Plan of Training

CARPENTER

Government of Newfoundland and Labrador
Department of Education
Institutional and Industrial Education Division

March 2010
PLAN OF TRAINING

Carpenter

March 2010

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Education
Institutional and Industrial Education Division

Approved by:

[Signature]
Chairperson, Provincial Apprenticeship and Certification Board

Date: March 17, 2010
Plan of Training - Carpenter

The Joint Planning Committee (JPC) recognizes this Interprovincial Program Guide as the national curriculum for the occupation of Carpenter.

Preface

This Apprenticeship Standard is based on the 2010 edition of the National Occupational Analysis for the Carpenter trade.

This document describes the curriculum content for the Carpenter apprenticeship training program and outlines each of the technical training units necessary for the completion of apprenticeship.

Acknowledgements

Advisory committees, industry representatives, instructors and apprenticeship staff provided valuable input to the development of this Apprenticeship Curriculum Standard. Without their dedication to quality apprenticeship training, this document could not have been produced.

We offer you a sincere thank you.

Contact Information

Department of Education
Institutional and Industrial Education Division
Tel: 709-729-2729 / 1-877-771-3737
Email: app@gov.nl.ca
Web: www.gov.nl.ca/app

<table>
<thead>
<tr>
<th>Document Status</th>
<th>Date Distributed</th>
<th>Mandatory Implementation Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>March 2010</td>
<td>September 2010</td>
<td></td>
</tr>
</tbody>
</table>
# Table of Contents

A. CONDITIONS GOVERNING APPRENTICESHIP TRAINING .............................................. 5

B. REQUIREMENTS FOR RED SEAL CERTIFICATION .................................................. 12

C. ROLES AND RESPONSIBILITIES OF STAKEHOLDERS IN THE APPRENTICESHIP PROCESS ........................................................................................................ 13

D. PROGRAM STRUCTURE ............................................................................................ 16

**ENTRY LEVEL – BLOCK 1.......................................................................................... 20**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ1160</td>
<td>Blueprint Reading</td>
<td>20</td>
</tr>
<tr>
<td>AJ1170</td>
<td>Residential Estimating</td>
<td>23</td>
</tr>
<tr>
<td>AJ1111</td>
<td>Carpentry Fundamentals</td>
<td>25</td>
</tr>
<tr>
<td>AJ1201</td>
<td>Layout and Footings</td>
<td>28</td>
</tr>
<tr>
<td>AJ1211</td>
<td>Wall Forms</td>
<td>31</td>
</tr>
<tr>
<td>AJ1221</td>
<td>Floor and Wall Framing</td>
<td>34</td>
</tr>
<tr>
<td>AJ1410</td>
<td>Interior Fundamentals</td>
<td>38</td>
</tr>
<tr>
<td>AJ1501</td>
<td>Interior Trim</td>
<td>41</td>
</tr>
<tr>
<td>AJ1310</td>
<td>Roof Fundamentals</td>
<td>44</td>
</tr>
<tr>
<td>AJ1231</td>
<td>Exterior Finish</td>
<td>47</td>
</tr>
<tr>
<td>AJ1601</td>
<td>Stair Fundamentals</td>
<td>50</td>
</tr>
<tr>
<td>AJ2430</td>
<td>Scaffolding</td>
<td>52</td>
</tr>
<tr>
<td>TS1510</td>
<td>Occupational Health and Safety</td>
<td>54</td>
</tr>
<tr>
<td>HE1620</td>
<td>Powerline Hazards</td>
<td>57</td>
</tr>
<tr>
<td>TS1520</td>
<td>Workplace Hazardous Materials Information System (WHMIS))</td>
<td>58</td>
</tr>
<tr>
<td>TS1530</td>
<td>Standard First Aid</td>
<td>61</td>
</tr>
<tr>
<td>LA1100</td>
<td>Confined Space Awareness</td>
<td>62</td>
</tr>
<tr>
<td>AJ1760</td>
<td>Chain Saw Safety</td>
<td>64</td>
</tr>
<tr>
<td>LA1110</td>
<td>Fall Protection Awareness</td>
<td>65</td>
</tr>
<tr>
<td>CM2150</td>
<td>Workplace Communications</td>
<td>67</td>
</tr>
<tr>
<td>MR1220</td>
<td>Customer Service</td>
<td>70</td>
</tr>
<tr>
<td>SP2330</td>
<td>Quality Assurance/Quality Control</td>
<td>73</td>
</tr>
<tr>
<td>MC1050</td>
<td>Introduction to Computers</td>
<td>76</td>
</tr>
<tr>
<td>SD1700</td>
<td>Workplace Skills</td>
<td>81</td>
</tr>
<tr>
<td>SD1710</td>
<td>Job Search Techniques</td>
<td>84</td>
</tr>
<tr>
<td>SD1720</td>
<td>Entrepreneurial Awareness</td>
<td>86</td>
</tr>
<tr>
<td>MA1060</td>
<td>Basic Math</td>
<td>88</td>
</tr>
<tr>
<td>AP1100</td>
<td>Introduction to Apprenticeship</td>
<td>90</td>
</tr>
</tbody>
</table>

**BLOCK 2.................................................................................................................. 95**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ2340</td>
<td>Advanced Roof Framing</td>
<td>95</td>
</tr>
<tr>
<td>AJ1121</td>
<td>Rigging</td>
<td>97</td>
</tr>
<tr>
<td>AJ2420</td>
<td>Post and Beam</td>
<td>99</td>
</tr>
</tbody>
</table>

**BLOCK 3.................................................................................................................. 100**
Plan of Training - Carpenter

AJ2220 Structural Formwork ......................................................... 100
AJ2230 Concrete Stair Forms ....................................................... 104
AJ2100 Advanced Blueprint Reading ............................................. 106

**BLOCK 4** .................................................................................. 107
AJ2600 Interior Finish Stairs ......................................................... 107
AJ2501 Cabinets and Shelving ...................................................... 109
AJ2800 Renovations .................................................................... 111

**REQUIRED WORK EXPERIENCES** .......................................... 113
A. Conditions Governing Apprenticeship Training

1.0 General

The following general conditions apply to all apprenticeship training programs approved by the Provincial Apprenticeship and Certification Board (PACB) in accordance with the Apprenticeship Training and Certification Act (1999). If an occupation requires additional conditions, these will be noted in the specific Plan of Training for the occupation. In no case should there be a conflict between these conditions and the additional requirements specified in certain Plan of Training.

2.0 Entrance Requirements

2.1 Entry into the occupation as an apprentice requires:

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

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 Plan 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 toward the apprenticeship program may be awarded to an apprentice for previous work experience and/or training as validated through prior learning assessment.

2.4 An Application 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 PACB one week notice in writing.

4.0 Termination of a Memorandum of Understanding

After the probationary period referred to in Section 3.0, the Memorandum of Understanding may be terminated by the PACB by mutual consent of the parties involved, or cancelled by the PACB for proper and sufficient cause in the opinion of the PACB.

5.0 Apprenticeship Progression Schedule and Wage Rates

5.1 Progression Schedule

<table>
<thead>
<tr>
<th>7200 Hour Programs</th>
<th>Requirements for Progression</th>
<th>Progress To</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Apprentice</td>
<td>Completion of entry level (Block 1) courses, plus relevant work experience totaling a minimum of 1800 hours *</td>
<td>Second Year</td>
</tr>
<tr>
<td>Second Year Apprentice</td>
<td>Completion of advanced level (Block 2) courses, plus relevant work experience totaling a minimum of 3600 hours</td>
<td>Third Year</td>
</tr>
<tr>
<td>Third Year Apprentice</td>
<td>Completion of advanced level (Block 3) courses, plus relevant work experience totaling a minimum of 5400 hours</td>
<td>Fourth Year</td>
</tr>
<tr>
<td>Fourth Year Apprentice</td>
<td>Completion of advanced level (Block 4) courses and (Blocks 5 &amp; 6) if applicable, plus sign-off of workplace skills required for certification totaling a minimum of 7200 hours**</td>
<td>Write Certification Examination</td>
</tr>
</tbody>
</table>
## Plan of Training - Carpenter

<table>
<thead>
<tr>
<th>5400 Hour Programs</th>
<th>Requirements for Progression</th>
<th>Progress To</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Apprentice</td>
<td>Completion of entry level (Block 1) courses, plus relevant work experience totaling a minimum of 1800 hours *</td>
<td>Second Year</td>
</tr>
<tr>
<td>Second Year Apprentice</td>
<td>Completion of advanced level (Block 2) courses, plus relevant work experience totaling a minimum of 3600 hours</td>
<td>Third Year</td>
</tr>
<tr>
<td>Third Year Apprentice</td>
<td>Completion of advanced level (Block 3) courses, plus sign-off of workplace skills required for certification totaling a minimum of 5400 hours</td>
<td>Write Certification Examination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4800 Hour Programs</th>
<th>Requirements for Progression</th>
<th>Progress To</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Apprentice</td>
<td>Completion of entry level courses (Block 1) courses, plus relevant work experience totaling a minimum of 1600 hours *</td>
<td>Second Year</td>
</tr>
<tr>
<td>Second Year Apprentice</td>
<td>Completion of advanced level (Block 2) courses, plus relevant work experience totaling a minimum of 3200 hours</td>
<td>Third Year</td>
</tr>
<tr>
<td>Third Year Apprentice</td>
<td>Completion of advanced level (Block 3) courses, plus sign-off of workplace skills required for certification totaling a minimum of 4800 hours</td>
<td>Write Certification Examination</td>
</tr>
</tbody>
</table>

* All direct entry apprentices must meet the Requirements for Progression either through Prior Learning Assessment and Recognition or course completion before advancing to the next year.

** Apprentices in a 7200 hour program which incorporates more than four blocks of training are considered fourth year apprentices pending completion of 100% course credits and workplace skills requirements.

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.
### Program Duration

<table>
<thead>
<tr>
<th>Program Duration</th>
<th>Wage Rates</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7200 Hours</td>
<td>1st Year 60%</td>
<td>These wage rates are percentages of the prevailing journeyperson’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.</td>
</tr>
<tr>
<td></td>
<td>2nd Year 70%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd Year 80%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4th Year 90%</td>
<td></td>
</tr>
<tr>
<td>5400 Hours and 4800 Hours</td>
<td>1st Year 60%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2nd Year 75%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd Year 90%</td>
<td></td>
</tr>
<tr>
<td>4000 Hours</td>
<td></td>
<td>(Hairstylist Program) - 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.</td>
</tr>
</tbody>
</table>

### 6.0 Tools

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

### 7.0 Periodic Examinations and Evaluation

7.1 Every apprentice shall submit to such occupational tests and examinations as the PACB 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 PACB may shorten the term of apprenticeship and advance the date of completion accordingly.

7.3 For each and every course, a formal assessment is required for which 70% is the pass mark. At the discretion of the instructor, the summative mark may be for
completion of a theory examination or a combination of the theory examination and an assigned practical project.

8.0  **Granting of Certificates of Apprenticeship**

Upon the successful completion of apprenticeship, the PACB 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 shall not exceed two apprentices to every one journeyperson employed, with the condition that one of these be a final year apprentice.

12.0  **Relationship 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 PACB.

14.0 **Employment, Re-Employment and Training Requirements**

14.1 The Plan of Training requires apprentices to regularly attend their place of employment.

14.2 The Plan of Training requires apprentices to regularly attend training programs for that occupation as prescribed by the PACB.

14.3 Failure to comply with Sections 14.1 and/or 14.2 will result in cancellation of the Memorandum of Understanding. Apprentices may have their MOUs reinstated by the PACB but would be subject to a commitment to complete the entire program as outlined in the General Conditions of Apprenticeship. An apprentice will be required to pay a reinstatement fee. Permanent cancellation in the said occupation is the result of non-compliance.

14.4 Cancellation of the Memorandum of Understanding to challenge journeyperson examinations, if unsuccessful, would require an apprentice to serve a time penalty of two (2) years before reinstatement as an apprentice or registering as a Trade Qualifier.

14.5 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 first opportunity to be hired before another is hired.

14.6 The employer will permit each apprentice to regularly attend training programs as prescribed by the PACB.

14.7 Apprentices who cannot acquire all the workplace skills at their place of employment will have to be evaluated in a simulated work environment at a training institution and have sign-off done by instructors to meet the requirements for certification.
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.
B. Requirements for Red Seal Certification

1. Evidence the required work experiences outlined in this Plan of Training have been obtained. This evidence must be in a format clearly outlining the experiences and must be signed by an appropriate person or persons attesting that these experiences have been obtained to the level required.

2. Successful completion of all required courses in program.

3. A combination of training from an approved training program and suitable work experience totalling 7200 hours.

   OR

   A total of 9000 hours of suitable work experience in the occupation accompanied by sign-off of required work competencies.

4. Completion of a National Red Seal examination, to be set at a place and time determined by the Institutional and Industrial Education Division.

5. Payment of the appropriate examination fee.
C. Roles and Responsibilities of Stakeholders in the Apprenticeship Process

The apprenticeship process involves a number of stakeholders playing significant roles in the training of apprentices. This section outlines these roles and the responsibilities resulting from them.

The Apprentice:

- completes all required technical training courses as approved by the PACB.
- finds appropriate employment.
- completes all required work experiences in combination with the required hours.
- ensures work experiences are well documented.
- approaches apprenticeship training with an attitude and commitment that fosters the qualities necessary for a successful career as a qualified journeyperson.
- obtains the required hand tools as specified by the PACB for each period of training of the apprenticeship program.

The Employer:

- provides high quality work experiences in an environment conducive to learning.
- remunerates apprentices as set out in the Plan of Training or Collective Agreements.
- provides feedback to training institutions, Institutional and Industrial Education Division and apprentices in an effort to establish a process of continuous quality improvement.
- where appropriate, releases apprentices for the purpose of returning to a training institution to complete the necessary technical courses.
• ensures work experiences of the apprentice are documented.

The Training Institution:

provides a high quality learning environment.

provides the necessary student support services that will enhance an apprentice's ability to be successful.

participates with other stakeholders in the continual updating of programs.

The Institutional and Industrial Education Division:

• establishes and maintains program advisory committees under the direction of the PACB.

• promotes apprenticeship training as a viable career option to prospective apprentices and other appropriate persons involved, such as career guidance counsellors, teachers, parents, etc.

• establishes and maintains a protocol with training institutions, employers and other appropriate stakeholders to ensure the quality of apprenticeship training programs.

• ensures all apprentices are appropriately registered and records are maintained as required.

• schedules all necessary technical training periods for apprentices to complete requirements for certification.

• administers provincial/interprovincial examinations.
The Provincial Apprenticeship and Certification Board:

- sets policies to ensure the provisions of the *Apprenticeship and Certification Act (1999)* are implemented.

- ensures advisory and examination committees are established and maintained.

- accredits institutions to deliver apprenticeship training programs.

- designates occupations for apprenticeship training and/or certification.
D. Program Structure

For each and every course, a formal assessment is required for which 70% is the pass mark. At the discretion of the instructor, the summative mark may be for completion of a theory examination or a combination of the theory examination and an assigned practical project.

The order of course delivery within each block can be determined by the educational agency, as long as pre-requisite conditions are satisfied.

### Entry Level Courses - Block 1

<table>
<thead>
<tr>
<th>NL Course No.</th>
<th>Course Name</th>
<th>Hours</th>
<th>Pre-Requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ1170</td>
<td>Residential Estimating</td>
<td>30</td>
<td>AJ1111</td>
</tr>
<tr>
<td>AJ1111</td>
<td>Carpentry Fundamentals</td>
<td>74</td>
<td>AJ1221</td>
</tr>
<tr>
<td>AJ1201</td>
<td>Layout and Footings</td>
<td>80</td>
<td>AJ1111</td>
</tr>
<tr>
<td>AJ1211</td>
<td>Wall Forms</td>
<td>80</td>
<td>AJ1201</td>
</tr>
<tr>
<td>AJ1221</td>
<td>Floor and Wall Framing</td>
<td>90</td>
<td>AJ1111</td>
</tr>
<tr>
<td>AJ1410</td>
<td>Interior Fundamentals</td>
<td>60</td>
<td>AJ1221</td>
</tr>
<tr>
<td>AJ1501</td>
<td>Interior Trim</td>
<td>60</td>
<td>AJ1111</td>
</tr>
<tr>
<td>AJ1310</td>
<td>Roof Fundamentals</td>
<td>80</td>
<td>AJ1221</td>
</tr>
<tr>
<td>AJ1231</td>
<td>Exterior Finish</td>
<td>60</td>
<td>AJ1111</td>
</tr>
<tr>
<td>AJ1601</td>
<td>Stair Fundamentals</td>
<td>60</td>
<td>AJ1111</td>
</tr>
<tr>
<td>AJ2430</td>
<td>Scaffolding</td>
<td>45</td>
<td>AJ1111, LA1110</td>
</tr>
<tr>
<td>TS1510</td>
<td>Occupational Health &amp; Safety</td>
<td>6</td>
<td>AJ1111, LA1110</td>
</tr>
<tr>
<td>HE1620</td>
<td>Powerline Hazards</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>TS1520</td>
<td>WHMIS</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>TS1530</td>
<td>Standard First Aid</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>LA1100</td>
<td>Confined Space Awareness</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
## Entry Level Courses - Block 1

<table>
<thead>
<tr>
<th>NL Course No.</th>
<th>Course Name</th>
<th>Hours</th>
<th>Pre-Requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ1760</td>
<td>Chain Saw Safety</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>LA1110</td>
<td>Fall Protection Awareness</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CM2150</td>
<td>Workplace Communications</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>MR1220</td>
<td>Customer Service</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>SP2330</td>
<td>Quality Assurance/Quality Control</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>MC1050</td>
<td>Introduction to Computers</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>SD1700</td>
<td>Workplace Skills</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>SD1710</td>
<td>Job Search Techniques</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>SD1720</td>
<td>Entrepreneurial Awareness</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>*MA1060</td>
<td>Basic Math</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>AP1100</td>
<td>Introduction to Apprenticeship</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>1080</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Required Work Experience
### Block 2

<table>
<thead>
<tr>
<th>NL Course No.</th>
<th>Course Name</th>
<th>Hours</th>
<th>Pre-Requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ2340</td>
<td>Advanced Roof Framing</td>
<td>120</td>
<td>Block I</td>
</tr>
<tr>
<td>AJ1121</td>
<td>Rigging</td>
<td>30</td>
<td>Block I</td>
</tr>
<tr>
<td>AJ2420</td>
<td>Post and Beam</td>
<td>30</td>
<td>Block I</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>180</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Required Work Experience

### Block 3

<table>
<thead>
<tr>
<th>NL Course No.</th>
<th>Course Name</th>
<th>Hours</th>
<th>Pre-Requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ2220</td>
<td>Structural Formwork</td>
<td>90</td>
<td>Block II</td>
</tr>
<tr>
<td>AJ2230</td>
<td>Concrete Stair Forms</td>
<td>30</td>
<td>Block II</td>
</tr>
<tr>
<td>AJ2100</td>
<td>Advanced Blueprint Reading</td>
<td>60</td>
<td>Block II</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>180</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Required Work Experience
### Block 4

<table>
<thead>
<tr>
<th>NL Course No.</th>
<th>Course Name</th>
<th>Hours</th>
<th>Pre-Requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ2600</td>
<td>Interior Finish Stairs</td>
<td>60</td>
<td>Block III</td>
</tr>
<tr>
<td>AJ2501</td>
<td>Cabinets and Shelving</td>
<td>60</td>
<td>Block III</td>
</tr>
<tr>
<td>AJ2800</td>
<td>Renovations</td>
<td>120</td>
<td>Block III</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>240</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Total Course Credit Hours** 1680

*A student who can meet the Mathematics requirement through an ACUPLACER® test may be exempted from Mathematics 1060. Please check with your training institution.*
Entry Level – Block 1

AJ1160 Blueprint Reading

Description:
This blueprint reading course involves reading basic drawings and diagrams, basic sketching, and interpretation of specifications.

Course Aims:
- To develop the skills and knowledge required to read drawings and sketch views

Prerequisites: None

Course Duration: 45hrs

Course Objectives (Knowledge):

1. Identify the alphabet of lines.
2. Identify the basic drawing symbols.
3. Explain the rules of dimensioning.
4. Describe metric, architectural and civil scales.
5. Describe different view orientations.
6. Describe obliques, isometrics and perspectives.
7. Describe the six principle views.
8. Describe the purpose and types of sectional views.
9. Explain conventions associated with sectional views such as symbols, cutting plane lines, broken-out lines, etc.
10. Identify standard drawing symbols used on basic electrical, mechanical and plumbing drawings.
11. Explain the use of graphs.
Major Tasks / Subtasks (Skills):

1. Sketch geometric shapes and lines.
   i. draw lines to scale
   ii. scale lines
   iii. divide lines into equal parts
   iv. bisect lines
   v. sketch angles
   vi. bisect angles
   vii. sketch concave and convex curves
   viii. sketch circles, arcs, tangents, ellipses, polygons, etc.

2. Sketch orthographic projections.
   i. visualize object
   ii. select views
   iii. layout sketch
   iv. sketch projection
   v. dimension sketch
   vi. make notations

3. Sketch sectional views.
   i. locate section
   ii. select type of view
   iii. determine scale
   iv. sketch view
   v. dimension sketch
   vi. make notations

4. Sketch primary auxiliary views.
   i. visualize the view
   ii. layout the sketch
   iii. sketch view
   iv. dimension sketch
   v. make notations
5. Interpret specifications.
   i. interpret manufacturing specifications
   ii. identify tolerance specifications
   iii. interpret specifications (company standards books)
   iv. interpret schedules
      ▪ door and window schedules
      ▪ interior finish schedules
   v. contract documents (residential)

6. Interpret mechanical drawings.
   i. interpret and apply required information from mechanical drawings

7. Interpret electrical drawings.
   i. interpret and apply required information from electrical drawings

8. Read architectural and structural drawings.
   i. read plot plan, foundation plans, floor plans, details, elevations and sections
AJ1170  Residential Estimating

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to read and interpret residential blueprint drawings and perform quantity takeoffs.

Course Aims:

1. To interpret residential blueprints.
2. To perform quantity takeoffs.


Course Duration: 30hrs

Course Objectives (Knowledge):

1. Interpret plans.
2. Calculate material quantities.

Major Tasks / Subtasks (Skills):

1. Interpret residential plans.
   i. plot plans
   ii. foundation plans
   iii. floor plans
   iv. elevations
   v. sections
   vi. details
   vii. schedules
   viii. mechanical
   ix. electrical

2. Perform quantity takeoffs.
   i. Foundations
   ii. Framing
iii. exterior finishes
iv. interior finishes
AJ1111  Carpentry Fundamentals

Description:

This course in carpentry fundamentals requires the use of basic tools and equipment, and suitable facilities. It involves reading specifications and drawings, selecting materials, layout, building practices and clean up. It includes information on constructing wood joints, and building equipment such as sawhorses, miter boxes, door jack, and oilstone cases.

Course Aims:

1. To develop the skills and knowledge required for construction with respect to various tools and materials.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites: None

Course Duration: 74hrs

Course Objectives (Knowledge):

1. Describe types of construction tools and equipment.
2. Explain general workplace safety regulations.
3. Describe different types of building materials and fasteners.

Major Tasks / Subtasks (Skills):

1. Use and maintain hand tools.
   i. measuring tools
   ii. marking and layout tools
   iii. aligning and squaring tools
   iv. edge cutting tools
   v. tooth cutting tools
Plan of Training - Carpenter

vi. scraping tools
vii. boring and drilling tools
viii. assembly tools
ix. dismantling tools
x. clamping tools

2. Uses and maintain portable power tools.
i. portable saws
ii. portable planing and shaping tools
iii. portable drilling and fastening tools
iv. plate joiner
v. portable abrading tools
vi. cordless power tools
vii. pneumatic power tools
viii. gas-powered tools
ix. explosive actuated tools

3. Use and maintain stationary power tools.
i. stationary sawing tools
ii. stationary sanding and abrading tools
iii. stationary surfacing machines
iv. stationary drilling and boring tools
v. stationary grinding and sharpening tools
vi. stationary shaper and router table
vii. wood lathe
viii. mortiser

4. Introduction to identifying and selecting building materials.
i. concrete
ii. wood
iii. masonry
iv. metal
v. engineered wood
vi. panels
vii. plastic
viii. glass
ix. ceramic
x. fiberglass
xi. gypsum
xii. polystyrene
5. Introduction to identifying and selecting fasteners.
   i. screws
   ii. nails
   iii. bolts
   iv. staples
   v. embeds
   vi. anchors
   vii. rivets
   viii. adhesives
   ix. gang plate
   x. joist hangers

6. Build equipment used on job sites, using hand tools such as:
   i. carpenters horse/saw horse
   ii. miter box
   iii. door jack
   iv. oil stone case
AJ1201 Layout and Footings

Description:

This course in site preparation and formwork requires the use of tools and equipment and materials and supplies, and suitable facilities. It involves interpreting specifications and blueprints, layout, erecting batterboards, installing footing forms and cleaning up. It includes information on plot plans, foundation plans, layout and construction techniques.

Prerequisites: AJ1111

Course Duration: 80hrs

Course Aims:

1. To develop the skills and knowledge required for layout and footing construction with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Course Objectives (Knowledge):

1. Describe types of batterboards and layout techniques.
2. Explain footing form construction techniques.
3. Identify concrete placing equipment.

Major Tasks / Subtasks (Skills):

1. Site Preparation.
   i. explain the procedure of excavating techniques (digging/backfilling)
   ii. determine site conditions and specify any special construction considerations (subterranean, water problems, shoring and bracing requirements, depth of frost, pumping requirements, building line
setbacks, servicing requirements (water and sewer), top of concrete 
elevations, size of the footings, etcetera

iii. build and install temporary safety or environmental protection (hoarding 
and guardrails)

iv. plan storage of and access to building materials and equipment

v. interpret and comply with national, provincial and municipal codes and 
regulations (if applicable) - employment, health, environment, security 
regulations and standards, etc.

2. Layout and erect batterboards and building lines.
   i. locate property lines
   ii. establish building lines
      ▪ grid lines
   iii. erect batterboards
   iv. explain requirements of excavation
   v. read architectural and structural drawings
      ▪ read plot plan
      ▪ read foundation plans

3. Use survey instruments.
   i. knowledge of basic survey terminology
   ii. set up, adjust, and use builder's and laser levels
   iii. determine instrument accuracy
   iv. establish grades using straight edge and level, builder's level, and water 
level

4. Construct and install footing forms.
   i. determine footing size
      ▪ pier footing
      ▪ pre-fabricated cylindrical form
      ▪ pre-engineered footing forms
   ii. align and brace footing forms
   iii. build footing forms as detailed on footing schedule or structural drawings
   iv. construct independent tapered forms
   v. construct offset footing forms
   vi. construct continuous footing forms
   vii. construct "t" type footing forms
   viii. construct stepped footing forms
   ix. install blockouts, keyways, template for dowels, anchor bolts and rebar
Plan of Training - Carpenter

x. strip footing forms
xi. find and interpret specific requirements in the national building code
xii. calculate volume of concrete S.I./Imperial
AJ1211  Wall Forms

Description:

This course in wall forms requires the use of basic tools and equipment, materials and supplies, a surveyor’s level and suitable facilities. It involves interpreting specifications and blueprints, layout, constructing foundation walls, installing access for pouring concrete, stripping forms, foundation drainage and damp proofing and cleaning up. It includes information on layout techniques, types of wall forms and construction techniques.

Course Aims:

1. To develop the skills and knowledge required for constructing wall forms with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for conservation and environmental issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

Prerequisites:  AJ1201

Course Duration:  80hrs

Course Objectives (Knowledge):

1. Describe types and variations of wall forms
2. Explain construction techniques for building and stripping wall forms
3. Explain foundation drainage and various dampproofing techniques
Major Tasks / Subtasks (Skills):

1. Construct and install wall forms.
   i. construct or assemble forms for concrete in wood and ICF
   ii. describe other concrete forms such as steel, fiberglass, gang, one-sided, expanded polystyrene (EPS), tilt up, slip forms
   iii. establish and layout walls and openings
   iv. brace and align wall forms
   v. establish the specified elevation of concrete on the forms
   vi. construct beam pockets, sleeves and chases
   vii. fur out and brace window and door frames
   viii. install embedded sills
   ix. strip wall forms
   x. describe concrete curing methods and techniques
      ▪ curing times
      ▪ releasing agents
      ▪ admixtures
   xi. material estimation
      ▪ concrete and form material
   xii. describe types of foundation and elevations (slab-on-grade, knee wall)

2. Install rough bucks and frames in masonry / concrete.
   i. construct and install wooden bucks, bulkheads, and cast-in-place windows
   ii. set metal door / window frames for masonry
   iii. install miscellaneous inserts, block-outs, rustications, frames and rough bucks, anchor bolts, reinforcement and construction joints

3. Build ramps, runways, chutes and splashboards.
   i. construct runways
   ii. construct ramps
   iii. construct splashboards
   iv. construct concrete chutes

4. Preserved wood foundation wall [Theory].

5. Interpret mechanical drawings.
   i. interpret and apply required information from mechanical drawings

6. Interpret electrical drawings.
Plan of Training - Carpenter

i. interpret and apply required information from electrical drawings

7. Read architectural and structural drawings.
   i. read foundation plans, floor plans, details, section views and elevation views
   ii. read and interpret specifications

8. Use codes, regulations and standards.
   i. find and interpret specific requirements in the national building code
   ii. find and interpret specific requirements in the national energy code
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera

9. Describe foundation drainage and dampproofing [Theory].
   i. foundation drainage (storm sewer, dry wells, sump pumps)
   ii. dampproofing materials
   iii. waterproofing materials
   iv. surface grading
AJ1221    **Floor and Wall Framing**

**Description:**

This course in framing requires the use of tools and equipment, materials and supplies and suitable facilities. It includes interpreting information on plans, types of beams and columns, floors, walls, partitions, types of sheathing and construction techniques.

**Course Aims:**

1. To develop the skills and knowledge required for framing walls and floors with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

**Prerequisites:**    AJ1111

**Course Duration:**    90hrs

**Course Objectives (Knowledge):**

1. Describe types of beams and columns.
2. Describe types of floors.
3. Describe types of walls and partitions.
4. Explain construction techniques for columns, beams, floors, and walls / partitions.
5. Identify new types of construction materials.

**Major Tasks / Subtasks (Skills):**

1. Set sills.
   i. mark out anchor bolt locations on sill stock
   ii. level sills
   iii. check foundations for trueness
   iv. select suitable sill stock
   v. install sill material, gaskets or sill sealers using anchor bolts
Plan of Training - Carpenter

2. Construct and install beams.
   i. plan end joint locations in built-up wood beams
   ii. pre-engineered wood beams (LVL, glu-lam)
   iii. steel beams

3. Install columns.
   i. locate columns on their base
   ii. build columns
   iii. construct temporary posting for beams
   iv. install adjustable steel columns

4. Prepare and install conventional floor framing.
   i. identify various types of floor framing systems and describe the advantages and disadvantages of various materials (balloon framing, platform framing, post and beam)
   ii. estimate material needed for a wood floor system
   iii. define live and dead loads and state the important load considerations for floor framing
   iv. layout and frame floor framing features (stairwells, cantilevers, sunken and drop floors)
   v. notch and drill floor framing members while maintaining floor strength
   vi. frame joists to steel beams and special engineered wood beams
   vii. square and level floor framing
   viii. calculate and cut bridging
   ix. install bridging, strapping, shims and ribbon strip
   x. install subfloor over concrete
   xi. exercise material conservation

5. Prepare and install pre-engineered floor framing.
   i. identify various types of floor framing systems and describe the advantages and disadvantages of various materials (wood-I joist, floor trusses)
   ii. layout and frame floor framing features (stairwells, cantilevers, sunken and drop floors)
   iii. notch and drill floor framing members while maintaining floor strength and following manufacturer’s specifications
   iv. frame joists to steel beams and special engineered wood beams
   v. square and level floor framing
   vi. install lateral and vertical bracings such as strong back, blocking, and backing according to manufacturer’s specifications
vii. install engineered components such as hangers and fasteners in accordance with manufacturer’s specifications

6. Install floor sheathing.
   i. identify types of floor sheathing and explain the selection
   ii. choose floor fasteners and adhesives to satisfy the fastening requirements
   iii. lay out and install floor sheathing

7. Frame exterior walls.
   i. list and describe types of wall framing
   ii. state the important loading conditions to be considered when framing walls
   iii. notch and drill wall framing members while maintaining strength
   iv. determine and layout location of walls
   v. select materials for wall framing
   vi. layout and assemble framing members
   vii. calculate stud lengths
   viii. install blocking, nailers, furring, firestops, etc.
   ix. determine rough opening sizes for windows and doors
   x. determine size of lintels
   xi. install let-in bracing
   xii. assemble and raise wall frames - plumb and square
   xiii. estimate wall framing materials
   xiv. exercise material conservation and energy efficiency

8. Install wall sheathing.
   i. identify types of wall sheathing materials
   ii. select wall fasteners, adhesives to satisfy fastening requirements
   iii. lay out wall sheathing
   iv. install wall sheathing
   v. exercise material conservation

9. Frame bearing and non-bearing partitions.
   i. establish size of framing material
   ii. build partitions using wood
   iii. build partitions using steel studs
   iv. exercise material conservation
10. Install ceiling strapping.

11. Read architectural and structural drawings.
   i. elevations, details, sections
   ii. floor plans
   iii. foundation plans
   iv. engineered drawings
   v. schedules

12. Use codes, regulations and standards.
   i. find and interpret specific requirements in the National Building Code
   ii. find and interpret specific requirements in the National Energy Code
   iii. find and interpret specific requirements in the Buildings Accessibility Act and Regulations
   iv. find and interpret specific requirements in the Canadian Wood Council Span Book
   v. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera
AJ1410 Interior Fundamentals

Description:

This course in interior fundamentals requires the use of tools and equipment, materials and supplies and suitable facilities. It involves interpreting specifications and blueprints, layout, installation of interior wall and ceiling components, and clean up.

Course Aims:

1. To develop the skills and knowledge required for interior wall finishes and ceiling installation with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

Prerequisites: AJ1221

Course Duration: 60hrs

Course Objectives (Knowledge):

1. Describe types of drywall systems.
2. Explain interior wall and ceiling components.
3. Insulation and vapour barrier principles.

Major Tasks / Subtasks (Skills):

1. Apply gypsum drywall systems.
   i. identify and select gypsum wallboard accessories and products
   ii. use fasteners and adhesives
   iii. install gypsum sheets on walls and ceilings
   iv. describe demountable wall systems [theory]
   v. estimate materials

2. Apply decorative panels.
i. plan and install paneling
ii. install architectural paneling and millwork (i.e. wainscoting, slat wall, solid wood finishes)
iii. estimate materials

3. Apply special types of interior wall coverings [Theory].
   i. apply tile boards with adhesive and mouldings
   ii. apply plastic laminates

4. Install furring and frame drop ceilings and bulkheads.
   i. identify various uses for dropped ceilings (architectural features, cabinet projections, concealing ducts)
   ii. plan and install frame work for drop ceilings
   iii. use leveling instruments to establish elevation
   iv. estimate materials
   v. fire blocking and fire separation [theory]

5. Install suspended ceiling.
   i. layout for ceiling pattern
   ii. establish reference lines
   iii. install components of a suspended ceiling
   iv. estimate materials

6. Install acoustical materials.
   i. install acoustical ceiling tile
   ii. install fiberglass batts or blankets in staggered stud partitions
   iii. install resilient channels on walls and ceilings
   iv. install acoustical sealants
   v. estimate materials

7. Install insulation and vapour barrier.
   i. install glass fiber and rigid thermal insulation in frame walls
   ii. install glass fiber thermal insulation in ceiling spaces
   iii. install vapour barriers on walls and ceilings
   iv. provide adequate ventilation of attic and roof spaces
   v. estimate materials
   vi. explain different types of insulation (blown in, expansion, rigid, fiberglass)
   vii. explain building science principals (air movement, heat transfer, vapour flow)
viii. explain mechanical ventilation (dryer, bathroom vent, range hood, air exchanger)

8. Use codes, regulations and standards.
   i. find and interpret specific requirements in the National Building Code
   ii. find and interpret specific requirements in the National Energy Code
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera

9. Read architectural drawings.
   i. specifications, sections, elevations
   ii. reflected ceiling plan
AJ1501    Interior Trim

Description:

This course in interior trim requires the use of tools and equipment, materials and supplies, and suitable facilities. It involves interpretation of specifications, blueprints and layout. It also involves the installation of interior doors, windows and trim.

Course Aims:

1. To develop the skills and knowledge required for installing interior trim with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites:    AJ1111

Course Duration:    60hrs

Course Objectives (Knowledge):

1. Describe types of interior windows, doors and trim.
2. Explain installation techniques for interior windows, doors and trim.
3. Identify special accessibility considerations and equipment (barrier-free).
4. Explain types and uses of finish nailers and associated equipment.

Major Tasks / Subtasks (Skills):

1. Install underlayment and strip flooring.
   i. prepare for laying finish floors
   ii. estimate amount of materials needed for finish floor and underlay
   iii. install underlay
   iv. lay strip flooring
   v. install laminate flooring

2. Specialized flooring systems [Theory].
Plan of Training - Carpenter

i. explain installation procedures for access flooring
ii. explain installation procedures for bowling alleys
iii. explain installation procedures for gymnasiums
iv. explain installation procedures for ceramic tiles

3. Install common interior door and window frames.
   i. read door & window schedules
   ii. determine doors & windows required
   iii. determine swing of doors
   iv. install frames

4. Installs doors.
   i. describe types of doors (panel, flush, pocket, bi-fold, french, attic hatch, access hatches, etcetera)
   ii. describe types of hardware (hinges, closures, lock sets, panic hardware, dead bolts)
   iii. layout and install door and hardware (chisel, router, jigs)
   iv. install metal jambs and pre-hung doors
   v. install stops (floor, baseboard, jamb)
   vi. test and adjust doors

5. Install interior trim.
   i. cut rabbet and mitre joints
   ii. cope mouldings
   iii. return mouldings on themselves
   iv. install mouldings (base, crown, chair rail) using finish nailer
   v. trim windows and doors (casing and furring) using finish nailer
   vi. install closet shelving and closet rods
   vii. scribe materials
   viii. estimate materials

6. Use codes, regulations and standards.
   i. find and interpret specific requirements in the National Building Code
   ii. find and interpret specific requirements in the Buildings Accessibility Act and Regulations
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera
7. Read architectural drawings.
   i. specifications, schedules, details, elevations
AJ1310  Roof Fundamentals

Description:

This course in roof fundamentals requires the use of tools and equipment, materials and supplies and suitable facilities. It involves interpreting specifications and blueprints, building codes, layout, basic roof framing, installation of common coverings, and clean up.

Course Aims:

1. To develop the skills and knowledge required for basic roof framing with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

Prerequisites:  AJ1221

Course Duration:  80hrs

Course Objectives (Knowledge):

1. Describe roof types.
2. Describe roof coverings.
3. Explain construction and installation techniques for different types of frames and coverings.

Major Tasks / Subtasks (Skills):

1. Describe and install trussed rafters.
   i. identify and describe different roof styles
   ii. identify types of trusses to be used
   iii. identify and describe roof truss members (purlins, webs, gussets, gang plates, bracing, hardware and chords)
   iv. interpret basic engineered truss plans / drawings (i.e.: gable, hip)
   v. install trussed rafters
2. Frame and erect gable and shed roofs.
   i. layout and calculate for common rafters
   ii. layout ceiling joist and rafter locations
   iii. layout a common rafter pattern
   iv. install common ceiling joists and rafters
   v. describe how to frame roof openings
   vi. layout and cut gable studs
   vii. layout and frame gable overhang
   viii. layout shed rafter cut for dormers
   ix. prepare the roof for sheathing
   x. layout and cut collar ties
   xi. layout rafter locations on wall plates and ridge board
   xii. estimate roof frame materials

3. Install roof sheathing.
   i. identify and describe types of roof sheathing
   ii. identify and describe roof fasteners, adhesives and fastening requirements
   iii. select roof sheathing materials and fasteners.
   iv. layout and install roof sheathing.
   v. estimate sheathing materials

   i. draw a full size view of a cornice
   ii. align rafter tails
   iii. install lookouts and rough fascia
   iv. install fascia board on eaves and rakes
   v. mitre fascia and frieze boards
   vi. describe installation of gutters and downspouts

5. Install common roof coverings.
   i. check and repair roof sheathing
   ii. demonstrate safe use of roof brackets
   iii. plan installation of asphalt / fiberglass roof shingles
   iv. install underlayment and eave protection
   v. install valley flashings and intersecting walls
   vi. apply asphalt/ fiberglass shingles
   vii. describe low slope applications of asphalt/ fiberglass shingles
   viii. flash roof penetrations (vent stacks, roof vents, flash chimneys)
   ix. install ridge cap and vent
   x. identify and select fasteners
xi. estimate materials
xii. identify and describe roof venting requirements

6. Use codes, regulations and standards.
   i. find and interpret specific requirements in the National Building Code
   ii. find and interpret specific requirements in the National Energy Code
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera

7. Read architectural and structural drawings.
   i. elevations, details, specifications, sections
   ii. floor plans
   iii. engineered drawings
AJ1231 Exterior Finish

Description:

This course in exterior finish requires the use of tools and equipment, materials and supplies and suitable facilities. It includes information related to the installation of exterior frames, finishes and trim. Also information incorporated from blueprint sections, elevations and details.

Course Aims:

1. To develop the skills and knowledge required for the installation of exterior finishes with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

Prerequisites: AJ1111

Course Duration: 60hrs

Course Objectives (Knowledge):

1. Describe types of exterior framing.
2. Describe types of exterior wall trim and finishes.
3. Describe construction techniques for installing exterior framing and trim.
4. Describe types of exterior windows and doors.

Major Tasks / Subtasks (Skills):

1. Exterior doors and windows.
   i. read door and window schedules
   ii. determine the size and type of windows required
   iii. determine swing of doors
   iv. select doors and windows
   v. check rough stud opening sizes (RSO)
   vi. install building paper around exterior openings
Plan of Training - Carpenter

vii. install exterior windows and doors
viii. install backing/blocking for security purposes
ix. insulate cavities around frames
x. read hardware schedule/list
xi. install and adjust hardware

2. Install wood sidings.
i. install building paper and wood furring to wall sheathing
ii. apply built-up corner boards
iii. install exterior wall flashing
iv. apply sidings to achieve a watertight finish
v. use story poles
vi. alternate and lap corners of siding
vii. install exterior trim (window and door moulding trim, drip caps and brick moulding, corner boards, frieze boards, water table, barge boards)
viii. mitre corners of clapboards
ix. estimate materials

3. Vinyl siding.
i. cut vinyl siding
ii. fasten vinyl siding
iii. install siding accessories / trim
iv. wall preparations
v. install soffit and fascia
vi. estimate materials

4. Other special cladding [Theory].
i. metal
ii. composite
iii. cementitious
iv. stucco
v. brick veneer
vi. exterior finish insulation systems (EFIS)

5. Read architectural and structural drawings.
i. elevations, details, sections
ii. schedules

6. Use codes, regulations and standards.
i. find and interpret specific requirements in the National Building Code
ii. find and interpret specific requirements in the National Energy Code

iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera
AJ1601  Stair Fundamentals

Description:

This course in stair fundamentals requires the use of tools and equipment, materials and supplies, and suitable facilities. It involves interpretation of specifications and blueprints, calculations, layout, construction and installation of basic stairs, and clean up.

Course Aims:

1. To develop the skills and knowledge required for constructing basic stairs with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites:  AJ1111

Course Duration:  60hrs

Course Objectives (Knowledge):

1. Stair calculations.
2. Safety requirements.
3. Construction techniques for basic stairs.

Major Tasks / Subtasks (Skills):

1. Build basement stairs and exterior steps.
   i. identify various stair designs
   ii. determine stairway components and materials
   iii. calculate unit rise and unit run of stairs
   iv. layout and install stair landings (interior and exterior)
   v. calculate, layout and cut stringers
   vi. install stringers, treads, risers and hand rails
Plan of Training - Carpenter

vi. estimate materials

2. Accessibility ramp requirements [Theory].
   i. describe and explain national building code requirements
   ii. types of ramps (wood, concrete)

3. Use codes, regulations and standards.
   i. find and interpret specific requirements in the national building code
   ii. find and interpret specific requirements in the buildings accessibility act and regulations
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera

4. Read architectural drawings.
   i. specifications, schedules, details, elevations
Plan of Training - Carpenter

AJ2430  Scaffolding

Description:

This course in scaffolding requires the use of tools and equipment, materials and supplies and suitable facilities. It involves interpreting specifications, construction of wood scaffolds, and clean up. It includes information on the assembly of metal scaffolds.

Course Aims:

1. To develop the skills and knowledge required for erecting scaffolds with respect to various codes, regulations and specifications.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites:  AJ1111, LA1110

Course Duration:  45hrs

Course Objectives (Knowledge):

1. Describe construction techniques for wood scaffolds.
2. Describe safety requirements for erecting scaffolds.
3. Describe the different types of scaffolds.
4. Describe the different types of ladders.
5. Describe power scaffolding.

Major Tasks / Subtasks (Skills):

1. Build common wood scaffolds.
   i. build wood scaffolds according to safety regulations and Occupational Health and Safety
   ii. dismantle wood scaffolds
   iii. design scaffolds for economy of time and material
Plan of Training - Carpenter

2. Use steel scaffolding.
   i. inspect scaffolding before using
   ii. erect and dismantle standard steel scaffolds according to safety regulations and Occupational Health and Safety
   iii. erect, dismantle and maintain rolling scaffolds
   iv. use pump jack scaffolds
   v. use roof brackets

3. Introduction to rigging.
   i. demonstrate use of knots
   ii. list the different kinds of knots
   iii. describe the different types/ uses of ropes
Plan of Training - Carpenter

TS1510  Occupational Health and Safety

Description:

This course is designed to give participants the knowledge and skills necessary to interpret the Occupational Health and Safety Act, laws and regulations; understand the designated responsibilities within the laws and regulations; the right to refuse dangerous work; and the importance of reporting accidents.

Pre-Requisites:  None

Course Duration:  6hrs

Course Outcomes:

Upon successful completion of this unit, the apprentice will be able to:
- prevent accidents and illnesses
- improve health and safety conditions in the workplace

Theory:

1. Interpret the Occupational Health and Safety Act laws and regulations.
   i.  explain the scope of the act
       ▪  application of the act
       ▪  Federal/Provincial jurisdictions
       ▪  Canada Labour Code
       ▪  rules and regulations
       ▪  private home application
       ▪  conformity of the Crown by the Act

2. Explain responsibilities under the Act and Regulations.
   i.  duties of employer, owner, contractors, sub-contractors, employees, and suppliers

3. Explain the purpose of joint health and safety committees.
   i.  formation of committee
   ii.  functions of committee
   iii. legislated rights
Plan of Training - Carpenter

iv. health and safety representation
v. reporting endangerment to health
vi. appropriate remedial action
vii. investigation of endangerment
viii. committee recommendation
ix. employer’s responsibility in taking remedial action

4. Examine right to refuse dangerous work.
   i. reasonable grounds for refusal
   ii. reporting endangerment to health
   iii. appropriate remedial action
   iv. investigation of endangerment
   v. committee recommendation
   vi. employer’s responsibility to take appropriate remedial action
   vii. action taken when employee does not have reasonable grounds for refusing dangerous work
   viii. employee’s rights
   ix. assigning another employee to perform duties
   x. temporary reassignment of employee to perform other duties
   xi. collective agreement influences
   xii. wages and benefits

5. State examples of work situations where one might refuse work.

6. Describe discriminatory action.
   i. definition
   ii. filing a complaint procedure
   iii. allocated period of time a complaint can be filed with the Commission
   iv. duties of an arbitrator under the Labour Relations Act
   v. order in writing inclusion
   vi. report to commission Allocated period of time to request Arbitrator to deal with the matter of the request
   vii. notice of application
   viii. failure to comply with the terms of an order
   ix. order filed in the court

7. Explain duties of commission officers.
   i. powers and duties of officers
   ii. procedure for examinations and inspections
Plan of Training - Carpenter

iii. orders given by officers orally or in writing
iv. specifications of an order given by an officer to owner of the place of employment, employer, contractor, sub-contractor, employee, or supplier
v. service of an order
vi. prohibition of persons towards an officer in the exercise of his/her power or duties
vii. rescinding of an order
viii. posting a copy of the order
ix. illegal removal of an order

8. Interpret appeals of others.
   i. allocated period of time for appeal of an order
   ii. person who may appeal order
   iii. action taken by Commission when person involved does not comply with the order
   iv. enforcement of the order
   v. notice of application
   vi. rules of court

9. Explain the process for reporting of accidents.
   i. application of act
   ii. report procedure
   iii. reporting notification of injury
   iv. reporting accidental explosion or exposure
   v. posting of act and regulations

Practical:

1. Conduct an interview with someone in your occupation on two or more aspects of the act and report results.

2. Conduct a safety inspection of shop area.
Plan of Training - Carpenter

HE1620   Powerline Hazards

Description:

The course content and materials are provided and administered by the Workplace Health and Safety Compensation Commission (WHSCC).

The purpose of this training is to increase a participant’s awareness of the dangers of working near power lines and how to prevent injuries and death due to this work.

Pre-requisites:  None

Course Duration:  4hrs

Objectives:

Upon completion of this training, participants will be able to work safely near power lines by recognizing hazards and putting controls in place to prevent injury to people and property damage.

Major Tasks:

Completion of the Participant’s Workbook from WHSCC.
Plan of Training - Carpenter

TS1520  Workplace Hazardous Materials Information System (WHMIS)

Description:

This course is designed to give participants the knowledge and skills necessary to define WHMIS, examine hazard identification and ingredient disclosure, explain labeling and other forms of warning, and introduce material safety data sheets (MSDS).

Pre-requisites:  None

Course Duration:  6hrs

Course Outcomes:

Upon successful completion of this course, the apprentice will be able to:


Required Knowledge and Skills:

1. Define WHMIS safety.
   i. rational and key elements
   ii. history and development of WHMIS
   iii. WHMIS legislation
   iv. WHMIS implementation program
   v. definitions of legal and technical terms

2. Examine hazard identification and ingredient disclosure.
   i. prohibited, restricted and controlled products
   ii. classification and the application of WHMIS information requirements
   iii. responsibilities for classification
      ▪ the supplier
      ▪ the employer
      ▪ the worker - Classification: rules and criteria
Plan of Training - Carpenter

- information on classification
- classes, divisions and subdivision in WHMIS
- general rules for classification
- class A - compressed gases
- class B - flammable and combustible materials
- class C - oxidizing material
- class D - poisonous and infectious material
- class E - corrosive material
- class F - dangerously reactive material

iv. products excluded from the application of WHMIS legislation
- consumer products
- explosives
- cosmetics, drugs, foods and devices
- pest control products
- radioactive prescribed substances
- wood or products made of wood
- manufactured articles
- tobacco or products of tobacco
- hazardous wastes
- products handled or transported pursuant to the Transportation of Dangerous Goods (TDG) Act

v. comparison of classification systems - WHMIS and TDG

vi. general comparison of classification categories

vii. detailed comparison of classified criteria

3. Explain labeling and other forms of warning.

i. definition of a WHMIS label
   - supplier label
   - workplace label
   - other means of identification

ii. responsibility for labels
   - supplier responsibility
   - employer responsibility
   - worker responsibility

iii. introduce label content, design and location
   - supplier labels
   - workplace labels
   - other means of identification
Plan of Training - Carpenter

4. Introduce material safety data sheets (MSDS).
   i. definition of a material safety data sheet
   ii. purpose of the data sheet
   iii. responsibility for the production and availability of data sheets
       ▪ supplier responsibility
       ▪ employer responsibility
       ▪ workers responsibility

Practical:

1. Locate WHMIS label and interpret the information displayed.

2. Locate a MSDS sheet for a product used in the workplace and determine what personal protective equipment and other precautions are required when handling this product.

Suggested Resources:

1. WHMIS Regulation

2. Sample MSDS sheets
Plan of Training - Carpenter

**TS1530  Standard First Aid**

**Description:**
This course is designed to give the apprentice the ability to recognize situations requiring emergency action and to make appropriate decisions concerning first aid.

Complete a **St. John Ambulance or Canadian Red Cross** Standard First Aid Certificate course.

**Pre-requisites:** None

**Course Duration:** 14hrs
LA1100  Confined Space Awareness

Description:

This course is designed to give participants the knowledge to properly prepare themselves to work in confined spaces.

Aims:

- properly prepare a confined space for entry
- enter a confined space safely
- perform their duties as an attendant
- deal with an emergency

Pre requisites: None

Course Duration: 6 hrs

Theory:

1. Recognize confined space hazards.
   i. define a confined space
   ii. identify types of hazards in confined spaces

2. Identify proper controls for confined space entries.
   i. list steps to protect yourself from confined space hazards
   ii. define an entry permit
   iii. list information included on a confined space entry permit
   iv. explain what action must be taken if a permit expires before work is completed

3. Preparing for confined space entry.
   i. state the first step in entry preparation
   ii. list examples of proper entry preparation
   iii. list types of personal protective equipment used in confined spaces

4. Determine testing techniques for confined spaces.
Plan of Training - Carpenter

i. list the necessary steps of air testing
ii. state the correct order for testing gases

5. Identify confined space entry procedures.
   i. identify the attendants responsibilities
   ii. identify the area where the attendant should be stationed
   iii. identify the entrants responsibilities

6. Explain confined space rescue techniques.
   i. list three types of confined space rescues
   ii. explain non-entry rescue
   iii. list the requirements of an on-site rescue team
AJ1760  Chain Saw Safety

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to safely operate a chain saw.

Course Aims:

1. To identify types of chain saws.
2. To safely operate a chain saw.

Prerequisites:  None

Course Duration:  4hrs

Course Objectives (Knowledge):

1. Identify the types of chain saws.
2. Describe the safe operation, maintenance and storage of chain saws.

Major Tasks / Subtasks (Skills):

1. Identify and select required safety equipment.
2. Demonstrate safe operation of a chain saw.
3. Demonstrate safe maintenance of a chain saw.
4. Demonstrate safe storage of a chain saw.
LA1110 Fall Protection Awareness

Description:

This course is designed to give participants the required knowledge for the safe and efficient use and care of fall protection equipment so that they may work safely when “off the ground” or in areas where fall hazards exist.

Aims:

Upon successful completion of this course, the apprentice will be able to:

- identify various types of fall protection and their components
- explain the proper use of fall protection equipment and personal fall arrest systems
- identify fall hazards in the workplace and take corrective measures to eliminate them through the selection of appropriate fall protection systems

Pre requisites: None

Course Duration: 6hrs

Theory:

1. Define the term fall protection.

2. Explain why fall protection is important in the workplace.

3. Determine when to use fall protection.

4. List the A, B, C, D's of a complete fall protection system.

5. Describe the basic function of a travel restrict system.
   i. permanent and temporary guard rails
   ii. personal travel restrict systems
6. Describe the basic function of a fall arrest system.
   i. identify the components of a personal fall arrest system
      ▪ full body harness
      ▪ shock absorbers
      ▪ lanyards
      ▪ lifelines
         • vertical
         • horizontal
      ▪ rope grabs
      ▪ anchors
   ii. explain how to put on a full body harness

7. Describe the basic function of a work positioning system.
   i. list the components of a personal work positioning system

8. Explain when inspections on equipment must be conducted and what action must be taken if defects or damage is discovered.
   i. list components of equipment that require inspection
CM2150  Workplace Communications

Description:

This course is designed to introduce students to the principles of effective communication including letters, memos, short report writing, oral presentations and interpersonal communications.

Course Outcomes:

Upon completion of the course, students will be able to:

- Understand and apply communication skills as outlined in the Employability Skills 2000, Conference Board of Canada.
- Understand the importance of well-developed writing skills in business and in career development.
- Understand the purpose of the various types of business correspondence.
- Examine the principles of effective business writing.
- Examine the standard formats for letters and memos.
- Write effective letters and memos.
- Examine the fundamentals of informal reports and the report writing procedure.
- Produce and orally present an informal report.
- Examine effective listening skills and body language in communication.

Pre-Requisites:  None

Course Duration:  45hrs

Objectives and Content:

1. Apply rules and principles for writing clear, concise, complete sentences which adhere to the conventions of grammar, punctuation, and mechanics.
2. Explain the rules of subject-verb agreement.

3. Define and describe the major characteristics of an effective paragraph.

4. Examine the value of business writing skills.
   i. describe the importance of effective writing skills in business
   ii. describe the value of well-developed writing skills to career success as referenced in the Employability Skills

5. Examine principles of effective business writing.
   i. discuss the rationale and techniques for fostering goodwill in business communication, regardless of the circumstances
   ii. review the importance of revising and proofreading
   iii. differentiate between letter and memo applications in the workplace and review samples
   iv. identify the parts of a business letter and memo
   v. review the standard formats for business letters and memos
   vi. examine samples of well-written and poorly written letters and memos
   vii. examine guidelines for writing sample letters and memos which convey: acknowledgment, routine request, routine response, complaint, refusal, persuasive request and letters of appeal

6. Examine the fundamentals of informal business reports.
   i. identify the purpose of the informal report
   ii. identify the parts and formats of an informal report
   iii. identify methods of information gathering
   iv. describe the methods of referencing documents
   v. review the importance of proofreading and editing

7. Examine types of presentations.
   i. review and discuss components of an effective presentation
   ii. review and discuss delivery techniques
   iii. review and discuss preparation & use of audio/visual aids
   iv. discuss and participate in confidence building exercises used to prepare for giving presentations
Plan of Training - Carpenter

8. Interpersonal communications.
   i. examine and apply listening techniques
   ii. discuss the importance of body language

Practical:

1. 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. Write sample letters and memos which convey: acknowledgment, routine request, routine response, complaint, refusal, persuasive request and letters of appeal.

3. Gather pertinent information, organize information into an appropriate outline and write an informal report with documented resources.
   i. edit, proofread, and revise the draft to create an effective informal report and present orally using visual aids
   ii. participate in confidence building exercises

4. Present an effective presentation.

5. Evaluate presentations.
MR1220  Customer Service

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.

Course Outcomes:

Upon successful completion of this course, students will be able to:

- Define customer service.
- Explain why service is important.
- Describe the relationship between “service” and “sales.”
- Demonstrate an understanding of the importance of a positive attitude.
- Demonstrate methods of resolving customer complaints.

Pre-Requisites:  None

Course Duration:  30hrs

Objectives and Content:

1. Define quality service.
   i.  identify and discuss elements of customer service
   ii. explain the difference between service vs. sales or selling
   iii. explain why quality service is important
   iv.  identify the various types of customers and challenges they may present
   v.   describe customer loyalty
   vi.  examine barriers to quality customer service

2. Explain how to determine customer’s wants and needs.
Plan of Training - Carpenter

i. identify customer needs
ii. explain the difference between customer wants and needs
iii. identify ways to ensure repeat business

3. Demonstrate an understanding of the importance of having a positive attitude.
   i. identify & discuss the characteristics of a positive attitude
   ii. explain why it is important to have a positive attitude
   iii. explain how a positive attitude can improve a customer’s satisfaction
   iv. define perception and explain how perception can alter us and customers
   v. describe methods of dealing with perception

4. Communicating effectively with customers.
   i. describe the main elements in the communication process
   ii. identify some barriers to effective communication
   iii. explain why body language is important
   iv. define active listening and state why it is important
   v. identify and discuss the steps of the listening process
   vi. identify and discuss questioning techniques

5. Demonstrate using the telephone effectively.
   i. explain why telephone skills are important
   ii. describe the qualities of a professional telephone interaction

6. Demonstrate an understanding of the importance of asserting oneself.
   i. define assertiveness
   ii. discuss assertive techniques
   iii. explain the use of assertiveness when dealing with multiple customers

7. Demonstrate techniques for interacting with challenging customers in addressing complaints and resolving conflict.
   i. examine and discuss ways to control feelings
   ii. examine and discuss ways to interact with an upset customer
   iii. examine and discuss ways to resolve conflict/customer criticism
   iv. examine and discuss ways to prevent unnecessary conflict with customers
Practical:

1. Participate in activities to demonstrate knowledge of the course objectives.
SP2330    Quality Assurance/Quality Control

Description:

This course is designed to give students an understanding of the concepts and requirements of QA/QC such as, 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.

Course Outcomes:

Upon completion of this course, students will be able to:

- Develop the skills and knowledge required to apply quality assurance/quality control procedures as related to the trade.
- Develop an awareness of quality principles and processes.
- Apply quality assurance/quality control procedures in a shop project.

Pre-Requisites:    None

Course Duration:   30hrs

Objectives and Content:

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 specifications and processes 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 a quality environment.
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 in various occupations.

10. Explain the concepts of quality.
   i. cost of quality
   ii. measurement of quality
   iii. elements of quality
   iv. elements of the quality audit
   v. quality standards
   vi. role expectations and responsibilities

11. Explain the structure of quality assurance and quality control.
   i. describe organizational charts
   ii. identify the elements of quality assurance system such as ISO, CSA, WHMIS, Sanitation Safety Code (SSC)
   iii. explain the purpose of the quality assurance manual
   iv. describe quality assurance procedures

   i. describe methods of recording reports in industry
   ii. describe procedures of traceability (manual and computer-based recording)
   iii. identify needs for quality control procedures

Practical:

1. Apply quality control to a project
   i. follow QA/QC procedures for drawings, plans and specifications in applicable occupations
   ii. calibrate measuring instruments and devices in applicable
occupations.

iii. interpret required standards
iv. follow QA/QC procedures for accepting raw materials
v. carry out the project
vi. control the quality elements (variables)
vii. complete QA/QC reports
MC1050  Introduction to Computers

Description:

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 and security issues.

Course Outcomes:

Upon completion of this course, students will have a basic understanding of:

- Computer systems and their operation.
- Popular software packages, their applications.
- Security issues of computers.

Pre-Requisites:  None

Course Duration:  30hrs

Objectives and Content:

1. Identify the major components of microcomputer system hardware and software system.

2. Describe the functions of the microprocessor.
   i. describe and give examples of I/O DEVICES
   ii. describe primary storage (RAM, ROM, Cache)
   iii. define bit, byte, code and the prefixes k.m. and g.
   iv. describe secondary storage (diskettes and hard disks, CD ROMS, Zip drives, etc.)
   v. describe how to care for a computer and its accessories

3. Describe microcomputer software.
   i. define software
   ii. describe types of operational and application software
   iii. define file and give the rules for filenames and file extensions
Plan of Training - Carpenter

4. Describe windows software.
   i. start and quit a program
   ii. demonstrate how to use the help function
   iii. locate a specific file using the find function
   iv. identify system settings: wall paper, screen saver, screen resolution, background
   v. start a program by using the run command
   vi. shutting down your computer

5. Identify file management commands.
   i. create folders
   ii. maximize and minimize a window
   iii. describe windows task bar

6. Describe keyboards.
   i. identify and locate alphabetic and numeric keys
   ii. identify and locate function key and special keys

7. Describe word processing.
   i. describe windows components
   ii. menu bar
   iii. menu indicators
   iv. document window
   v. the status bar
   vi. the help feature
   vii. insertion point movements

8. Describe the procedure used to develop a document.
   i. enter text
   ii. change the display

   i. saving a document
   ii. closing a document.
   iii. starting a new document Window
   iv. opening a document
   v. exiting word processor

10. Describe the procedure for editing a document.
    i. adding new text
Plan of Training - Carpenter

ii. deleting text
iii. using basic format enhancement (split and join paragraphs, insert text)

11. Describe the main select features.
   i. identify a selection
   ii. moving a selection
   iii. copying a selection
   iv. deleting a selection
   v. saving a selection

12. Explain how to change layout format.
   i. changing layout format: (margins, spacing, alignment, paragraph indent, tabs, line spacing, page numbering)

13. Explain how to change text attributes.
   i. changing text attributes: (bold, underline, font, etc.)

14. Describe the auxiliary tools.
   i. using spell check and thesaurus

15. Describe print features.
   i. selecting the print feature: (i.e. number of copies and current document)
   ii. identifying various options in print screen dialogue box

16. Examine and discuss electronic spreadsheet.
   i. spreadsheet basics
   ii. the worksheet window

17. Describe menus.
   i. menu bar
   ii. control menu
   iii. shortcut menu
   iv. save, retrieve form menus

18. Describe the components of a worksheet.
   i. entering constant values and formulas
   ii. using the recalculation feature
19. Describe use ranges.
   i. typing a range for a function
   ii. pointing to a range for a function
   iii. selecting a range for toolbar and menu commands

20. Describe how to print a worksheet.
   i. printing to the screen
   ii. printing to the printer
   iii. printing a selected range

21. Describe how to edit a worksheet.
   i. replacing cell contents
   ii. inserting & deleting rows and columns
   iii. changing cell formats
   iv. changing cell alignments
   v. changing column width
   vi. copying and moving cells

22. State major security issues in using computers.
   i. pass words
   ii. accessing accounts
   iii. viruses and how they can be avoided
   iv. identity theft and ways to protect personal information
   v. demonstrate how to view directory structure and folder content
   vi. organize files and folders
   vii. copy, delete, and move files and folders

23. Describe how to use electronic mail.
   i. e-mail etiquette
   ii. e-mail accounts
   iii. e-mail messages
   iv. e-mail message with attachments
   v. e-mail attachments
   vi. print e-mail messages
   vii. deleting e-mail messages

24. Explain the internet and its uses.
   i. the world wide web(www)
   ii. accessing web sites
   iii. internet web browsers
Plan of Training - Carpenter

iv. internet search engines
v. searching techniques
vi. posting documents on-line

Practical:

1. Create a document using word processing.

2. Complete word processing exercises to demonstrate proficiency in word processing.

3. Prepare and send e-mails with attachments.

4. Retrieve documents and e-mail attachments and print copies.

5. Develop and print a spread sheet.

SD1700  Workplace Skills

Description:

This course involves participating in meetings, information on formal meetings, unions, workers’ compensation, employment insurance regulations, workers’ rights and human rights.

Course Outcomes:

Upon completion of this course, students will be able to:

- Participate in meetings.
- Define and discuss basic concepts of:
  - unions
  - workers’ compensation
  - employment insurance
  - workers’ rights
  - human rights
  - workplace diversity
  - gender sensitivity

Pre-Requisites:  None

Course Duration:  30hrs

Objectives and Content:

1. Meetings.
   i. identify and discuss meeting format and preparation required for a meeting
   ii. explain the purpose of an agenda
   iii. explain the roles and responsibilities of meeting participants
   iv. explain the purpose of motions and amendments and withdrawals
   v. explain the procedure to delay discussion of motions
   vi. explain the voting process

2. Unions.
Plan of Training - Carpenter

i. state why unions exist
ii. give a concise description of the history of Canadian labour
iii. explain how unions function
iv. explain labour’s structure
v. describe labour’s social objectives
vi. describe the relationship between Canadian labour and the workers
vii. describe the involvement of women in unions

3. Worker’s Compensation.
   i. describe the aims, objectives, benefits and regulations of the Workplace Health, Safety and Compensation Commission
   ii. explain the internal review process

   i. explain employment insurance regulations
   ii. describe how to apply for employment insurance
   iii. explain the appeal process
   iv. identify the components of a letter of appeal

5. Worker’s rights.
   i. define labour standards
   ii. explain the purpose of the Labour Standards Act
   iii. identify regulations pertaining to:
       ▪ hours of work
       ▪ minimum wages
       ▪ employment of children
       ▪ vacation pay
   iv. explain the purpose of the Occupational Health & Safety Act as it refers to workers’ rights

   i. describe what information cannot be included on an employment application
   ii. describe what information cannot be included in an interview
   iii. examine the Human Rights Code and explain the role of the Human Rights Commission
   iv. define harassment in various forms and identify strategies for prevention

7. Workplace diversity.
i. define and explore basic concepts and terms related to workplace inclusively including age, race, culture, religion, socio-economic, sexual orientation with an emphasis on gender issues and gender stereotyping.

8. Gender sensitivity.
   i. explore gender and stereotyping issues in the workplace by identifying strategies for eliminating gender bias

Practical:

1. Prepare an agenda.

2. Participate in a meeting.

3. Analyze a documented case of a human rights complaint with special emphasis on the application, time frame, documentation needed, and legal advice available.
SD1710  Job Search Techniques

Description:

This course is designed to give students an introduction to the critical elements of effective job search techniques.

Course Outcomes:

Upon completion of this course, students will be able to:

- Demonstrate effective use of job search techniques.

Pre-Requisites:  None

Course Duration:  15hrs

Objectives and Content:

1. Identify and examine employment trends and opportunities.

2. Identify sources that can lead to employment.


4. Analyze job ads and discuss the importance of fitting qualifications to job requirements.

5. Identify and discuss employability skills as outlined by the Conference Board of Canada.

6. Discuss the necessity of fully completing application forms.

7. Establish the aim/purpose of a resume.
Plan of Training - Carpenter

8. Explore characteristics of effective resumes, types of resumes, and principles of resume format.

9. Explore characteristics of an effective cover letter.

10. Identify commonly asked questions in an interview.

11. Explore other employment related correspondence.

12. Explore the job market to identify employability skills expected by an employer.

13. Conduct a self-analysis and compare with general employer expectations.

14. Discuss the value of establishing and maintaining a portfolio.

Practical:

1. Complete sample application forms.

2. Write a resume.

3. Write an effective cover letter.

4. Establish a portfolio.

5. Write out answers to commonly asked questions asked during interviews.

6. Identify three potential employers from the Apprenticeship Employment Gateway, Apprenticeship and Certification website.
SD1720  Entrepreneurial Awareness

Description:

This course is designed to introduce the student to the field of entrepreneurship, including the characteristics of the entrepreneur, the pros and cons of self-employment, and some of the steps involved in starting your own business.

Course Outcomes:

Upon completion of this course, the student will be able to:

- Identify the various types of business ownership, the advantages and disadvantages of self-employment and identify the characteristics of an entrepreneur.
- State the purpose and identify the main elements of a business plan.

Pre-Requisites:  None

Course Duration:  15hrs

Objectives and Content:

1. Explore self-employment: An alternative to employment.
   i. identify the advantages and disadvantages of self-employment vs. regular employment
   ii. differentiate between an entrepreneur and a small business owner
   iii. evaluate present ideas about business people

2. Identify and discuss various types of business ownership.
   i. explore the characteristics of entrepreneurs
   ii. identify characteristics common to entrepreneurs
   iii. compare one’s own personal characteristics with those of entrepreneurs
   iv. examine one’s present ideas about business people

3. Identify business opportunities.
   i. distinguish between an opportunity and an idea
Plan of Training - Carpenter

ii. examine existing traditional and innovative business ventures
iii. identify and summarize the role of various agencies that support business development

4. Review the entrepreneurial process.
   i. explain the entrepreneurial process
   ii. describe the purpose of a business plan
MA1060  Basic Math

Description:

This course in Basic Math requires knowledge of general mathematical concepts and processes to enable trades persons to function in the institutional setting by developing numeracy skills required for technical courses. This math course should also provide a foundation for experiential learning through knowledge of math relating to on-the-job skills and practices. A detailed course outline is available from Institutional and Industrial Education, Standards and Curriculum Division to training institutions upon request.

Course Outcomes:

- To develop numeracy skills and knowledge required for institutional and on-the-job learning.
- To develop the capability to apply mathematical concepts in the performance of trade practices.
- To develop an appreciation for mathematics as a critical element of the learning environment.
- To use mathematical principles accurately for the purposes of problem solving, job and materials estimation, measurement, calculation, system conversion, diagram interpretation and scale conversions, formulae calculations, and geometric applications.

Pre-Requisites:  None

Course Duration:  60hrs

Course Objectives (Knowledge):

1. Define and calculate using whole number operations.

2. Define and demonstrate use of correct orders of operations.

3. Demonstrate examples of operations with fractions and mixed numbers.

4. Demonstrate examples of operations with decimals.
5. Demonstrate examples of operations with percentages.

6. Employ percent/decimal/fraction conversion and comparison.

7. Define and calculate with ratios and proportions.

8. Use the Imperial Measurement system in relevant trade applications.

9. Use the Metric Measurement system in relevant trade applications.

10. Perform Imperial/Metric conversions.

11. Define and demonstrate the formulation of variables.

12. Demonstrate and define the various properties of angles and make relevant calculations.

**Major Tasks/Sub-tasks (Skills):**

Note: To emphasize or further develop specific knowledge objectives, students may be asked to complete practical demonstrations which confirm proper application of mathematical theory to job skills.
AP1100     Introduction to Apprenticeship

Description:
This course is designed to give participants the knowledge base and skills necessary to understand and successfully navigate the apprenticeship/red seal program.

Course Outcomes:
Upon successful completion of this course, the apprentice will be able to:

- Identify the requirements for registering in an Apprenticeship Program.
- Describe the registration process.
- Explain the steps to complete the Apprenticeship Program.
- Articulate the roles of the Apprentice, Journeyperson, Training Institutions, Industry and Governing Bodies in the Apprentice Program.
- Explain the significance of the Red Seal Program.

Pre-Requisites:   None

Course Duration:  15hrs

Objective and Content:

1. Define apprenticeship.
   i. define Apprenticeship and Red Seal Certification
   ii. discuss the definition of Apprenticeship and Red Seal Certification
   iii. distinguish between Red Seal and Provincial Certification

2. Explore how apprenticeship is governed and administered.
   i. explain who is responsible for administrating apprenticeship
      ▪ Department of Education
      ▪ Provincial Apprenticeship and Certification Board

3. Explore the roles and responsibilities of those involved in the apprenticeship process.
   i. apprentice
ii. employer/journeyperson

iii. Industrial Training Division
   ▪ explain when and where to take the in-class portion of advance training
   ▪ discuss class calls

iv. Training Institutions
   ▪ various delivery methods

v. Provincial Apprenticeship and Certification Board

4. List and explain the steps in the apprenticeship process.
   i. explain the registration process
   ii. describe apprenticeship as an agreement between employee, employer and Provincial government
   iii. review a Memorandum of Understanding
   iv. legal document
   v. review an application of apprenticeship
      ▪ original high school certificate or equivalent
      ▪ original transcript from the applicant’s training institution
   vi. describe the roles of Institutional and Industrial Education Division of the Department of Education in apprenticeship
   vii. explain the role of the Program Development Officer
      ▪ define probation period
      ▪ discusses what constitutes a cancellation of apprenticeship
      ▪ explain the consequences of an apprenticeship cancellation
      ▪ discuss the purpose of the Record of Occupational Progress (Log Book)
      ▪ explore how to maintain your log book
      ▪ discuss who is responsible for tracking and signing-off on trade skills
      ▪ explain how and where to record hours worked
      ▪ identify the importance of updating your file with the Program Development Officer
   viii. differentiate between provincial and interprovincial exams

5. Describe the training and education requirements.
   i. discuss the factors affecting on-the-job and in class portions of your training
   ii. define in school and on the job training
      ▪ review a Plan of Training
      ▪ identify the percentage of on-the-job and in class training time
Plan of Training - Carpenter

- current labour market implications on completing an apprenticeship program

   i. identify what is included in the Plan of Training
   - entrance requirements
   - duration of in-school and on-the-job training
   - course content
   - entry level or advanced level
   ii. explain how a Journeyperson Certificate is achieved
   - discuss Certificate of Qualification.
   - discuss Certificate of Apprenticeship.
   - discuss Red Seal endorsement

7. Discuss the Red Seal Program.
   i. define designated trade
   ii. explore the National Occupational Analysis for your trade
   iii. explain Interprovincial Standards Red Seal Program and how it works
   - labor mobility
   - qualification recognition
   iv. discuss the range of careers possible in your chosen trade

8. Explain apprenticeship progression schedule and wage rates.
   i. review a Record of Occupational Progress (Log Book)
   ii. hours per program
   iii. requirements for progression
   iv. wage rates per year of apprenticeship

9. Identify the examinations and evaluation process used in Apprenticeship.
   i. discuss occupational tests and examinations as directed by the Provincial Apprenticeship and Certification Board
   - theory
   - practical
   ii. explain formal assessment and the pass mark of 70%

10. Examine some of the financial incentives available to apprentices.
    i. Employment Insurance (E.I.) Benefits
    ii. government sponsored student loans
    iii. apprenticeship incentive Federal and Provincial
iv. scholarships

11. Continuing training outside the Province of Newfoundland Labrador.
   i. training in other provinces and territories
      • procedure for registration and recognition of hours and skills in other provinces
   ii. options for dual certification
      • transfer of credits

12. Review and define the following terms:
   i. Apprenticeship Program Accreditation
   ii. Cancellation of Apprenticeship
   iii. Certificate of Apprenticeship
   iv. Certificate of Qualification
   v. Certification Renewal
   vi. Criteria for Eligibility
   vii. Journeyperson
   viii. Practical Examination
   ix. Prior Learning
   x. Record of Occupational Progress (Logbook)
   xi. Red Seal Certification
   xii. Registered Apprentice
   xiii. Theoretical Examination
   xiv. National Occupational Analysis (NOA)
   xv. Class Call
   xvi. Dual certification

Practical:

1. Review the Provincial Apprenticeship web site: www.gov.nl.ca/app
   i. identify the requirements for registering as an apprentice and the registration process
   ii. explain the steps to complete an apprenticeship program
   iii. identify who is responsible for tracking and signing-off on trade skills
   iv. identify the nearest Industrial Training Office to your community
   v. identify the current incentives available to apprentices
2. Review a plan of training on the Provincial Apprenticeship web site.
   i. identify the hours for your trade (in-school and on-the-job)
   ii. explain the roles and responsibilities of the following stakeholders in the apprenticeship process: employer, apprentice, training institution and the Industrial Training Division

   i. review the scope of work for your occupation and identify the industry sectors and job types requiring your trade
   ii. identify the trends of your trade
   iii. provide a list of Personal Protective Equipment required for your trade
Plan of Training - Carpenter

Block 2

AJ2340   Advanced Roof Framing

Description:

This course in roof framing requires the use of tools and equipment, materials and supplies, and suitable facilities. It involves interpreting specifications and blueprints, layout, installation and construction of hip and intersecting roofs, and clean up.

Course Aims:

1. To develop the skills and knowledge required for hip and intersecting roof framing with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites:  Block I

Course Duration:  120hrs

Course Objectives (Knowledge):

1. Describe hip roofs.
2. Describe intersecting roof framing construction techniques.
3. Describe polygon roof framing techniques.
4. Describe pre-engineered roof trusses.
5. Describe flat roof construction techniques.

Major Tasks / Subtasks (Skills):

1. Frame hip roofs (stick frame).
   i. calculate and lay out hip roof rafters
   ii. construct a hip roof
iii. install roof sheathing
iv. estimate materials

2. Frame an intersecting roof of equal pitch (stick frame).

3. Frame an intersecting roof of unequal pitch (stick frame).

4. Frame an octagon roof (stick frame).

5. Pre-engineered roof trusses.
   i. Interpret plans (layout, nailing patterns, hangers, shear plates, bearing length and bracing)
   ii. frame intersecting roof using pre-engineered trusses
   iii. Discuss girder loads on lintels (concentrated verses distributed loads)

6. Use codes, regulations and standards.
   i. find and interpret specific requirements in the National Building Code
   ii. find and interpret specific requirements in the Canadian Wood Council Span Book
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera

7. Read architectural drawings.
   i. details, elevations, sections
AJ1121 Rigging

Description:

This rigging awareness course requires the use of rigging equipment, 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 and slings.

Course Aims:

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

Prerequisites: Block I

Course Duration: 30hrs

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 methods of load balancing.
6. Describe the proper procedures and equipment for handling heavy objects.
7. Specify the use of screw jacks versus hydraulic units.
Major Tasks / Subtasks (Skills):

1. Use and maintain rigging equipment.
   i. recognize and use international hand signals
   ii. calculate safe working loads
   iii. interpret occupational health and safety regulations
   iv. demonstrate the safe and proper use of lifting equipment such as come-a-longs, chain falls, jacks, winches, overhead cranes, jacks, skids, cable tuggers, plate grabs, reeved blocks, slings and rope
   v. demonstrate proper use of knots
   vi. use lifting attachments such as eye bolts and lifting lugs, beam clamps and crawlers, snatch blocks, spreader bars, shackles and screw jacks
   vii. transfer loads using lifting equipment
   viii. use hoisting equipment
   ix. direct/assist in loading/unloading and placement of materials
   x. safely distribute materials to work stations to prevent overloading of structural components (i.e: trusses and joists)

2. Identify different types of cranes.

3. Use overhead cranes to conduct a proper lift
   i. use proper lifting procedures
   ii. use hoisting and crane signals
   iii. use plate grab and/or slings
AJ2420     Post and Beam

Description:

This course in post and beam construction requires the use of tools and equipment, materials and supplies and suitable facilities. It involves interpreting specifications and blueprints, layout, construction and installation, and clean up.

Course Aims:

1. To develop the skills and knowledge required for post and beam construction with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

Prerequisites:     Block I

Course Duration:  30hrs

Course Objectives (Knowledge):

1. Describe types of post and beam construction.

Major Tasks / Subtasks (Skills):

1. Build and erect post and beam and structural timber framework.
   i. assemble frame work used in timber construction
   ii. erect frame work used in timber construction
Block 3

AJ2220 Structural Formwork

Description:

This course in structural formwork requires the use of basic tools and equipment, materials and supplies, leveling instruments and suitable facilities. It involves interpreting specifications and blueprints, layout, constructing and installing structural formwork, and cleaning up. It also includes information on various types of structural formwork.

Course Aims:

1. To develop the skills and knowledge required for structural formwork with respect to engineering requirements and specifications.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites: Block II

Course Duration: 90hrs

Course Objectives (Knowledge):

1. Describe tests for concrete and explain their purpose.
2. Describe types of structural formwork.
3. Explain construction techniques for structural formwork.
4. Explain the types of techniques for concrete reinforcements.
Major Tasks / Subtasks (Skills):

1. Build column and pier forms.
   i. assemble column and pier forms (wood, metal, fiber tube type)
   ii. install column and pier forms (wood, metal, fiber tube type)
   iii. layout piers and column
   iv. align and brace column forms
   v. establish elevation of pour
   vi. install miscellaneous inserts and anchor bolts
   vii. strip forms as required

2. Install slab / beam forms.
   i. take dimensions from blueprints
   ii. assemble and install suspended slab/beam
   iii. lay out and install forms for slabs on-grade sidewalks, driveways, or curbs
   iv. establish elevation of concrete
   v. install miscellaneous inserts
   vi. install anchor bolts
   vii. strip forms as required

3. Construct concrete joints.
   i. determine different concrete joints
   ii. make construction joints (keyways & bulkheads)
   iii. install water stops
   iv. construct control joints
   v. construct expansion joints
   vi. construct isolation joints

   i. locate and take dimensions from drawings for auxiliary forms
   ii. assemble standard metal and wood forms or moulds for auxiliary applications
   iii. install miscellaneous architectural features and finishes (rustication and form liners)
   iv. install miscellaneous inserts in auxiliary forms
   v. strip forms as required

5. Precast Concrete [Theory].
   i. describe the types of precast components
ii. identify fastening and backing rods  
iii. describe miscellaneous steel for precast components  
iv. identify precast concrete members  

6. Install reinforcement.  
i. install rebar  
ii. install wire mesh  
iii. discuss other types of reinforcement (fiberglass, pre stressing / post tensioning)  

7. Design, test and place concrete [Theory].  
i. plan and schedule concreting operations  
ii. select components for quality concrete mixes  
iii. discuss concrete testing  
iv. describe mixing concrete on-site by volume and determine the possible strength (psi)  
v. trowel and finish concrete surfaces  
vi. discuss concrete curing techniques  

8. Describe shoring and underpinning.  
i. determine location and dimensions of shoring and underpinning from drawings  
ii. discuss shoring, sheet piling and underpinning to prevent collapse of existing buildings or excavations  
iii. discuss timber or structural steel needles  
iv. describe blocking cribwork  
v. describe the set up of screw and hydraulic jacks  

9. Describe the use of piles and installation techniques.  

10. Build and install gangforms.  
i. identify various types of form hardware  
ii. select and install the basic materials used in gangforms  
iii. strip and disassemble gangforms for re-use  

11. Use survey instruments.  
i. knowledge of basic survey terminology  
ii. set up, adjust, and use builder’s and laser levels  
iii. determine instrument accuracy
iv. establish grades using straight edge and level, builder's level, and water level

12. Read architectural and structural drawings
   i. read foundation plans, floor plans, details, section views and elevation views
   ii. read and interpret specifications
   iii. estimate materials
       • concrete
       • form material
AJ2230  Concrete Stair Forms

Description:

This course in concrete stair forms requires the use of tools and equipment, materials and supplies, and suitable facilities. It involves interpretation of specifications and blueprints, calculations, layout, construction and installation of stair forms, and clean up.

Course Aims:

1. To develop the skills and knowledge required for constructing concrete stairs with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites:  Block II

Course Duration:  30hrs

Course Objectives (Knowledge):  

1. Stair calculations.
2. Safety requirements.

Major Tasks / Subtasks (Skills):

1. Construct and install stair forms.
   i. calculate unit rise and unit run of stairs
   ii. install stair forms between walls
   iii. build soffit type stair forms
   iv. slab on grade stair forms
   v. locate and install miscellaneous inserts in stairs
   vi. estimate materials
2. Use codes, regulations and standards.
   i. find and interpret specific requirements in the national building code
   ii. find and interpret specific requirements in the buildings accessibility act and regulations
   iii. interpret and comply with national, provincial and municipal codes and regulations (if applicable) - employment, health, environment, security regulations and standards, etcetera

3. Read architectural drawings.
   i. specifications, schedules, details, elevations
AJ2100     Advanced Blueprint Reading

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to read and interpret commercial blueprint drawings and perform quantity takeoffs.

Course Aims:

1. To interpret commercial blueprints.
2. To perform quantity takeoffs.

Prerequisites:    Block II

Course Duration:    60hrs

Course Objectives (Knowledge):

1. Identify types of plans.
2. Interpret plans.
3. Calculate material quantities.

Major Tasks / Subtasks (Skills):

1. Interpret commercial plans.
   i. structural / civil
   ii. architectural
   iii. mechanical
   iv. electrical
   v. specifications
   vi. as-builts [theory]

2. Perform quantity takeoffs.
   i. walls
   ii. ceilings
   iii. concrete
   iv. exterior finishes
   v. interior finishes
Block 4

AJ2600  Interior Finish Stairs

Description:
This course in stair construction requires the use of tools and equipment, materials and supplies, and suitable facilities. It involves interpreting specifications and blueprints, layout, construction and installation of interior finish stairs, and clean up.

Course Aims:
1. To develop the skills and knowledge required for constructing interior finish stairs with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites:  Block III

Course Duration:  60hrs

Course Objectives (Knowledge):
1. Make calculations associated with geometric stair design geometry.
2. Describe construction techniques for common finish stairs.
3. Describe various types of stair stringers.

Major Tasks / Subtasks (Skills):
1. Build common finish stairs.
   i. identify and select various balustrade/railing designs
Plan of Training - Carpenter

ii. layout and cut newels, handrails, balusters, railings and skirt boards
iii. build open type stairs against wall finished members including newel posts, handrails and nosings
iv. build quarter turn enclosed stairs using winder treads
v. prepare balustrade to specified finish
vi. perform calculations for geometrical stairs
vii. layout circular stairs
AJP201 Cabinets and Shelving

Description:

This course in cabinets and shelving requires the use of tools and equipment, materials and supplies and suitable facilities. It involves interpreting specifications and blueprints, layout, construction and installation of cabinets and shelving, and clean up.

Course Aims:

1. To develop the skills and knowledge required for constructing and installing cabinets and shelving with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.

Prerequisites: Block III

Course Duration: 60hrs

Course Objectives (Knowledge):

1. Explain construction and installation techniques for cabinets and shelving.
2. Describe types of cabinets and shelving.
3. Describe the principles of kitchen layout.
4. Describe mantels, display cases, and other custom cabinetry.
5. Explain barrier-free requirements (kitchens, bathrooms).

Major Tasks / Subtasks (Skills):

1. Install shelving.

2. Construct a bookcase.

3. Construct and install cabinets.
   i. identify cabinet/display case construction methods and designs
   ii. identify fasteners, adhesives, materials and hardware
Plan of Training - Carpenter

iii. layout upper and lower cabinet frame work
iv. construct and install drawers
v. install cabinet framework
vi. construct doors and install hardware and accessories
vii. build countertop base and apply laminates [theory]
viii. install pre-formed counter tops
ix. layout and cut openings for other trades

4. Describe and explain various wood finish techniques.
AJ2800  Renovations

Description:

This course provides information on how to plan and implement renovations to residential and commercial buildings.

Course Aims:

1. To develop the skills and knowledge required for renovations with respect to various codes and regulations.
2. To exercise safe work practices.
3. To develop an appreciation for environmental conservation issues and concerns.
4. To identify, select, estimate and conserve building materials.
5. To ensure energy efficient building construction.

Prerequisites:  Block III

Course Duration:  120hrs

Course Objectives (Knowledge):

1. Identify potential hazardous materials such as rot, mold/mildew, and asbestos.
2. Identify safety concerns (public, worker, occupant, environmental, etc.)
3. Identify existing structural components.
4. Identify existing finishing components (siding, roofing, trims, etc.)
5. Identify building techniques used in renovation (interior and exterior).
6. Identify energy efficient retrofit techniques.

Major Tasks / Subtasks (Skills):

1. Planning renovations.
   i. site considerations (neighbours, timeframe, property, safety, occupancy, municipal considerations)
   ii. structural
   iii. finishing (interior, exterior)
   iv. electrical
2. Planning demolition / removal.
   i. site considerations / property protection
   ii. structural
   iii. sub-trades
   iv. finishing (interior, exterior)
   v. estimating materials and labour
   vi. hazardous material
   vii. remove materials to permit reuse
   viii. disposal of materials
   ix. safety

   i. materials (selection, use of reclaimed materials, delivery and storage)
   ii. site considerations
   iii. structural (new to existing / new construction)
   iv. sub-trades (electrical, mechanical, engineering, etc)
   v. finishing (interior, exterior, tie-ins)
   vi. safety
   vii. inspections
   viii. energy efficiency
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:

1. Interpret specifications and blueprints which includes reading basic drawings, sketching and material takeoffs.

2. Prepare site for footing, formwork, layout and erect batterboards, install footing forms.

3. Install foundation wall forms which includes constructing forms, installing accessories, installing access for pouring, stripping and foundation drainage installation.

4. Construct floor and wall framing which includes layout, framing and installing, using various construction techniques.

5. Install exterior finish which includes layout and installation of various types of frames, trims and sidings.

6. Construct roof framing which involves layout and framing of different roof designs using various construction techniques.

7. Install interior walls, ceilings and trim using various construction techniques.

8. Construct various types of stairs which includes calculating, design, layout and installation.
9. Build cabinets and shelving which includes layout, construction and installation, using different construction techniques.

10. Plan and prepare site for renovation, demolition and re-construction.