the end of the course, there are examinations in both the practical and theoretical aspects of lumber grading with certificates being awarded to students attaining the required percentage levels.

For the practical examination, students will be expected to identify the grade of 80 pieces of lumber within a three (3) hour time limit. For the theory examination, students will be expected to answer 80 multiple choice questions within a one (1) hour time limit.

MASTER LUMBERMAN CREDITS

AA ticket - 25 credits
A ticket - 20 credits
B ticket - 10 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

COURSE DESCRIPTION & FORMAT

Spruce-Pine-Fir's strength, light weight, ease of handling and good working properties have made it a popular wood for framing applications in all types of construction. It is highly regarded not only in North America, but also in Europe and Japan. It is for these reasons that we believe that this course will appeal a wide range of people to include primary wood workers, secondary wood workers and sales personnel.

Spruce Pine Fir is becoming more and more recognized and being selected for a variety of specialized applications to include fingerjoined, machine stress rated and preservative treated.

This course has been specifically designed to teach a uniform application of the NLGA grading rules so that consistent values of quality will exist throughout the forest industry.

The main species covered are White Spruce, Engelmann Spruce, Lodgepole Pine, Alpine Fir, Douglas Fir, Western Red Cedar, Ponderosa Pine, Western White Pine, Hemlock.

The most common grade categories and softwood species manufactured in Coastal B.C. is covered, which include the following:

General Provisions - Paras. 1 - 47

General Grade Descriptions - Paras. 112, 113, 120, 121, 122, and 124

Stress Grades - Paras. 300 - 360

Glossary - Para. 700 - 752

Standard Sizes - Para. 820 - 830

Classes begin in early July and are conducted over a period of 5 weeks with approximately 25 hours of instruction and grading. Classes are held twice a week with a new item taught at each class. There will be examinations in both the practical and theoretical aspects of lumber grading. Grading Tickets will be issued to students attaining the required percentage levels.

For the practical examination, students will be expected to identify the grade of 50 pieces of lumber within a two (2) hour time limit. For the theory examination, students will be expected to answer 100 multiple choice questions within a one (1) hour time limit.

MASTER LUMBERMAN CREDITS

AA ticket - 10 credits

A ticket - 05 credits

B ticket - 03 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

SPRUCE PINE FIR LUMBER GRADING CLASSES

***BASIC LUMBER
FIGURING
(LUMBER
TALLYING)***

COURSE DESCRIPTION & FORMAT

This program is offered as a correspondence course. It is an ongoing course and students may register at any time. After each lesson the students are required to send each test to the Canadian Mill Services offices for correction. This keeps us in touch with the student's progress and enables us to answer any questions the student may have. There is a one year limit for completing this correspondence course.

The course consists of eight (8) lessons covering the fundamentals of tallying. Topics include:

- Calculating lineal and board footage, net FBM, Cubic Footage
- Tallying conventions and nomenclature
- Figuring average width, thickness, and length of an order or tally
- Calculating specified tallies for length and grade
- Maintaining specified order averages for incomplete orders or tallies
- Figuring with fractional sizes
- Figuring specified bundle or package tallies
- Figuring values
- Correct tally construction methods
- Moisture content and shrinkage calculations
- Figuring boxcar capacity
- Estimating shipment weights
- Using the metric system in lumber figuring

After all lessons are completed the student is to contact Anita Grey at Canadian Mill Services Association to schedule a time to write the exam.

MASTER LUMBERMAN CREDITS

90% and better - 10 credits

70% is a Pass - 5 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

COURSE DESCRIPTION & FORMAT

QUALITY ASSURANCE SEMINAR

The objectives of this seminar are to:

- Identify the key elements of a successful Quality Assurance Program.
- Identify when Quality Assurance programs are effective.
- Establish a clear understanding of the economics of *volume* and *value* recovery.
- Establish an understanding of increased profitability techniques through cost reduction and added value.
- Establish a clear understanding of correct lumber manufacturing techniques and identifying the costs of non-conformance.
- Understand the important considerations in product out-turn, sawmill grades, remanufacturing economics and correct merchandising techniques.
- Learn how to measure the efficiency of sawmill performance and obtain the necessary skills to keep the mill operating at an optimum performance level.
- Establish an understanding of the unique higher value opportunities of the export markets.

Instructors for this seminar bring with them combined experience in the European and Japanese market places. Their experience includes both Coastal and Interior management experience. Their work also involves on-site assistance to mill personnel in improving manufacturing and process control practices. The team provided training to over 1,000 lumbermen in 1995.

Sawmill managers, superintendents, quality assurance personnel, production and maintenance supervisors and key sawmill machinery operators are the people who should attend this seminar.

This seminar is conducted over a period of five full days. On the last day of the seminar participants will be required to write an examination in both the theoretical and practical aspects of quality control. Certificates will be awarded to students attaining the required percentage levels.

MASTER LUMBERMAN CREDITS

A certificate - 20 credits
B certificate - 10 credits
C certificate - 5 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

**FOREST
INDUSTRY
PRODUCT
KNOWLEDGE
SEMINAR**

COURSE DESCRIPTION & FORMAT

This program is designed to provide basic information on products manufactured by BC Lumber Mills. For perspective, the program includes background on the forest industry, trade practices and wood products terminology. The main emphasis of the program is concerned with species and product identification, product end-uses, and the fundamentals of lumber grading.

Topics include:

- Session 1
- Introduction
 - Forest Industry Overview
 - Tree Growth & Wood Structure
- Session 2
- Species Identification
 - Introduction to Lumber, Clear and Factory grades
 - Grade assessment and explanation of grades
- Session 3
- Spruce - Pine - Fir
 - Lecture on construction lumber, i.e., light framing, joists and planks, studs
 - Grade assessment and explanation of grades
 - Machine Stress Rated Lumber/Fingerjoint
- Session 4
- Western Red Cedar
 - Lumber specialties products
 - Demonstration samples
 - Western Red Cedar siding, panelling and Decking
- Session 5
- Introduction to Lumber Tallying
 - Examination

The program is suited for anyone with an interest in coast lumber but not necessarily working directly in production. Hence, for people currently in wholesale, the course can also serve as an introduction to the more comprehensive lumber grading classes.

The course is conducted over a period of three weeks and consists of five 2 ½ hour evening sessions (two sessions per week), with an examination on the last day. Those passing the examination will be awarded a certificate of merit, with credit towards the Master Lumberman Program.

MASTER LUMBERMAN CREDITS

Pass - 5 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

COURSE DESCRIPTION & FORMAT

Equipment in lumbermills today is becoming increasingly sophisticated and the cost of raw material is creating a need for machining wood with ever tightening tolerances. All this and a need to maintain production at economic levels has created a need for operators and supervisors to become more knowledgeable in the area of sawing and planing technology. This course has been designed to address that need and provide non-trades personnel with a working understanding of wood machining as it relates to their jobs.

This program provides fundamentals for state-of-the-art sawing and planing technology transferable to production personnel. Participants, by understanding the technology and terminology, will be able to communicate more effectively with tradesmen both in identifying and reporting problems and in helping the troubleshooting processes.

The program will focus on understanding the relationships between feed speeds and saw design parameters which will allow operators to run their machines for maximum volume while maintaining sizes within established limits. It also focuses on some of the major problems associated with sawing and planing and how they may be avoided resulting in less downtime and greater productivity.

The course is presented in cooperation with Eb Kirbach of Forintek Canada. Eb is an internationally respected sawing expert.

Topics include:

- Fundamentals of Wood Machining
- Saws and Sawing
- Band Sawing
- Planing of Lumber
- Chipping of Wood

This seminar is conducted over a period of three full days. A field trip to an industrial filing room is included in the program.

MASTER LUMBERMAN CREDITS

A certificate - 10 points
B certificate - 5 points

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

SEMINAR ON SAWING AND WOOD MACHINING FOR LUMBERMEN

***SEMINAR ON
LUMBER
MANUFACTURING
FOR MAXIMUM
VALUE AND
RECOVERY***

COURSE DESCRIPTION & FORMAT

This program is designed to take a comprehensive look at correct operating procedures in all aspects of the conversion of logs to finished lumber. The course is designed for production employees of coastal sawmills. Sessions will be a mixture of topics with both lecture and practical "hands-on" exercises at each. Topics to be covered are:

Topics include:

- Wood Structure & Characteristics
- Log Preparation
 - Woods preparation
 - Debarking and bucking
- Simplified Sawmill Lumber Grading
- Primary Log Breakdown Procedures
 - Medium to large logs
 - Small logs
- Secondary Sawmill Breakdown
 - Edging practices
 - Trimming practices
- Sawmill Remanufacturing Practices and Economics
 - Resaws
 - Edgers
 - Trimmers
- Lumber Sizes and Size Problem Control
- Finishing Processes
 - Planing
 - Kiln Drying
- Merchandising
- End Uses and Problems in the Marketplace

The course is conducted over a period of five weeks and consists of ten sessions (two sessions per week) each approximately two hours in length. The sessions will be offered twice daily for swing shift personnel. The exam will be held on the last day of the seminar. Those passing the examination will be awarded a certificate of merit, with credit towards the Master Lumberman Program.

MASTER LUMBERMAN CREDITS

- A Certificate - 20 credits
- B Certificate - 10 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

COURSE DESCRIPTION & FORMAT

This is a two-day workshop designed to provide practical hands on training both on the computer and in the sawmill.

The course is suited for those actively responsible for providing an accurately sawn product. Superintendents, quality control, head filers and maintenance supervisors will benefit from the 'hands on' approach.

MASTER LUMBERMAN CREDITS

Pass - 5 points

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

WORKSHOP ON SIZE CONTROL & SYSTEMATIC TROUBLE SHOOTING

LOG SCALING OVERVIEW

COURSE DESCRIPTION & FORMAT

Log Scaling plays a very important role within the forest industry. Scale data is the basis for many transactions including buying/selling forest products, and, contractor payment. In short, many parties are dependant upon an accurate and meaningful scale. The scaler is the most significant player in providing this assurance.

Topics covered include:

- Scaling Overview
 - The Role of Scaling and it's importance
 - Log Grading
 - Scaling Methods
 - Piece Scaling
 - Weight Scaling
 - Special Forest Products
- Scaling Legislation
- Timber Marking and Branding
 - Purpose of Timber Marks
 - Timber Marking Requirements
- Timber Grading
 - Timber Grading Requirements
 - Principles of Timber Grading
 - Quality Considerations
- Species Identification
 - Purpose of Classification by Species
 - Coniferous Species
 - Broadleaf Species
- Common Defects
 - Overview of Rot Fungi
 - Root and Butt Rots
 - Brown Cubicle Trunk & Slash Rot
 - Cedar Pocket Rot

This seminar is a two-day office and field based overview of coastal scale rules and their application. It is specifically designed for individuals requiring an understanding of log scaling but not expecting to work as log scalers. This program would be ideal for mill and lumber grading personnel wishing to relate their work to log grades and log grading procedures.

Those passing the examination will be awarded a certificate of merit, with 5 credit points towards the Master Lumberman Program.

MASTER LUMBERMAN CREDITS

Pass - 5 credits

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

COURSE DESCRIPTION & FORMAT

This is a two-day workshop designed to include introductory concepts and terms used in lumber drying.

The course is suited for not only kiln personnel but would prove beneficial for quality control supervisors, processing managers or planer foremen.

Topics covered include:

- Moisture in Wood
 - to determine the moisture content of a sample of wood
 - to describe the various forms of water that exist in wood
 - water movement and its occurrence during the drying process
- Shrinkage in Wood
 - to describe shrinkage and swelling in wood
 - to discuss the effects of type and shape of wood and drying conditions on shrinkage
- Heat, Temperature and Humidity
 - to discuss the concepts of dry and wet bulb temperatures, relative humidity and equilibrium moisture content, and their impacts on drying
 - to describe the heat transfer mechanisms involved in drying
- The Drying Process
 - to identify the various stages in drying and describe variables that can affect each stage
 - to describe how temperature influences drying and wood properties
- Air Circulation
 - to understand basic engineering concepts of heat and moisture transfer as they relate to air flow in drying
 - to use these concepts to minimize quality control problems associated with unequal air flows
 - to describe piling and loading practices to maximize kiln performance
- Kilns
 - to describe the main components of a kiln and their functions
 - to describe different types of kilns and their use for specific wood types and products
 - to describe basic functions and maintenance of kiln controllers
- Kiln Drying Schedules
 - to describe the basic elements of kiln schedules
 - to develop schedule modifications to achieve specific drying goals
- Storage and Transit of Dry Lumber
 - to describe effects of storage conditions on wood moisture content
 - to recommend procedures for maintaining quality during storage and transit

MASTER LUMBERMAN CREDITS

Pass - 5 points

REGISTRATION & FEES

Contact Anita Grey (604-523-1288) at Canadian Mill Services Association or visit our Website at www.canserve.org for registration information and tuition fees.

LUMBER DRYING SEMINAR

For course information and fees contact:



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