

**A PLAN OF TRAINING
FOR
BRICKLAYER
OCCUPATION**

**Approved by
Provincial Apprenticeship Board**

April, 1997
Revised June, 2000

Foreword

Apprenticeship training in the Province of Newfoundland and Labrador is undergoing considerable change. This change is prompted by the need to keep pace with technological changes in industry, the need to be competitive, and the desire to be efficient and effective in meeting the needs of the apprentice. We feel that this training plan will lay the groundwork to meet both the demands of industry and the needs of the apprentice.

The plan that follows is a comprehensive one. It recognizes that apprenticeship training begins when a student first registers at a training institution, or signs a Contract of Apprenticeship with an employer, and continues until such time as the apprentice has completed all of the required technical training and has received the required industry experiences necessary to write an interprovincial examination. Passing this examination will result in the apprentice receiving Red Seal Certification which gives the journeyman national mobility of trade qualifications. This plan also recognizes the need to provide flexible access to training based on the needs of the employer and the apprentice while at the same time recognizing the end goal is to complete the requirements for Red Seal Certification.

It is realized that change in all facets of education and industry is continuous and sometimes rapid. This change will necessitate the review of this document on a continuous basis to ensure that current needs of industry and apprentices are being satisfied. Through a process of accreditation, regular input from industry advisory committees, as well as input from those involved in the administration and delivery of the training, we are confident that residents of our province who elect to pursue an apprenticeable occupation as a career choice will receive high quality training and thus will be prepared to compete for jobs worldwide.

Chair, Provincial Apprenticeship Board

Minister of Education

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CONDITIONS GOVERNING APPRENTICESHIP TRAINING

1.0 GENERAL

The following general conditions will apply to all apprenticeship training programs approved by the Provincial Apprenticeship Board in accordance with the Apprenticeship Act. Where an occupation requires additional conditions, these will be noted in the specific plan of training for that occupation. In no case should there be a conflict between these conditions and the additional requirements specified in certain plans of training.

2.0 ENTRANCE REQUIREMENTS

2.1 Entry into the occupation as an apprentice requires:

The completion of designated first year courses specific to the occupation

OR

Indenturing into the occupation by an employer who agrees to provide the appropriate training and work experiences as outlined in this plan of training.

OR

Enrolment in a program of studies that includes all entry and advanced level skills and required work experiences as approved by the Provincial Apprenticeship Board.

2.2 Notwithstanding the above, each candidate must have successfully completed a high school program or equivalent and in addition may be required to have completed certain academic subjects as specified in particular plans of training. Mature students, at the discretion of the Director of Institutional and Industrial Education, may be registered. A mature student is defined as one who has reached the age of 19 and who can demonstrate the ability and the interest to complete the requirements for certification.

2.3 At the discretion of the Director of Institutional and Industrial Education, credit towards the apprenticeship program may be awarded to an apprentice for previous work experience and/or training as validated through prior learning assessment.

2.4 A Registration for Apprenticeship form must be duly completed.

3.0 PROBATIONARY PERIOD

The probationary period for each memorandum of understanding will be six months. Within that period the memorandum may be terminated by either party upon giving the other party and the Provincial Apprenticeship Board one week notice in writing.

4.0 TERMINATION OF A MEMORANDUM OF UNDERSTANDING

After the probationary period referred to in Section 3.0 herein, the memorandum of understanding may be terminated by the Board by mutual consent of the parties thereto or cancelled by the Board for proper and sufficient cause in the opinion of the Board.

5.0 APPRENTICESHIP PROGRESSION SCHEDULE AND WAGE RATES

5.1 Progression Schedule

7200 Hour Programs	Requirements for Progression	Progress To
First Year Apprentice	25% of Course Credit Hours, Plus relevant work experience totaling 1800 hours	Second Year
Second Year Apprentice	50% of Course Credit Hours, Plus relevant work experience totaling 3600 hours	Third Year
Third Year Apprentice	75% of Course Credit Hours, Plus relevant work experience totaling 5400 hours	Fourth Year
Fourth Year Apprentice	100% of Course Credit Hours, Plus completion and sign-off of workplace skills required for certification totaling 7200 hours	Write Certification Examination
5400/4800 Hour Programs		
First Year Apprentice	33% of Course Credit Hours, Plus relevant work experience totaling 1800/1600 hours	Second Year
Second Year Apprentice	66% of Course Credit Hours, Plus relevant work experience totaling 3600/3200 hours	Third Year
Third Year Apprentice	100% of Course Credit Hours, Plus completion and sign-off of workplace skills required for certification totaling 5400/4800 hours	Write Certification Examination

5.2 For the duration of each Apprenticeship Training Period, the apprentice, who is not covered by a collective agreement, shall be paid a progressively increased schedule of wages which shall not be less than:

Program Duration	Wage Rates		Comments
7200 Hours	1 st Year	55%	These wage rates are percentages of the prevailing journey person's wage rate in the place of employment of the apprentice. No apprentice shall be paid less than the wage rate established by the Labour Standards Act (1988), as now in force or as hereafter amended, or by other Order, as amended from time to time replacing the first mentioned Order.
	2 nd Year	65%	
	3 rd Year	75%	
	4 th Year	90%	
5400 Hours and 4800 Hours	1 st Year	55%	
	2 nd Year	70%	
	3 rd Year	85%	
4000 (Hairstylist) - The apprentice shall be paid no less than the minimum wage for hours worked and a commission agreed upon between the apprentice and the employer.			

6.0 TOOLS

Apprentices shall be required to obtain hand tools as and when specified by the Board.

7.0 PERIODIC EXAMINATIONS

7.1 Every apprentice shall submit to such occupational tests and examinations as the Board shall direct. If after such occupational tests and examinations the apprentice is found to be making unsatisfactory progress, his/her rate of wage shall not be advanced as provided in Section 5 until his/her progress is satisfactory to the Director of Institutional and Industrial Education and his/her date of completion shall be deferred accordingly. Persistent failure to pass required tests shall be a cause for revocation of his/her Memorandum of Understanding.

7.2 Upon receipt of reports of accelerated progress of the apprentice, the Board may shorten the term of apprenticeship and advance the date of completion accordingly.

8.0 GRANTING OF CERTIFICATES OF APPRENTICESHIP

Upon the successful completion of apprenticeship, the Board shall issue a Certificate of Apprenticeship

9.0 HOURS OF WORK

Any hours employed in the performance of duties related to the designated occupation will be credited towards the completion of the term of apprenticeship. Appropriate documentation of these hours must be provided.

10.0 COPIES OF THE REGISTRATION FOR APPRENTICESHIP

The Director of Institutional and Industrial Education shall provide copies of the Registration for Apprenticeship form to all signatories to the document.

11.0 RATIO OF APPRENTICES TO JOURNEYPERSONS

The ratio of Apprentices to Journeypersons normally shall not exceed one apprentice to every one journeyperson employed. Exceptions for specific occupations may occur with the approval of the Provincial Apprenticeship Board.

12.0 RELATIONSHIP OF THE PLAN OF TRAINING TO A COLLECTIVE BARGAINING AGREEMENT

Collective agreements take precedence over the conditions outlined in the plan of training.

13.0 AMENDMENTS TO A PLAN OF APPRENTICESHIP TRAINING

A plan of training may be amended at any time by the Provincial Apprenticeship Board.

14.0 EMPLOYMENT, RE-EMPLOYMENT AND TRAINING REQUIREMENTS

14.1 The plan of training requires Apprentices to attend regularly their place of employment.

14.2 The plan of training requires Apprentices to regularly attend training programs for that occupation as prescribed by The Provincial Apprenticeship Board.

14.3 Under the plan of training the employer is required; to keep each apprentice employed as long as work is available, and if the apprentice is laid off due to lack of work, to give opportunity to be re-employed before another is hired.

14.4 The employer will permit each apprentice to attend regularly training programs as prescribed by the Provincial Apprenticeship Board.

15.0 APPEALS TO DECISIONS BASED ON CONDITIONS GOVERNING APPRENTICESHIP TRAINING

Persons wishing to appeal any decisions based on the above conditions must do so in writing to the Minister of Education within 30 days of the decision.

REGULATIONS SPECIFIC TO THE BRICKLAYER OCCUPATION

REQUIREMENTS FOR RED SEAL CERTIFICATION
IN THE BRICKLAYER OCCUPATION

1. Evidence that the required work experiences outlined in this plan of training has been obtained. This evidence must be in a format that clearly outlines the experiences and a signature (s) of an appropriate person(s) attesting that these experiences have been obtained to the level required.
2. Normally, have a combination of training from an accredited training program and suitable work experience totalling 7200 hours

Or

Have a total of 9000 hours of suitable work experience.

3. Completion of a National Red Seal examination to be set at a place and time determined by the Industrial Training Division of the Department of Education.
4. Pay the appropriate examination fee.

ROLES AND RESPONSIBILITIES OF STAKEHOLDERS IN THE APPRENTICESHIP PROCESS

Apprenticeship process involves a number of stakeholders playing significant roles in the training of apprentices. This section captures, in a broad sense, these roles and the responsibilities that result from them.

Apprentices

- ▶ to complete all required technical training courses as approved by the Provincial Apprenticeship Board.
- ▶ to find appropriate employment
- ▶ to complete all required work experiences in combination with the required hours.
- ▶ to ensure that the work experiences are well documented
- ▶ to approach apprenticeship training with an attitude and commitment that fosters the qualities necessary for a successful career as a qualified journeyman.
- ▶ to obtain the required hand tools as specified by the Board for each period of training of the apprenticeship program.
- ▶ to provide feedback to Training Institutions, the Industrial Training Division and Employers in an effort to establish a process of continuous quality improvement.

Employers

- ▶ to provide high quality work experiences in an environment that is conducive to learning.
- ▶ to remunerate apprentices as set out in the Plan of Training or Collective Agreements.
- ▶ to provide feedback to Training Institutions, Industrial Training Division and Apprentices in an effort to establish a process of continuous quality improvement.
- ▶ where appropriate, to release apprentices for the purpose of returning to a training institution to complete the necessary technical courses.
- ▶ to ensure that work experiences of the apprentices are documented.

Training Institutions

- ▶ to provide a high quality learning environment.
- ▶ to provide the necessary student support services that will enhance an apprentices ability to be successful.
- ▶ to participate with other stakeholders in the continual updating of programs.

Industrial Training Division

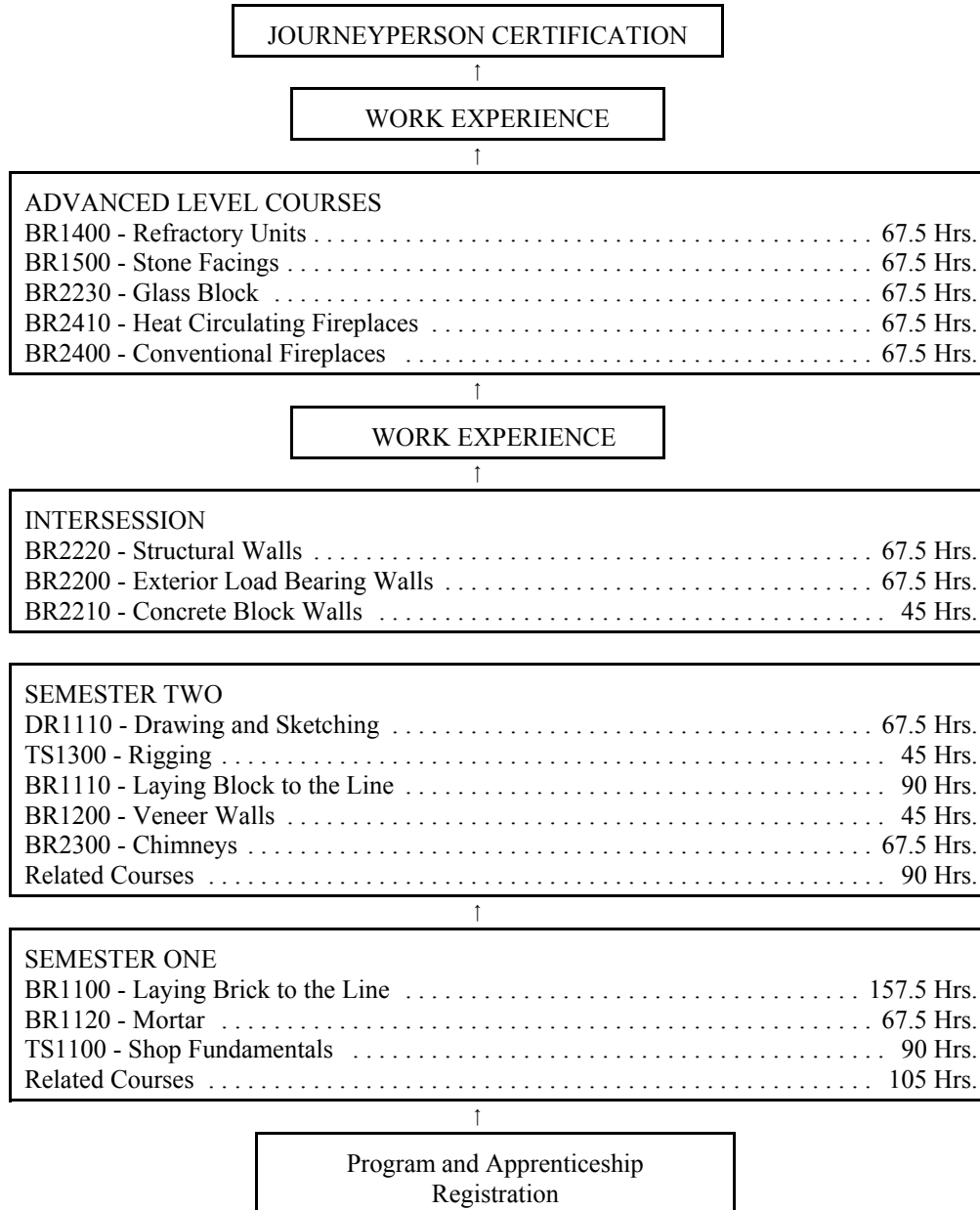
- ▶ to establish and maintain provincial program advisory committees under the direction of the Provincial Apprenticeship Board.
- ▶ to promote apprenticeship training as a viable career option to prospective apprentices and other appropriate persons involved such as career guidance counsellor, teachers, parents, etc.
- ▶ to establish and maintain a protocol with apprentices, training institutions, employers and other appropriate stakeholders to ensure the quality of apprenticeship training programs.
- ▶ to ensure that all apprentices are appropriately registered and records are maintained as required.
- ▶ to schedule all necessary technical training periods for apprentices to complete requirements for certification.
- ▶ to administer provincial/interprovincial examinations.

Provincial Apprenticeship Board

- ▶ to set policies to ensure that the provisions of the Apprenticeship Training Act are implemented.
- ▶ to ensure that advisory and examination committees are established and maintained.
- ▶ to accredit institutions to deliver apprenticeship training programs.
- ▶ to designate occupations for apprenticeship training and / or certification.

TECHNICAL COURSE OUTLINES

SUGGESTED COURSE LAYOUT FOR THE BRICKLAYER OCCUPATION



COURSE OUTLINE - TS1100

NAME AND NUMBER: General Studies 1100

DESCRIPTIVE TITLE: Shop Fundamentals

DESCRIPTION:

This general studies course requires the use of safety equipment, tools, fasteners, shop equipment and facilities and manuals. It involves the development of safety practices in the operation and maintenance of shop tools, equipment and facilities.. It includes information on general safety regulations, occupational health and safety, and fire prevention and suppression.

PREREQUISITES: None

CO-REQUISITES: None

CREDIT VALUE: 4

COURSE AIMS:

1. To gain an appreciation of the need for safety regulations in the operation and maintenance of shop tools, equipment and facilities
2. To be able to administer first aid and CPR
3. To develop an awareness of hazardous workplace materials

COURSE OBJECTIVES (KNOWLEDGE):

1. List general workplace safety regulations
2. List fire safety regulations
3. Describe the operation and uses of different types of fire extinguishers
4. Explain the safety standards prescribed by the Occupational Health and Safety Regulations
5. Describe the use of the different types of precision measuring tools
6. Describe safety requirements for using hand tools and fasteners
7. Describe the different types of fasteners
8. Explain oxidation, corrosion, tensile strength and shear strength

9. Describe types of hydraulic and pneumatic lines and fittings and explain their applications
10. Describe types of tubing and flaring tools and explain the application of each
11. Explain the purpose of threading taps and dies
12. Describe the types of fastener tools
13. Describe types and explain the uses of pullers, drivers and presses
14. Describe soldering tools, materials and applications
15. Describe methods of tinning and soldering
16. Describe types of solders
17. Describe the different types of power tools
18. Describe the different types of hydraulic tools
19. Describe safety requirements for using power tools
20. Describe the parts of a twist drill
21. Describe drill sizes and speed requirements
22. Describe types and uses of reaming tools
23. Explain the purpose of cutting power tools
24. Describe types and explain applications of:
 - i. portable and stationary grinders
 - ii. grinding wheels
 - iii. grinding discs
 - iv. grinder dressers
 - v. rotary wire brushes
25. Describe types of compressors and components
26. Describe the pliers (all types), screwdrivers (all types), wrenches (all types), clamps (all types) and vices (all types) used for fitting and assembling as per assigned information to within specifications required
27. Describe as per the assigned information, rivets, keys, nuts, screws, pins, splines, studs, bolts, snaprings, bonds (thread locking compounds), washers, lock wires and self-locking nuts

MAJOR TASKS / SUBTASKS (SKILLS):

1. Practice safety
 - a. Interpret occupational safety code
 - b. Apply safe work habits at all times
 - c. Use and maintain personal safety equipment
 - d. Implement exhaust control procedures
 - e. Use fire fighting equipment
 - f. Respect noise level regulations
 - g. Reduce factors that contribute to spontaneous combustion
 - h. Identify potential hazards to personal safety
 - i. Check for unsafe conditions
 - j. Report accident

2. Complete a St. John's Ambulance Standard First Aid Course
3. Complete a Workplace Hazardous Materials Information Systems Course
4. Use and maintain gripping and turning tools, measuring devices and levels
 - a. Use measuring tools (measuring tapes, rules, scale rules, calipers, micrometers, gauges, straight edges, plumb bobs, squares, and calculators) and levels
 - b. Use pliers, screwdrivers, wrenches, torque multipliers, hammers and mallets and other gripping and turning tools
 - c. Use torque wrench
 - d. Use scribes and markers
5. Use and maintain flaring tools
 - a. Single and double flare tubing
 - b. Bend tubing
 - c. Measure and cut tubing
 - d. Use compression fittings
 - e. Anneal tubing before flaring as may be necessary
 - f. Test and inspect flared fittings
6. Use and maintain cutting tools
 - a. Identify, maintain and use punches, chisels, files and saws
 - b. Sharpen chisels and twist drills and drill bits
 - c. Shape and sharpen a cold chisel
 - d. Maintain and store cutting tools
 - e. Cut sheet metal
 - f. Make bench projects
 - g. Cut bolts
 - h. Drill and ream holes
7. Use and maintain threading devices
 - a. Select and safely use proper tools for given job
 - b. Maintain threading tools
 - c. Make an internal thread
 - d. Make and external thread
 - e. Restore damaged thread
 - f. Remove broken screw
 - g. Use tap and drill chart
8. Install fasteners
 - a. Use and identify fasteners such as rivets, nails, wood screws, sheet metal screws, bolts, nuts, washers, masonry anchors and shields
 - b. Describe specific uses for each fastener
 - c. Recognize sizes of fasteners
 - d. Rivet and soft solder lap joint in galvanized sheet
 - e. Torque bolts
 - f. Identify bolt grades
 - g. Identify miscellaneous anchoring devices

9. Safely and effectively use, maintain and store pullers, drivers and presses
10. Solder metals
 - a. Select solder and heating unit
 - b. Solder wire connections, sheet metal, and copper fittings and tubing
 - c. Shut down and store equipment
11. Use power tools
 - a. Operate portable power tools
 - b. Operate treading machines
 - c. Operate power cleaning equipment
 - d. Operate hydraulic punches, pullers, drivers and presses
12. Drill materials
 - a. Safely and effectively operate power drilling equipment (hammer and portable drill)
 - b. Select and use cutting fluids
 - c. Identify and select clamping devices
 - d. Maintain drilling equipment
13. Cut metals (power)
 - a. Safely and effectively use power operated saws, friction cut-off equipment and shears
 - b. Maintain metal cutting power tools
 - c. Identify and use abrasives
14. Grind and finish metals
 - a. Install grinding wheel disc and brush
 - b. Adjust tool rest
 - c. Dress grinding wheel
 - d. Safely and effectively operate stationary and portable grinders
 - e. Maintain equipment
15. Use explosive actuated tools
 - a. Select the proper tool for a specific use
 - b. Follow Occupational Health and Safety regulations
 - c. Choose the correct shot and fastener for the job
 - d. Apply safety practices while using explosive actuated tools
 - e. Fasten construction material to masonry and steel
 - f. Maintain and clean explosive actuated tools
16. Use and maintain compressed air system
 - a. Demonstrate safety precautions when using and maintaining compressors
 - b. Identify components of air controller (transformer)
 - c. Use and maintain air controller (transformer)
 - d. Use and maintain air and fluid hoses
17. Use and maintain shop equipment
 - a. jacks
 - b. shop cranes

- c. chain hoists
 - d. steam cleaner
 - e. solvent cleaning tanks
18. Interpret mechanical drawings and information
- a. Interpret service manual information
 - b. Read and sketch simple mechanical and schematic diagrams
 - c. Demonstrate following job procedures for major components
 - d. Complete various types of work related forms such as: work orders, log books, requisitions, and purchase orders
 - e. Access manufacturers service information

EVALUATION:

Written reports and/or tests.
Competence in simulated work.

DEVELOPMENT HISTORY:

Date Developed: December 1993
Course Updated: June 1996

INSTRUCTOR'S NOTES:

COURSE OUTLINE - DR1110

NAME AND NUMBER: Drafting 1110

DESCRIPTIVE TITLE: Basic Drawing and Sketching

DESCRIPTION:

This drafting course requires the use of basic drawings, specifications, bills of materials, drawing instruments and facilities, and CAD software and hardware. It involves reading basic drawings and diagrams, sketching, interpretation of specifications, and operating the CAD system. It includes information on sketching techniques, types of drawings, and CAD commands.

PREREQUISITES: None

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required to read drawings and sketch views.

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe the alphabet of lines
2. List the basic drawing symbols
3. Explain what is meant by quality of lines
4. Describe metric, mechanical, architectural and civil scales
5. Describe the different types of pencil lead grades
6. Describe letter types
7. Describe lettering instrument types
8. Explain spacing, sizes and lettering techniques

9. Describe different view orientations
10. Describe obliques, isometrics and perspectives
11. Explain sketching techniques
12. Explain main view and possible views
13. Describe the six principle views
14. Explain association of surfaces
15. Explain matching pictorials
16. Describe types of dimensions and lines used
17. Explain the rules of dimensioning
18. Explain the various methods of producing lines
19. Describe the purpose and types of sectional views
20. Explain conventions associated with sectional views such as symbols, cutting plane lines, broken-out lines, etc.
21. Identify standard drawing symbols used on electrical, hydraulic and pneumatic drawings
22. Identify colour codes used for electrical, hydraulic and pneumatic schematics
23. Explain the purpose and methods of dimensioning
24. Explain intersections and developments
25. Explain graphs reticulation
26. Explain the functions of the CAD system

MAJOR TASKS / SUBTASKS (SKILLS):

1. Construct geometric shapes and lines
 - a. Draw lines to scale
 - b. Scale lines
 - c. Divide lines into equal parts
 - d. Bisect lines
 - e. Construct angles
 - f. Bisect angles
 - g. Construct concave and convex curves
 - h. Construct circles, arcs, tangents, ellipses, polygons, etc.
2. Sketch orthographic projections
 - a. Visualize object
 - b. Select views
 - c. Layout sketch
 - d. Sketch projection
 - e. Dimension sketch
 - f. Make notations
3. Sketch sectional views
 - a. Locate section
 - b. Select type of view
 - c. Determine scale

- d. Sketch view
- e. Dimension sketch
- f. Make notations
4. Sketch primary auxiliary views
 - a. Visualize the view
 - b. Layout the sketch
 - c. Sketch view
 - d. Dimension sketch
 - e. Make notations
5. Identify information from blueprints and drawings
 - a. Visualize views and projections
 - b. Identify information from schematic diagrams, assembly drawings, views, feeder maps, etc.
 - c. Identify sequence of fabrication according to blueprint
 - d. Identify cut of materials from sketches
 - e. Interpret horizontal, vertical, curved, inclined lines, fillets, and radii on working drawings
 - f. Identify dimensions of holes, cylinders, circles, angles and arcs
6. Read mechanical drawings
 - a. Read welding drawings, hydraulics and pneumatics drawings, sheet metal drawings and piping drawings
 - b. Read and apply information from cut-away drawings
7. Read electrical drawings
 - a. Read schematic diagrams, flow diagrams, point-to-point diagrams, wireless diagrams and highway diagrams
8. Read architectural and structural drawings
 - a. Read plot plan, foundation plans, floor plans, details, elevations and sections
9. Interpret specifications
 - a. Interpret specifications
 - b. Identify tolerance specifications
 - c. Interpret specifications (company standards books)
10. Identify information from bill of materials
11. Operate the CAD system
 - a. Start up the system
 - b. Set up directories and manage files
 - c. Start AutoCAD
 - d. Operate the system

EVALUATION:

- Written reports and/or tests.
- Competence in simulated work.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: December 1993

INSTRUCTOR'S NOTES:

COURSE OUTLINE - TS1300

NAME AND NUMBER: General Studies 1300

DESCRIPTIVE TITLE: Rigging

DESCRIPTION:

This general studies course requires the use of rigging equipment, ladders, block and tackle, and safety equipment. It involves installing, testing and maintaining rigging; and tying knots and splicing rope. It includes information on safety requirements, types of ropes, types of knots, slings, types of scaffolds, and types of ladders.

PREREQUISITES: None

CO-REQUISITES: None

CREDIT VALUE: 2

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required to install safe rigging

COURSE OBJECTIVES (KNOWLEDGE):

1. List the Occupational Health and Safety Regulations for rigging
2. Describe the different types of ropes
3. List the different kinds of knots
4. Describe slings.
5. Describe the different types of scaffolds
6. Describe the different types of ladders
7. Describe methods of lead balancing
8. Describe the safety factors to be considered when using swing staging
9. Describe the proper procedures and equipment for handling heavy objects

10. Describe power scaffolding
11. Describe types and conditions of approved work platforms
12. Specify the use of screw jacks versus hydraulic units
13. Specify the use of elevators
14. Explain how suspended scaffolding is erected and when and how it is used
15. List safety rules for erecting and working on scaffolding (Safety in structural components)
 - a. footboards
 - b. putlogs
 - c. braces
 - d. ties
 - e. planking
 - f. scaffold brackets
16. Describe special problems of rolling and suspended scaffolding

MAJOR TASKS / SUBTASKS (SKILLS):

1. Use and maintain rigging equipment
 - a. Recognize and use hand signals
 - b. Recognize lifting capabilities
 - c. Recognize necessity for swing staging
 - d. Interpret occupational health and safety regulations
 - e. Select and install ladders
 - f. Install scaffolds
 - g. Demonstrate the safe and proper use of lifting equipment such as come-a-longs, chain falls, jacks, winches, overhead cranes, jacks, skids, cable tuggers, reeve blocks, slings and rope
 - h. Demonstrate proper use of knots
 - i. Use lifting attachments such as eye bolts and lifting lugs, beam clamps and crawlers, snatch blocks, spreader bars, shackles and screw jacks
 - j. Transfer loads using lifting equipment
2. Use and maintain overhead cranes
 - a. Safely and effectively use overhead cranes
 - b. Use proper lifting procedures
 - c. Use hoisting and/or crane signals
 - d. Use plate grab and/or slings
3. Use scaffolding and rigging
 - a. Erect section of tubular steel sectional scaffold
 - b. Describe adjustable tower scaffolding and advantages
 - c. Inspect scaffolding before using
 - d. Direct/assist in loading/unloading masonry units from trucks
 - e. Direct/assist hoisting masonry units to work stations

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: December 1993

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR1100

NAME AND NUMBER: Bricklaying and Masonry 1100

DESCRIPTIVE TITLE: Laying Brick to the Line

DESCRIPTION:

This course in bricklaying and masonry fundamentals requires the use of tools and equipment and materials and supplies. It involves laying out a brick wall, constructing corners and filling in between corners to line. It includes information on safety, types of brick walls, building techniques and brick panels.

PREREQUISITES: BR1120, TS1100

CO-REQUISITES: None

CREDIT VALUE: 4

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for laying brick with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe use of safety nets
2. Describe electrical hazards on job locations
3. Explain brick laying techniques
4. Describe types of brick walls

MAJOR TASKS / SUBTASKS (SKILLS):

1. Lay brick to the line
 - a. Use a chalk line
 - b. Establish horizontal coursing
 - c. Spread mortar for bed joints
 - d. Butter bricks
 - e. Attach line blocks
 - f. Set trig brick
 - g. Lay masonry units to a line
 - h. Lay closure bricks
 - i. Plumb jambs
 - j. Cut brick in half and to length
 - k. Joint brick

Note: Brick walls should include stretcher bond and common bond
2. Build common type leads
 - a. Construct straight brick lead
 - b. Construct brick outside corner lead
 - c. Construct brick inside corner lead
 - d. Construct concrete block straight lead
 - e. Construct concrete block outside corner lead
 - f. Construct concrete block inside corner lead
3. Use safety equipment and procedures
 - a. Wear appropriate clothing and equipment
 - i. clothing
 - ii. boots and shoes
 - iii. headgear
 - iv. goggles and glasses
 - v. gloves
 - vi. tuck hair under hard hat securely
 - b. Arrange materials safely in the work area
 - c. Use tools safely and maintain in good repair
 - d. Use ladders safely
 - e. Remove nails from lumber
 - f. Avoid hazards of overhead falling objects
 - g. Suspend work in immediate area while materials are being moved by Crane
 - h. Avoid hazards of protruding objects
 - i. Exercise care on scaffolding
 - j. Lift objects safely
 - k. Avoid chemical burns
 - l. Keep work path, under-feet, clear
4. Build 100mm veneer panel walls in stretcher bond
 - a. Estimate materials

- b. Establish and set up work area
- c. Make a dry layout
- d. Build specified leads
- e. Lay brick to a line
- f. Allow for structural particulars such as chases, offsets pilasters and openings
- g. Parge back of face wythe
- h. Set steel lintels
- i. Install flashing
- j. Lay soldier courses
- k. Lay rowlock sills
- l. Joint work to specifications

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR1110

NAME AND NUMBER: Bricklaying and Masonry 1110

DESCRIPTIVE TITLE: Laying Block to the Line

DESCRIPTION:

This course in bricklaying and masonry fundamentals requires the use of tools and equipment and materials and supplies. It involves laying out block walls, constructing corners and filling in between corners to the line. It includes information on types of block walls, special leads, block panels and construction techniques.

PREREQUISITES: BR1120

CO-REQUISITES: None

CREDIT VALUE: 7

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for laying block with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of block walls
2. Describe types of special leads
3. Explain block laying techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Lay block to the line
 - a. Establish horizontal coursing
 - b. Spread mortar for bed joints
 - c. Butter blocks
 - d. Lay concrete blocks to line
 - e. Lay closure blocks
 - f. Cut concrete blocks
 - g. Cut hole in blocks
 - h. Finish joints as required
2. Build special type leads
 - a. Lay out leads
 - b. Construct brick leads in various bonds
 - c. Construct brick leads using a concrete block backup

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR1120

NAME AND NUMBER: Bricklaying and Masonry 1120

DESCRIPTIVE TITLE: Mortar

DESCRIPTION:

This course in bricklaying and masonry fundamentals requires the use of tools and equipment, cement, sand and water. It involves mixing sand, cement, water and additives in the correct proportions for different conditions. It includes information on types of mixes and preparation techniques.

PREREQUISITES:

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for mixing mortar with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of mortar mixes
2. Explain preparation techniques for mortar

MAJOR TASKS / SUBTASKS (SKILLS):

1. Prepare mortar
 - a. Select and identify mix materials
 - b. Select and determine ratios
 - c. Use hand mixing equipment
 - d. Use power mixing equipment
 - e. Care for and maintain mixing equipment
 - f. Prepare mortar to specifications
 - g. Spread mortar

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR1200

NAME AND NUMBER: Bricklaying and Masonry 1200

DESCRIPTIVE TITLE: Veneer Walls

DESCRIPTION:

This course in wall construction requires the use of tools and equipment and materials and supplies. It involves wall layout; installation of masonry ties, accessories and insulation; preparing for temporary arch forms; laying out arches and laying brick to the line. It includes information on cavity walls, arches and building techniques.

PREREQUISITES: BR1100, BR1120

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for veneer walls with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of cavity walls
2. Describe types of arches
3. Explain construction techniques for cavity walls and arches

MAJOR TASKS / SUBTASKS (SKILLS):

1. Build cavity walls
 - a. Lay out cavity walls
 - b. Flash cavity walls
 - c. Use special type of tie
 - d. Parge walls
 - e. Apply adhesive
 - f. Apply insulation
 - g. Install angle irons and lintels
 - h. Install weep holes
 - i. Install anchor bolts
2. Build masonry walls containing arches
 - a. Gauge arches
 - b. Adjust centers
 - c. Cut and lay skewbacks
 - d. Cut and lay creepers
 - e. Cut and set keys

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2200

NAME AND NUMBER: Bricklaying and Masonry 2200

DESCRIPTIVE TITLE: Exterior Load Bearing Walls

DESCRIPTION:

This course in wall construction requires the use of tools and equipment and materials and supplies. It involves wall layout; installing accessories, flashings and reinforcements; preparing mortar; preparing for openings, floors and roofs; and laying brick to the line. It includes information on types of exterior load bearing walls, types of openings and construction techniques.

PREREQUISITES: BR1100, BR1110. BR1120

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for exterior load bearing walls with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of exterior load bearing walls
2. Describe types of openings
3. Explain construction techniques for exterior load bearing walls

MAJOR TASKS / SUBTASKS (SKILLS):

1. Build composite walls
 - a. Estimate material requirements
 - b. Lay out composite walls
 - c. Set stone sills, lintels, and trim
 - d. Install reinforcing and metal ties
 - e. Install necessary flashing
 - f. Finish masonry
 - i. rod joint
 - ii. strip joint
 - g. Clean brick masonry using muriatic acid
- Note: Composite wall construction includes:
- walls constructed using brick and concrete block
 - walls finished on both sides
2. Build reinforced grout brick masonry walls
 - a. Identify materials required for R.G.B.M.
 - b. Establish proper position of material required for R.G.B.M.
 - c. Install materials required to build R.G.B.M. wall
 3. Build single wythe brick-load bearing walls
 - a. Place nailing blocks (SCR clips) in proper position
 - b. Place anchor bolts in proper position
 - c. Install flashing as required
 - d. Lay brick and finish per specifications
 4. Point and repair existing masonry
 - a. Protect existing finished areas
 - b. Remove old masonry units clean and re-lay
 - c. Chisel out and re-point joints
 5. Cut openings and build frames in masonry
 - a. Protect existing finished areas
 - b. Cut openings and tooth
 - c. Salvage old units
 - d. Shore old masonry as required
 - e. Check doors and window frames before installation for
 - i. alignment with wall
 - ii. jambs being plumb
 - iii. header being level
 - iv. frame being square
 - v. spacers being present in centre frame
 - vi. header reinforcement
 - vii. anchors present (metal frame)
 - viii. rigidity
 - f. Install frames and lay masonry units to match existing finished areas

6. Build extensions to masonry walls and brick up openings
 - a. Protect existing finished areas
 - b. Layout extension and align with existing wall
 - c. Tie by toothing, blocking or metal ties and anchors
 - d. Bond new wall, matching old masonry
 - e. Joint finish and match old masonry
 - f. Remove, as necessary, frames, lintels, etc, before bricking up openings and shore as may be necessary
 - g. Brick up opening, matching existing finished areas as close as practicable
7. Make alterations by constructing masonry partitions
 - a. Protect existing finished areas
 - b. Rake out mortar joints in intersecting wall and install appropriate ties and anchors
 - c. Lay out partition
 - d. Lay masonry units and finish as required

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2210

NAME AND NUMBER: Bricklaying and Masonry 2210

DESCRIPTIVE TITLE: Concrete Block Walls

DESCRIPTION:

This course in wall construction requires the use of tools and equipment and materials and supplies. It involves layout, reinforcement, installing temporary wall supports and anchors, preparing special mortars, and laying blocks. It includes information on types of concrete block walls and alteration techniques.

PREREQUISITES: BR1110

CO-REQUISITES: None

CREDIT VALUE: 2

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for constructing and repairing concrete block walls with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of brick walls
2. Explain alteration techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Build 100mm or 150mm concrete block walls and partitions
 - a. Build in control joints
 - b. Build in metal frames and rough backs
 - c. Cut concrete blocks to receive electrical outlets, conduit, pipe, etc.
 - d. Build intersecting walls
2. Build 200mm concrete block walls with openings
 - a. Estimate masonry materials
 - b. Operate masonry saw
 - c. Build control joints
 - d. Cut standard corner blocks for bond beam units
 - e. Build intersecting walls
 - f. Install bond beam blocks
 - g. Set lintels
3. Build 250mm concrete block foundations
 - a. Lay out foundation walls
 - b. Square layout using 3-4-5 method
 - c. Build special corners for 250mm walls
 - d. Parge foundation
 - e. Place grounds
 - f. Place anchor bolts
4. Build grouted reinforced concrete block masonry walls
 - a. Prepare masonry to receive grout
 - b. Place vertical and horizontal reinforcing
5. Point and repair existing masonry
 - a. Protect existing finished areas
 - b. Remove old masonry units clean and re-lay
 - c. Chisel out and re-point joints
6. Cut openings and build frames in masonry
 - a. Protect existing finished areas
 - b. Cut openings and tooth
 - c. Salvage old units
 - d. Shore old masonry as required
 - e. Check doors and window frames before installation for
 - i. alignment with wall
 - ii. jambs being plumb
 - iii. header being level
 - iv. frame being square
 - v. spacers being present in centre frame
 - vi. header reinforcement
 - vii. anchors present (metal frame)
 - viii. rigidity

- f. Install frames and lay masonry units to match existing finished areas
7. Build extensions to masonry walls and brick up openings
 - a. Protect existing finished areas
 - b. Layout extension and align with existing wall
 - c. Tie by toothing, blocking or metal ties and anchors
 - d. Bond new wall, matching old masonry
 - e. Joint finish and match old masonry
 - f. Remove, as necessary, frames, lintels, etc, before bricking up openings and shore as may be necessary
 - g. Brick up opening, matching existing finished areas as close as practicable
8. Make alterations by constructing masonry partitions
 - a. Protect existing finished areas
 - b. Rake out mortar joints in intersecting wall and install appropriate ties and anchors
 - c. Lay out partition
 - d. Lay masonry units and finish as required

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2220

NAME AND NUMBER: Bricklaying and Masonry 2220

DESCRIPTIVE TITLE: Structural Walls

DESCRIPTION:

This course in wall construction requires the use of tools and equipment and materials and supplies. It involves layout, preparing mortar, installing accessories and flashing, and laying brick. It includes information on types of brick walls and other structures, types of bonds, and construction techniques.

PREREQUISITES: BR1100, BR1110

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for building structural walls with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of mortar
2. Describe types of bonds
3. Describe types of brick walls and other structures

MAJOR TASKS / SUBTASKS (SKILLS):

1. Build 200 mm brick walls in common bond containing openings
 - a. Establish horizontal coursing in common bond
 - b. Install flashing over and under openings
 - c. Build chases
 - d. Build pilaster
 - e. Install flashing
 - f. Build offsets
 - g. Parge walls
2. Build 300 mm brick walls faced in different bonds and joints containing openings
 - a. Estimate materials
 - b. Establish and set up work area
 - c. Make a dry layout
 - d. Build specified leads
 - e. Lay brick to a line
 - f. Allow for structural components as specified
 - g. Parge back of face wythe
 - h. Set steel lintels
 - i. Install flashing
 - j. Lay soldier courses
 - k. Lay rowlock sills
 - l. Corbel specified masonry
 - m. Build in compressible expansion strips as specified
 - n. Joint work to specifications
3. Lay conventional or tongue and grooved blocks without mortar to build walls
 - a. Interpret drawings and specifications
 - b. Lay first course of block in mortar
 - c. Stack remaining courses in a running bond
 - d. Cut blocks to size
 - e. Place grout and reinforcing rods in cores of blocks as required
 - f. Make provisions for intersecting walls
 - g. Build-in sills, lintels, frames or lintel block and reinforcing rods according to specifications
 - h. Build-in or make provision for mechanical or electrical units
 - i. Build-in flashing and chases where specified
 - j. Finish off top of wall with course of blocks or lintel blocks and reinforcing rods
 - k. Build in anchor bolts at top of foundation walls for bearing plates where specified
 - l. Apply caulking compound around openings
 - m. Mix surface bonding cement according to specifications
 - n. Trowel on bonding cement where specified
 - o. Spray (fog spray) binding cement as specified

4. Build structural clay walls and partitions
 - a. Identify type of wall being built
 - b. Establish horizontal coursing
 - c. Cut block to specified lengths
 - d. Determine types of clay units to use
 - e. Identify differences in finish
5. Build gypsum tile partitions
6. Build masonry walls containing arches
 - a. Gauge arches
 - b. Adjust centers
 - c. Cut and lay skewbacks
 - d. Cut and lay creepers
 - e. Cut and set keys
7. Construct masonry steps and patios
 - a. Estimate materials
 - b. Interpret drawings and specifications
 - c. Make dry layouts
 - d. Lay brick steps including treads and risers
 - e. Lay brick walks and patios using concrete foundation or slab
 - f. Lay brick without mortar
8. Pre-Fabricated Masonry Units
 - a. Determine type of installation and location.
 - b. Lays out location of masonry units.
 - c. Installs framing for doors and windows , where applicable.
 - d. Installs vapour and air barriers.
 - e. Installs insulation.

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2300

NAME AND NUMBER: Bricklaying and Masonry 2300

DESCRIPTIVE TITLE: Chimneys

DESCRIPTION:

This course in chimney construction requires the use of tools and equipment and materials and supplies. It involves layout; preparing mortar; installing clean-out doors, thimbles, flue liners, flashings and tops; and laying brick. It includes information on high temperature cement, types of tops, types of chimneys and construction techniques.

PREREQUISITES: BR1100, BR1110, BR1120

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for building chimneys with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Explain the action of high temperature cement
2. Describe types of chimney tops
3. Describe types of chimneys
4. Explain construction techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Construct chimneys with single flues
 - a. Set a clean-out
 - b. Cut chimney liner to receive a thimble
 - c. Cut chimney liners, using a brick hammer
 - d. Calculate offsets on flue linings
 - e. Set a thimble
 - f. Cut flashing to fit pitch of roofs
 - g. Cut lines to construct chimney
 - h. Set liners in chimney
 - i. Install flue thimble in breastwork
 - j. Install chimney flashing
 - k. Install flue thimble and clean-out door
 - l. Install chimney tops (brick and concrete)

Note: Single flue chimney construction should include the following:

- above thimble heights
- exposed above thimble heights
- exposed on gable end
- unexposed on slope roof
- unexposed on ridge of roof

2. Construct chimneys with multiple flues
 - a. Cut offset flue liners for multiple flue chimneys
 - b. Corbel brickwork
 - c. Set liners in multiple flue chimneys
 - d. Install chimney tops (brick and concrete)

Note: Chimney Construction should include:

1. Multiple flue chimney containing clean-outs and thimbles.
2. Multiple flue chimney topped out and flashed on a flat roof with a projected masonry cap.
3. Multiple flue chimney containing offsets.

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2230

NAME AND NUMBER: Bricklaying and Masonry 2230

DESCRIPTIVE TITLE: Glass Block

DESCRIPTION:

This course in constructing glass block walls requires the use of tools and equipment and materials and supplies. It involves layout, wall reinforcement, waterproofing, mixing mortar and laying block. It includes information on types of mortar, adhesives, types of caulking and construction techniques.

PREREQUISITES: BR2220

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for glass block wall construction with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of mortar
2. Describe types of adhesives
3. Describe types of caulking
4. Explain construction techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Construct glass block panels
 - a. Establish horizontal and vertical coursing of glass block panels
 - b. Prepare opening for installations of glass blocks
 - c. Install accessories
 - d. Joint and clean glass block
 - e. Caulk glass block panels
2. Repair glass block panels
 - a. Protect existing finished areas
 - b. Remove broken units
 - c. Align and install new units
 - d. Joint units
 - e. Caulk units
 - f. Clean units

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2400

NAME AND NUMBER: Bricklaying and Masonry 2400

DESCRIPTIVE TITLE: Conventional Fireplaces

DESCRIPTION:

This course in fireplace construction requires the use of tools and equipment and materials and supplies. It involves layout; installation of clean out doors, bases, firebrick, dampers and flue liners; constructing smoke chambers, smoke shelves and tops; mixing mortar; laying brick and setting tiles. It includes information on types of mortar, high temperature cement, types of tops and construction techniques.

PREREQUISITES: BR2300

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for constructing conventional fireplaces with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of mortar
2. Explain the action of high temperature cement
3. Describe types of tops
4. Explain construction techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Construct single opening fireplaces
 - a. Verify or determine dimensions of single opening fireplaces
 - b. Construct interior fireplace foundation
 - c. Pour hearth slabs
 - d. Rough fireplace brickwork or exterior masonry
 - e. Construct fireplace fire chambers
 - f. Face fireplaces to specifications with bricks
 - g. Lay masonry hearths
 - h. Install fireplace accessories
2. Construct outdoor fireplaces and barbecues
 - a. Layout various outdoor fireplaces and barbecues
 - b. Interpret manufacturer's specifications
 - c. Estimate materials
 - d. Interpret blueprints and specifications
 - e. Construct with a picture as a guide

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR2410

NAME AND NUMBER: Bricklaying and Masonry 2410

DESCRIPTIVE TITLE: Heat Circulating Fireplaces

DESCRIPTION:

This course in fireplace construction requires the use of tools and equipment and materials and supplies. It involves layout; mixing mortar; installing clean out doors, firebrick base, heat circulator, accessories, angle irons, flue liners, tops and hearths; insulating heat circulators; laying brick and setting tiles. It includes information on types of mortar, high temperature cements types of tops and installation and construction techniques.

PREREQUISITES: BR1200

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for constructing heat circulating fireplaces with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of mortar
2. Describe types of tops
3. Explain the action of high temperature cement
4. Explain installation and construction techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Construct multiple opening fireplaces
 - a. Estimate materials
 - b. Establish and set up work area
 - c. Make dry layouts
 - d. Lay up masonry to opening heights
 - e. Build firebox
 - f. Install damper
 - g. Set steel lintels, or build arches
 - h. Install metal accessories
 - i. Joint exposed masonry
 - j. Lay masonry hearth
2. Construct heat circulating fireplaces
 - a. Estimate material requirements
 - b. Establish and set-up work area
 - c. Make dry layouts
 - d. Lay back hearth
 - e. Install heat circulating unit
 - f. Insulate unit to manufacturer's specifications
 - g. Lay up masonry
 - h. Install metal accessories
 - i. Set flue linings
 - j. Joint exposed masonry
 - k. Lay masonry hearth
3. Set tiles
 - a. Identify different types of tile
 - b. Identify and select tile patterns
 - c. Lay tile in mortar bed (wet and dry pack)
 - d. Set tile in tile cement (epoxy)
 - e. Grout tile
 - f. Clean tile

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR1400

NAME AND NUMBER: Bricklaying and Masonry 1400

DESCRIPTIVE TITLE: Refractory Units

DESCRIPTION:

This course in fireplace construction requires the use of tools and equipment and materials and supplies. It involves layout; installation of accessories, insulation, special ties and temporary arch forms; and laying brick. It includes information on types of mortars and refractory materials and installation and construction techniques.

PREREQUISITES: None

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for installing refractory materials with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of refractory materials
2. Describe types of mortars
3. Explain installation and construction techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Line/reline furnaces or other installations with refractory materials
 - a. Reviews drawings and specifications to determine locations of installation, type of material and other requirements
 - b. Remove or supervise the removal of existing brickwork or lining
 - c. Lay refractory or acid-resistant brick
 - i. layout location of walls and expansion joints
 - ii. install brickwork in specified manner (dry, thick joint, thin joint)
 - iii. incorporate control joints
 - iv. build in steel lintels or frames
 - v. build in or make provisions for mechanical/electrical units
 - d. Line/reline using castable refractories
 - i. dampen/lubricate forms or surfaces
 - ii. bolt anchors at pre-determined locations
 - e. Line/reline using plastic refractories
 - i. bolt anchors of pre-determined locations
 - ii. install temporary supports for arches or ceiling
 - iii. place plastic slabs on surfaces
 - v. follow specifications for setting process

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

COURSE OUTLINE - BR1500

NAME AND NUMBER: Bricklaying and Masonry 1500

DESCRIPTIVE TITLE: Stone Facings

DESCRIPTION:

This course in fireplace construction requires the use of tools and equipment and materials and supplies. It involves layout, installing flashings and accessories, cutting stone, mixing mortar and laying stone. It includes information on types of stone, types of mortar, and installation and construction techniques.

PREREQUISITES: BR1100, BR1110

CO-REQUISITES: None

CREDIT VALUE: 3

TEXT BOOK(S) / SOFTWARE USED BY LEAD INSTITUTION:

COURSE AIMS:

1. To develop the skills and knowledge required for installing stone facings with respect to various codes and regulations
2. To practice safety in potentially harmful situations
3. To develop an appreciation for conservation and environmental issues

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe types of stone
2. Describe types of mortars
3. Explain construction and installation techniques

MAJOR TASKS / SUBTASKS (SKILLS):

1. Lay artificial and cut stone facings
 - a. Cut stone, using hand tools
 - b. Cut stone with saw and hydraulic splitter
 - c. Lay stone to line
 - d. Establish horizontal coursing patterns
 - e. Install accessories
 - f. Point, joint and clean stone masonry
2. Lay field stone facings
 - a. Provide a masonry backup
 - b. Split stone using feathers and plugs
 - c. Cut stone using hand tools
 - d. Point and joint stone masonry
 - e. Clean field stone facings
3. Lay granite floors.
 - a. Lays out centre lines on floor.
 - b. Installs concrete bed.
 - c. Installs granite floor covering.
 - d. Applies grout in joints.
 - e. Cleans floor.
4. Erects and dismantles needles.
 - a. Reviews drawings and specifications.
 - b. Performs a safety check on wall.
 - c. Determines and lays out location of opening.
 - d. Determines and lays out location holes for needles.
 - e. Punches holes for needles.
 - f. Cuts and installs needles.
 - g. Erects support for needles.
 - h. Knocks off brick opening.
 - i. Builds jambs.
 - j. Installs lintel.
 - k. Remove needles.
 - l. Fills in brickwork.

EVALUATION:

Written reports and/or tests.

Competence in simulated work and/or experiential endorsements.

LEAD INSTITUTION:

DEVELOPMENT HISTORY:

Date Developed: October 1994

INSTRUCTOR'S NOTES:

REQUIRED RELATED COURSES

COURSE NAME & NUMBER: Workplace Correspondence CM2150

DESCRIPTIVE TITLE: Workplace Correspondence

CALENDAR TITLE:

- 1.0 Type and Purpose** Communications 2150 gives students the opportunity to study the principles of effective writing. Applications include letters, memos, and short report writing.
- 2.0 Major Topics** Review of Sentence and Paragraph Construction; Business Correspondence; Informal Report; Job Search Techniques.

PREREQUISITES: Nil

CO-REQUISITES: Nil

COURSE DURATION 45hrs

**SUGGESTED TEXT/
LEARNING RESOURCES:**

Textbooks: Business English and Communications, Fourth Canadian Edition, Clark, Zimmer, et al., McGraw-Hill Ryerson, 1990

Student Projects and Activities for Business English and Communications,

Fourth Canadian Edition, Clark, et al., McGraw-Hill, 1990

Effective Business Writing, Jennifer MacLennon

Simon and Shuster Handbook for Writers, Second Edition, Troyka Lynn Quitman, Prentice Hall

College English Communication, Third Canadian Edition, Stewart, Zimmer, et al., McGraw-Hill Ryerson Limited, 1989

Business and Administrative Communication, Second Edition, Kitty O. Locker. IRWIN, 1991

References: Pittman Office Handbook, Smith/Hay-Ellis

The Gregg Reference Manual, Fourth Canadian Edition, Sabin/O'Neill

McGraw Hill Handbook

Other Resources: Business Letter Business (Video), Video Arts

Guest Speakers

Sell Yourself (Video)

COURSE AIMS:

1. To help students understand the importance of well-developed writing skills in business and in career development.
2. To help students understand the purpose of the various types of business correspondence.
3. To examine the principles of effective business writing.
4. To examine the standard formats for letters and memos.
5. To provide opportunities for students to practice writing effective letters and memos.
6. To examine the fundamentals of informal reports and the report writing procedure.
7. To provide an opportunity for students to produce and informal report.

MAJOR TOPICS/TASKS:

- 1.0 Review of Sentence and Paragraph Construction
- 2.0 Business Correspondence
- 3.0 Informal Report/Present Orally

COURSE OUTLINE:

- 1.0 Review of Sentence and Paragraph Construction
 - 1.1 Examining and applying principles of sentence construction
 - 1.2 Examining and applying principles of paragraph construction
- 2.0 Business Correspondence
 - 2.1 Examining the value of well-developed business writing skills
 - 2.2 Examining principles of effective business writing
 - 2.3 Examining business letters and memos
- 3.0 Informal Report
 - 3.1 Examining the fundamentals of informal business reports
 - 3.2 Applying informal report writing skills

Learning Objectives:

- 1.0 Review of Sentences and Paragraph Construction
 - 1.1.1 Define a sentence and review the four types.
 - 1.1.2 Identify the essential parts of a sentence, particularly subject and predicate, direct and indirect object.
 - 1.1.3 Differentiate among phrases, clauses, and sentences.
 - 1.1.4 Explore the major concepts related to subject-verb agreement.
 - 1.1.5 Apply rules and principles for writing clear, concise, complete sentences which adhere to the conventions of grammar, punctuation, and mechanics.
- 1.2 Examine and Apply Principles of paragraph Construction
 - 1.2.1 Discuss the basic purposes for writing.
 - 1.2.2 Define a paragraph and describe the major characteristics of an effective paragraph.
 - 1.2.3 Write well-developed, coherent, unified paragraphs which illustrate the following: A variety of sentence arrangements; conciseness and clarity; and adherence to correct and appropriate sentence structure, grammar, punctuation, and mechanics.
- 2.0 Business Correspondence
 - 2.1 Examine the Value of Business Writing Skills
 - 2.1.1 Discuss the importance of effective writing skills in business
 - 2.1.2 Discuss the value of well-developed writing skills to career success
 - 2.2 Examine Principles of Effective Business Writing
 - 2.2.1 Discuss the rationale and techniques for fostering goodwill in business communication, regardless of the circumstances
 - 2.2.2 Review the importance of revising and proofreading writing
 - 2.3 Examine Business Letters and Memos
 - 2.3.1 Differentiate between letter and memo applications in the workplace
 - 2.3.2 Identify the parts of a business letter and memo
 - 2.3.3 Explore the standard formats for business letters and memos
 - 2.3.4 Examine guidelines for writing an acceptable letter and memo which convey: acknowledgment, routine request, routine response, complaint, refusal, and persuasive request, for three of the six types listed
 - 2.3.5 Examine samples of well-written and poorly written letters and memos
- 3.0 Informal Report
 - 3.1 Examine the Fundamentals of Informal Business Reports
 - 3.1.1 Identify the purpose of the informal report
 - 3.1.2 Identify the parts and formats of an informal report
 - 3.1.3 Identify methods of information gathering
 - 3.2 Apply Informal Report Writing Skills and Oral Reporting Skills
 - 3.2.1 Gather pertinent information
 - 3.2.2 Organize information into an appropriate outline
 - 3.2.3 Draft a five minute informal report

- 3.2.4 Edit, proofread, and revise the draft to create an effective informal report and present orally using visual aids.

RECOMMENDED EVALUATION:

Required Pass Mark 70%

DEVELOPMENT HISTORY:

Date Developed:

Date Revised: 1999 05 03

NAME AND NUMBER: Customer Service MR1210

DESCRIPTIVE TITLE: Customer Service

SUMMARY DESCRIPTION:

This course focuses on the role of providing quality customer service. It is important to have a positive attitude and the necessary skills to effectively listen and interpret customer concerns about a product, resolve customer problems, and determine customer wants and needs. Students will be able to use the skills and knowledge gained in this course to effectively provide a consistently high level of service to the customer.

PREREQUISITES: None

CO-REQUISITES: None

SUGGESTED DURATION: 30 hrs

EVALUATION: Theory and Practical Applications Require a Pass Mark of 70%.

COURSE AIMS:

1. To know and understand quality customer service
2. To know why quality service is important
3. To know and understand the relationship between “service” and “sales”
4. To understand the importance of and to demonstrate a positive attitude
5. To recognize and demonstrate handling of customer complaints

COURSE OBJECTIVES (KNOWLEDGE):

1. Providing Quality Service
 - Define quality service
 - List the types of quality service
 - Define Service vs. Sales or Selling
 - Explain why quality service is important
 - Identify the various types of customers

- Define customer loyalty
2. Determining Customers Wants and Needs
 - List four levels of customer needs
 - Identify important customer wants and needs
 - Identify ways to ensure repeat business
3. Demonstrating a Positive Attitude
 - List the characteristics of a positive attitude
 - Explain why it is important to have a positive attitude
 - List ways that a positive attitude can improve a customer's satisfaction
 - Define perception
 - Explain how perception can alter us and customers
 - Understand how to deal with perception
4. Effectively Communicating with customers
 - Describe the main elements in the communication process
 - Identify some barriers to effective communication
 - Define body language
 - Explain how body language would affect customers
 - Determine why body language is important
 - Define active listening and state why it is important
 - Describe the four components of active listening
 - Contrast good and bad listeners
 - List and discuss the steps of the listening process
5. Effectively using Questioning Techniques
 - List questioning techniques
 - Write two example of an open question
 - Perform a questioning and listening role play
6. Using the Telephone Effectively
 - List the qualities of a professional telephone voice
 - Explain why telephone skills are important
 - Demonstrate effective telephone skills
7. Asserting Oneself: Handling Complaints and Resolving Conflict
 - Define assertiveness
 - Define communication behaviors
 - Relate assertions to effective communication
 - Practice being assertive
 - Understand the process of assertive guidelines for action
 - Practice giving an assertive greeting
 - Acknowledge multiple customers
8. Dealing with Difficult Customers
 - Describe how you would deal with anger
 - Complete a guide to controlling feelings

- Determine how you would feel dealing with an upset customer
- Suggest some techniques that might control your own feelings
- Understand leadership styles and the nature of organizations
- List ways to dealing with conflict / customer criticism
- Be aware of certain guidelines when confronting customers
- List ways of preventing unnecessary conflict with customers
- Review current skills and knowledge of customer service
- Develop a customer satisfaction improvement plan

COURSE OUTLINE - SP 2330

NAME AND NUMBER: QA/QC SP2330

DESCRIPTIVE TITLE: Quality Assurance / Quality Control

DESCRIPTION:

This general studies course requires the use of basic tools and equipment and materials and supplies. It requires controlling drawings and specifications and/or calibrating measuring devices in applicable occupations. It involves interpreting standards, controlling the acceptance of raw materials, controlling quality variables and documenting the process. It includes information on quality concepts, codes and standards, documentation, communications, human resources, company structure and policy, teamwork and responsibilities.

PREREQUISITES: None

CO-REQUISITES: None

SUGGESTED DURATION: 30 Hrs

COURSE AIMS:

1. To develop the skills and knowledge required to apply quality assurance/quality control procedures
2. To develop an awareness of quality management principles and processes

COURSE OBJECTIVES (KNOWLEDGE):

1. Describe the reasons for quality assurance and quality plans.
2. Explain the relationship between quality assurance and quality control.
3. Describe quality control procedures as applied to the production and checking of engineering drawings in applicable occupations.
4. Describe quality control procedures as applied to the acceptance and checking of raw materials.
5. Explain the role of communications in quality management.
6. Explain why it is important for all employees to understand the structure of the

- company and its production processes.
7. Explain how human resource effectiveness is maximized in a quality managed organization.
 8. Explain the role of company policy in quality management.
 9. Explain the purpose of codes and standards.
 10. Explain the concepts of quality
 - a. cost of quality
 - b. measurement of quality
 - c. quality control and quality assurance
 - d. elements of quality
 - e. elements of the quality audit
 - f. quality standards
 - g. role expectations and responsibilities
 11. Explain the structure of quality assurance and quality control
 - a. Define quality assurance, quality control and documentation terminology
 - b. Describe organizational charts
 - c. List the elements of a quality assurance system
 - d. Explain the purpose of the quality assurance manual
 - e. Describe quality assurance procedures
 - f. Explain the key functions and responsibilities of personnel
 12. Complete quality assurance/quality control documentation
 - a. Describe methods of recording reports in industry
 - b. Describe procedures of traceability (manual and computer-based recording)
 - c. Identify needs for quality control procedures

MAJOR TASKS / SUBTASKS (SKILLS):

1. Apply quality control to projects
 - a. Follow QA/QC procedures for drawings, plans and specifications in applicable occupations.
 - b. Calibrate measuring instruments and devices in applicable occupations.
 - c. Interpret required standards
 - d. Follow QA/QC procedures for accepting raw materials
 - e. Carry out the project
 - f. Control the quality elements (variables)
 - g. Complete QA/QC reports

EVALUATION:

Pass Mark Required 70%

DEVELOPMENT HISTORY:

Date Developed: February 1994

Date Revised: April, 1999

COURSE DESCRIPTION

COURSE NAME & NUMBER: Introduction to Computers MC1050

DESCRIPTIVE TITLE: Introduction to Computers

CALENDAR ENTRY:

Type and Purpose This course is designed to give the student an introduction to computer systems. Particular emphasis is given to word processing, spreadsheet, e-mail and the Internet.

Major Topics Microcomputer System Hardware and Software Components; Word Processing; Electronic Spreadsheets; Electronic Mail and the Internet.

PRE-REQUISITES: Nil

CO-REQUISITES: Nil

SUGGESTED DURATION: 30 hours

**SUGGESTED TEXT/
LEARNING RESOURCES:**

Textbook(s):

References:

Other Resources:

COURSE AIMS:

1. To provide students with a introduction to computer systems and their operation.

2. To introduce students to popular software packages, their applications and future trends in computer applications.

MAJOR TOPICS:

1. Microcomputer System Hardware and Software Components
2. Word Processing
3. Spreadsheet
4. E-Mail and the Internet

COURSE OUTLINE:

- 1.0 Microcomputer System Hardware and Software Components
 - 1.1 Microcomputer Hardware
 - 1.1.1 System Components
 - 1.1.2 Function of each Component
 - 1.2 Microcomputer Software
 - 1.2.1 Software Definition and Types
 - 1.2.2 System Software (Windows 95)
 - 1.2.3 File Management Commands (Windows 95)
2. Word Processing
 - 2.1 Keyboarding Techniques
 - 2.2 Word Processing
 - 2.2.1 Understanding Word Processing
 - 2.2.2 Create a Document
 - 2.2.3 Save, Open and Edit a Document
 - 2.2.4 Edit a Document: Cut and Paste
 - 2.2.5 Understand Hidden codes.
 - 2.2.6 The Select Feature (Block)
 - 2.2.7 Change Layout Format
 - 2.2.8 Change Text Attributes
 - 2.2.9 Use Auxiliary Tools
 - 2.2.10 Select the Print Feature (number of copies and current document)
3. Electronic Spreadsheet
 - 3.1 Spreadsheet Basics
 - 3.2 Operate Menus
 - 3.3 Create a Worksheet
 - 3.4 Use Ranges
 - 3.5 Print a Worksheet
 - 3.6 Edit a worksheet

- 4. Electronic Mail and the Internet
 - 4.1 Electronic Mail
 - 4.2 The Internet

Learning Objectives:

- 1. Microcomputer System Hardware and Software Components
 - 1.1 Microcomputer Hardware
 - 1.1.1 System Components
 - 1.1.1.1 Identify major components of a computer system.
 - 1.1.2 Function of each Component
 - 1.1.2.1 Describe the function of the microprocessor.
 - 1.1.2.2 Describe and give examples of I/O DEVICES.
 - 1.1.2.3 Describe primary storage (RAM, ROM, Cache).
 - 1.1.2.4 Define bit, byte, code and the prefixes k.m. and g.
 - 1.1.2.5 Describe secondary storage (diskettes and hard disks, CD ROMS, Zip Drives etc).
 - 1.1.2.6 Describe how to care for a computer and its accessories.
 - 1.2 Microcomputer Software
 - 1.2.1 Software Definition and Types
 - 1.2.1.1 Define software.
 - 1.2.1.2 Describe, operational and application software used in this course.
 - 1.2.1.3 Define file and give the rules for filenames and file extensions..
 - 1.2.2 System Software (Windows 95)
 - 1.2.2.1 Getting Started with Windows
 - 1.2.2.2 Start and quit a Program
 - 1.2.2.3 Get Help
 - 1.2.2.4 Locate a specific file using the **find** function of Win95
 - 1.2.2.5 Changing system settings:wall paper, screen saver, screen resolution, background.
 - 1.2.2.6 Starting a program by using the Run Command
 - 1.2.2.7 Shutting down your computer
 - 1.2.3 File Management Commands (Windows 95)
 - 1.2.3.1 View directory structure and folder content
 - 1.2.3.2 Organizing files and folders
 - 1.2.3.3 Copy, delete, and move files and folders
 - 1.2.3.4 Create folders

- 1.2.3.5 Maximize and minimize a window
- 1.2.3.6 Print directory/folder content
- 1.2.3.7 Describe the Windows 95 taskbar
- 2. Word Processing
 - 2.1 Keyboarding Techniques
 - 2.1.1 Identify and locate alphabetic and numeric keys
 - 2.1.2 Identify and locate function keys: special keys, home keys, page up key, page down key, numeric key pad, shift keys, punctuation keys, tab key
 - 2.2 Word Processing
 - 2.2.1 Understanding word processing
 - 2.2.1.1 The Windows Component
 - 2.2.1.2 The Menu Bar
 - 2.2.1.3 Menu Indicators
 - 2.2.1.4 The Document Window
 - 2.2.1.5 The Status Bar
 - 2.2.1.6 The Help Feature
 - 2.2.1.7 Insertion Point Movements
 - 2.2.2 Create a document
 - 2.2.2.1 Change the Display
 - 2.2.2.2 The Enter Key
 - 2.2.2.3 Enter Text
 - 2.2.3 Save, Open and Exit a document.
 - 2.2.3.1 Save a document
 - 2.2.3.2 Close a document.
 - 2.2.3.3 Start a new document Window
 - 2.2.3.4 Open a document
 - 2.2.3.5 Exit Word Processor
 - 2.2.4 Edit a Document
 - 2.2.4.1 Add New Text
 - 2.2.4.2 Delete text
 - 2.2.4.3 Basic Format Enhancement (split and join paragraphs, insert text)
 - 2.2.5 Understand Hidden Codes
 - 2.2.5.1 Display Hidden Codes
 - 2.2.5.2 Delete Text Enhancements
 - 2.2.6 The Select Feature
 - 2.2.6.1 Identify a Selection
 - 2.2.6.2 Move a Selection
 - 2.2.6.3 Copy a Selection
 - 2.2.6.4 Delete a Selection

- 2.2.6.5 Select Enhancements
- 2.2.6.6 Save a Selection
- 2.2.6.7 Retrieve a Selection
- 2.2.7 Change Layout Format
 - 2.2.7.1 Change layout format: (margins, spacing, alignment, paragraph indent, tabs, line spacing, page numbering)
- 2.2.8 Change Text Attributes
 - 2.2.8.1 Change text attributes: (bold, underline, font, etc.)
- 2.2.9 Use Auxiliary Tools
 - 2.2.9.1 Spell Check
- 2.2.10 Select the Print Feature
 - 2.2.10.1 Select the Print Feature: (i.e; number of copies and current document)
 - 2.2.10.2 Identify various options in print screen dialogue box
- 3. Electronic Spreadsheet
 - 3.1 Spreadsheet Basics
 - 3.1.1 The Worksheet Window
 - 3.2 Operates Menus
 - 3.2.1 Use a Menu Bar
 - 3.2.2 Use a Control Menu
 - 3.2.3 Use a Shortcut Menu
 - 3.2.4 Save, Retrieve form Menus
 - 3.3 Create a Worksheet
 - 3.3.1 Enter Constant Values and Formulas
 - 3.3.2 Use the Recalculation Feature
 - 3.3.3 Use Cell References (relative and absolute references)
 - 3.4 Use Ranges
 - 3.4.1 Type a Range for a Function
 - 3.4.2 Point to a Range for a Function
 - 3.4.3 Select a Range for Toolbar and Menu Commands
 - 3.5 Print a Worksheet
 - 3.5.1 Print to the Screen
 - 3.5.2 Print to the Printer
 - 3.5.3 Print a Selected Range
 - 3.6 Edit a Worksheet
 - 3.6.1 Replace Cell Contents
 - 3.6.2 Insert and Delete Rows and Columns
 - 3.6.3 Change Cell Formats
 - 3.6.4 Change Cell Alignments
 - 3.6.5 Change Column Width
 - 3.6.6 Copy and Move Cells

- 4. Electronic Mail and the Internet
 - 4.1 Electronic Mail
 - 4.1.1 Compose and send an e-mail message
 - 4.1.2 Retrieve an e-mail attachments
 - 4.1.3 Send an e-mail message with attachments
 - 4.1.4 Retrieve and save e-mail attachments
 - 4.1.3 Print an e-mail message
 - 4.1.4 Delete an e-mail message
 - 4.2 The Internet
 - 4.2.1 Overview of the World Wide Web
 - 4.2.2 Accessing Web sites
 - 4.2.3 Internet Web Browsers
 - 4.2.4 Internet Search Engines
 - 4.2.5 Searching Techniques

STUDENT EVALUATION:

Required Pass Mark 70%

DEVELOPMENT HISTORY:

Date Designed 1998
Date Revised 1999

COURSE OUTLINE - SD 1700

NAME AND NUMBER: Workplace Skills SD 1700

DESCRIPTIVE TITLE: Workplace Skills

DESCRIPTION:

This course involves participating in meetings, doing safety inspections, completing employment insurance forms, writing letters of employment insurance appeal, and filing a human rights complaint. Includes information on formal meetings, unions, worker's compensation, employment insurance regulations, worker's rights and human rights.

PREREQUISITES: None

CO-REQUISITES: None

SUGGESTED DURATION: 30 Hrs

COURSE AIMS:

1. Participate in meetings (conduct meetings).
2. Be aware of union procedures.
3. Be aware of workers' compensation regulations.
4. Be aware of occupational health and safety regulations.
5. Be aware of employment insurance regulations
6. Be aware of workers' rights.
7. Be aware of human rights

COURSE OBJECTIVES (KNOWLEDGE):

1. Meetings
 - a. Explain preparation requirements prior to conducting a meeting
 - b. Explain the procedures for conducting a meeting.
 - c. Explain participation in meetings.
 - d. Explain the purpose of motions.

- e. Explain the procedure to delay discussion of motions.
 - f. Explain how to amend and vote upon a motion.
2. Unions
- a. Why do unions exist?
 - b. Give a concise description of the history of Canadian labour.
 - c. How do unions work?
 - d. Explain labour's structure.
 - e. Describe labour's social objectives.
 - f. Describe the relationship between Canadian labour and the workers.
 - g. Describe the involvement of women in unions.
3. Worker's Compensation
- a. Describe the aims, objectives, benefits and regulations of the Workers Compensation Board.
 - b. Explain the internal review process.
4. Occupational Health and Safety
- a. Describe the rules and regulations directly related to your occupation.
5. Employment Insurance Regulations
- a. Explain employment insurance regulations
 - b. Describe how to apply for employment insurance.
 - c. Explain the appeal process.
6. Worker's Rights
- a. Define labour standards.
 - b. Explain the purpose of the Labour Standards Act.
 - c. List regulations pertaining to:
 - i. Hours of work.
 - ii. Minimum wage.
 - iii. Employment of children.
 - iv. Vacation pay
7. Human Rights
- a. Describe what information cannot be included on an application.
 - b. Describe what information cannot be included in an interview
 - c. Why is there a Human Rights Code?
 - d. Define sexual harassment.

MAJOR TASKS / SUBTASKS (SKILLS):

- 1. Participate in meetings.
 - a. Follow the form of getting a motion on the floor
 - b. Discuss a motion
 - c. Amend a motion
 - d. Vote on a motion.

2. Complete a safety inspection of your shop.
3. Complete an employment insurance application form.
4. Write a letter of appeal.
5. Analyze a documented case of a human rights complaint with special emphasis on the application form, time-frame, documentation needed, and legal advice.

EVALUATION:

Required Pass Mark 70%

DEVELOPMENT HISTORY:

Date Developed:

Date Revised: April, 1999

NAME AND NUMBER: Job Search Techniques SD 1710

DESCRIPTIVE TITLE: Job Search Techniques

PREREQUISITES: None

CO-REQUISITES: None

SUGGESTED DURATION: 15 hrs.

EVALUATION: Theory and Practical Applications Require a Pass Mark of 70%.

COURSE OBJECTIVES (KNOWLEDGE):

1. Examine and Demonstrate Elements of Effective Job Search Techniques
 - Identify and examine employment trends and opportunities
 - Identify sources that can lead to employment
 - Discuss the importance of fitting qualifications to job requirements
 - Discuss and demonstrate consideration in completing job application forms
 - Establish the aim/purpose of a resume
 - Explore characteristics of effective resumes, types of resumes, and principles of resume format
 - Explore characteristics of and write an effective cover letter
 - Explore, and participate in a role play of a typical job interview with commonly asked questions and demonstrate proper conduct
 - Explore other employment related correspondence
 - Explore the job market to identify employability skills expected by employer
 - Conduct a self-analysis and compare with general employer expectations

DEVELOPMENT HISTORY:

Date Developed:

Date Revised: 1999 05 03

NAME AND NUMBER: Entrepreneurial Awareness SD 1720

DESCRIPTIVE TITLE: Entrepreneurial Awareness

PREREQUISITES: None

CO-REQUISITES: None

SUGGESTED DURATION: 15 hrs

EVALUATION: Theory and Practical Applications Require a Pass Mark of 70%.

COURSE OBJECTIVES (KNOWLEDGE):

1. Explore Self-Employment: An Alternative to Employment
 - Identify the advantages and disadvantages of self-employment vs. regular employment
 - Differentiate between an entrepreneur and a small business owner
 - Evaluate present ideas about being in business
2. Explore the Characteristic of Entrepreneurs
 - Identify characteristics common to entrepreneurs
 - Relate their own personal characteristics with those of entrepreneurs.
 - Evaluate their present ideas about business people
3. Identifying Business Opportunities
 - Distinguish between an opportunity and an idea.
 - List existing traditional and innovative business ventures in the region.
 - Explain the general parameters between which business ventures should fit.
 - Summarize the role of such agencies Regional Economic Development Boards, Business Development Corporations, etc.
 - Identify potential business opportunities within the region.
4. Demystifying the Entrepreneurial Process.
 - Explain the entrepreneurial process
 - Describe the purpose of a business plan
 - Identify the main ingredients of a business plan
 - Summarize the role of such agencies as BDC's, ACOA, Women's

- Enterprise Bureau etc.
List other agencies where assistance - financial and otherwise - is available to those interested in starting a business venture.

REQUIRED WORK EXPERIENCES

National Red Seal Certification requires that all Apprentices obtain appropriate industry based work experiences. The required work experiences identified in this section are written in the broadest terms so as to ensure the apprentices receive experiences in each of the required areas and to ensure that employers have a degree of flexibility in applying the terms and conditions implicit in a Contract of Apprenticeship. What is important is that both the apprentice and the employer understand the obligations laid out in this plan of training which is designed to ensure that at the completion of both the technical training and the required hours of work experience the apprentice has both the knowledge and the skills necessary to successfully complete the Red Seal Examination.

REQUIRED WORK EXPERIENCES:

Read basic drawings and diagrams; sketch drawings and diagrams; interpret specifications and use CAD system.

Installs tests and maintains rigging; ties knots and splices rope using various types of rope; determines safe working loads for ropes, slings, scaffolds and ladders.

Lays out different types of brick walls using building techniques. Constructs corners and fills in between corners to the line. Uses appropriate tools, equipment, materials and supplies.

Lays out different types of block walls using special leads, block and construction techniques. Constructs corners and fills in between corners to the line.

Mixes sand, cement, water and additives in correct proportion for different conditions and preparation techniques.

Lays out veneer walls; installs masonry ties, accessories and installations; prepares temporary arch forms; lays out arches and lay brick to the line in accordance with building techniques.

Lays out exterior load bearing walls; installs accessories, flashings and reinforcements; prepares mortar; prepares for openings, floors and roofs; lays brick to the line.

Lays out all types of concrete block walls using alteration techniques; reinforces concrete block walls; installs temporary wall supports and anchors; prepares special mortars; lays block.

Lays out various types of structural walls; prepares mortar; installs accessories and flashing; lays brick; uses different bonds and construction techniques.

Lays out different chimney types; prepares mortar; installs clean out doors, thimbles, flue liners, flashing and tops; lays brick; applies different construction techniques.

Lays out glass block, reinforces walls, waterproofs, mixes mortar, lays block; uses different types of mortar, adhesives, caulking and construction techniques.

Lays out fireplaces, installs clean out door, bases, firebrick, dampers and flue liners; constructs smoke chamber, smoke shelves and tops, lays brick and sets tiles.

Lays out heat circulating fireplaces, mixes mortar; installs clean out doors, firebrick base, heat circulator, accessories, angle irons, flue liners, tops and hearths; insulates heat circulators; lays brick and sets tiles.

Lays out refractory units; installs accessories, insulation, special ties and temporary arch forms; lays brick.

Lays out stone facing fireplaces; installs flashings and accessories; cuts stone; mixes mortar and lays stone.