
Plan of Training

CABINETMAKER



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

September 2009

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

Preface

This Apprenticeship Standard is based on the 2000 edition of the National Occupational Analysis for the Cabinetmaker trade.

This document describes the curriculum content for the Cabinetmaker 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.

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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

7200 Programs	Hour	Requirements for Progression	Progress To
First Year Apprentice		Completion of entry level (Block 1) courses, plus relevant work experience totaling a minimum of 1800 hours *	Second Year
Second Year Apprentice		Completion of advanced level (Block 2) courses, plus relevant work experience totaling a minimum of 3600 hours	Third Year
Third Year Apprentice		Completion of advanced level (Block 3) courses, plus relevant work experience totaling a minimum of 5400 hours	Fourth Year

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

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

* 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	Wage Rates		Comments
	Year	Rate	
7200 Hours	1 st Year	60%	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.
	2 nd Year	70%	
	3 rd Year	80%	
	4 th Year	90%	
5400 Hours and 4800 Hours	1 st Year	60%	
	2 nd Year	75%	
	3 rd Year	90%	
4000 Hours			(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.

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 journey person 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 journey person 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.

Normally, a combination of training from an accredited training program and suitable work experience totalling 7200 hours.

Or

A total of 9000 hours of suitable work experience.

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

C. Roles and Responsibilities of Stakeholders

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 journeyman.
- 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 Outcomes

Upon completion of the Cabinetmaker Apprenticeship Program, apprentices will have the knowledge and skills required to perform the following tasks:

- Task 1 Plans work activities.
- Task 2 Uses hand and portable power tools.
- Task 3 Maintains machines and equipment.
- Task 4 Builds prototypes.
- Task 5 Works on job sites.
- Task 6 Machines components using stationary woodworking machines.
- Task 7 Machines components using automated equipment.
- Task 8 Bends wood and related materials.
- Task 9 Laminates wood and related materials.
- Task 10 Applies veneers and inlays.
- Task 11 Applies laminated materials.
- Task 12 Applies solid surfaces.
- Task 13 Applies edge treatment.
- Task 14 Assembles cabinets.
- Task 15 Assembles furniture.

Task 16 Assembles architectural woodwork/millwork products.

Task 17 Prepares and applies finishing materials.

Task 18 Restores woodwork.

E. 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			
NL Course No.	Course Name	Hours	Prerequisites
TS1510	Occupational Health and Safety	6	
TS1520	WHMIS	6	
TS1530	Standard First Aid	14	
AK1130	Construction Safety	40	TS1520, TS1530
AK1100	Blueprint I - Basic	75	
AK1200	Hand Tools	45	AK1130
AK1210	Fasteners and Adhesives	30	AK1200
AK1220	Materials	45	AK1130
AK1230	Portable Power Tools	45	AK1200
AK1240	Common Stationary Equipment	60	AK1230
AK1250	Joint Fabrication and Assembly	45	AK1240
AK1260	Laminating	45	AK1250
AK1290	Basic Casework	75	AK1101
AK1301	Wood Finishing I	80	AK1230

Entry Level Courses - Block 1			
NL Course No.	Course Name	Hours	Prerequisites
AK1101	Blueprint II (Intermediate)	40	AK1100
AK1320	Industry Codes and Practices	45	AK1130
AK1330	Installation Procedures	45	AK1320, AK1290
AP1100	Introduction to Apprenticeship	15	
MA1060	Basic Math	60	
CM2150	Workplace Communications	45	
MR1220	Customer Service	30	
SP2330	Quality Assurance/Quality Control	30	
MC1050	Introduction to Computers	30	
SD1700	Workplace Skills	30	
SD1710	Job Search Techniques	15	
SD1720	Entrepreneurial Awareness	15	
Total Hours		1011	

Required Work Experience

Advanced Courses – Block 2			
NL Course NO.	Course Name	Hours	Prerequisites
AK1270	Specialty Stationary Equipment	60	AK1260
AK1302	Wood Finishing II	50	AK1301
AK1310	Stairs	90	AK1101
AK2100	Blueprint III (Advanced)	40	AK1101
Total Hours		240	

Required Work Experience

Advanced Courses – Block 3			
NL Course NO.	Course Name	Hours	Prerequisites
AK1281	High Production Equipment	80	AK1270
AK2101	Blueprint IV (CAD)	60	AK2100
AK2201	Advanced Casework and Furniture Design	100	AK1290, AK2100
Total Hours		240	

Total Course Credit Hours	1491
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***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

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 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 & 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
 - 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
 - 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.

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 Outcomes:

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

- interpret and apply the Workplace Hazardous Materials Information System (WHMIS) Regulation under the Occupational Health & Safety Act.

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
 - 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
 - information on classification
 - classes, divisions and subdivisions in WHMIS
 - general rules for classification

- class A – compresses 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 WHMIS label
 - supplier label
 - workplace label
 - other means of identification
 - ii. responsibilities for labels
 - supplier responsibility
 - employer responsibility
 - worker responsibility
 - iii. introduce label content, design and location
 - supplier labels
 - workplace labels
 - other means of identification

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are mandatory in Newfoundland and Labrador, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

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.

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

AK1130 Construction Safety

NOA Reference:

The material covered satisfies in whole or in part, the requirements of the National Occupational Analysis tasks.

Pre-Requisites: TS1520 – WHMIS
TS1530 – Standard First Aid

Course Outcomes:

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

- demonstrate knowledge of safety regulations applied to industry, to the trade, to employers and employees.
- demonstrate knowledge of hazards, safe work practices and good housekeeping on the job site and in the workshop environment.
- demonstrate knowledge of personal protective safety equipment and fall arrest systems, and their care and use.

Theory:

Personal Protective Clothing and Equipment

1. Identify personal protective clothing and equipment.
 - i. hearing
 - ii. eye
 - iii. respiratory
 - iv. body
 - v. foot
 - vi. hand
 - vii. head

2. Identify hearing protection, their types, applications and use.
 - i. muffs

- ii. plugs
 - iii. combination
 - iv. decibels (sound measurement)
3. Identify safety glasses, their types, applications and use.
- i. protection from light
 - ii. protection from liquids
 - iii. protection from solid objects
 - iv. protection from hot objects
 - v. protection from compressed air
4. Identify respiratory protection, their types, applications and use.
- i. respiratory system (inhalation)
 - ii. air-purifying
 - iii. self contained breathing apparatus
5. Identify body coverings, their types, applications and use.
- i. clothing material (natural/synthetic)
 - ii. coveralls
 - iii. rain wear
 - iv. winter garment (layering)
 - v. skin protection (sun/UV/corrosives, etc.)
6. Identify foot protection, their types, applications and use.
- i. toe
 - ii. arch
 - iii. puncture
 - iv. ankle
7. Identify hand protection, their types, applications and use.
- i. temperature
 - ii. abrasions
 - iii. vibration
 - iv. chemical

8. Identify head protection, their types, applications and use.
 - i. hard hat classification
 - ii. liners
 - iii. chin straps

9. Identify inspection and maintenance procedures for personal protective equipment.
 - i. hearing
 - ii. eye
 - iii. respiratory
 - iv. body
 - v. foot
 - vi. hand
 - vii. head

Fall Protection

10. Identify types of fall prevention equipment and describe their use and care.
 - i. arrest
 - ii. restraint
 - iii. prevention

11. Identify types of fall prevention systems and their use and care.
 - i. guardrails system
 - ii. floor opening protection
 - iii. wall openings

Working Environments

12. Identify the hazards and precautions to be taken when working in a confined space.
 - i. health hazards
 - ii. oxygen deficiency/enrichment
 - iii. explosive atmospheres
 - iv. IDLH (immediately dangerous to life or health)
 - v. emergency response
 - vi. retrieval devices
 - vii. monitoring equipment

13. Identify fire control equipment, its applications and procedures for use.
 - i. fire extinguisher classification
 - ii. fire blankets
 - iii. fire classification
 - A
 - B
 - C

Industrial Health Hazards

14. Identify types of industrial health hazards.
 - i. solid (dusts)
 - ii. liquid
 - iii. atmospheric
 - iv. electrical
 - v. ergonomics

15. Identify ways hazardous materials enter the body.
 - i. absorption
 - ii. inhalation
 - iii. ingestion

16. Identify workplace hazardous materials.
 - i. compressed gases
 - ii. flammables
 - iii. poisons-acute/chronic
 - iv. corrosives
 - v. dangerously reactive
 - vi. oxidizers
 - vii. biohazardous
 - viii. hazardous fibres

17. Identify WHMIS requirements.
 - i. symbols
 - ii. material safety data sheets

18. Identify health hazards presented by building materials.

- i. wood preservatives
- ii. dusts
- iii. heavy metals
- iv. off-gassing
- v. fibers
- vi. asbestos
- vii. exotic woods

Statutory Documents

19. Identify applicable health and safety legislation and describe their requirements.

- i. personal protection
- ii. fall protection
- iii. temporary support structures
- iv. working environment
- v. harassment
- vi. health & safety
- vii. material handling
- viii. confined space
- ix. access/egress
- x. electrical hazards

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are mandatory in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Select and demonstrate the proper use of personal protective equipment

AK1100 Blueprint 1 (Basic)

NOA Reference:

This material covered satisfies in whole or in part, the requirements of the National Occupational Analysis task 1.

Pre-Requisites: None

Course Outcomes:

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

- demonstrate knowledge of construction drawings, specifications, regulations and codes.

Theory:

Fundamentals of Construction Drawings

1. Identify the different types of drawings and describe their use.
 - i. blueprints
 - ii. architectural
 - iii. structural
 - iv. mechanical
 - v. electrical
 - vi. shop drawings
 - vii. manufacturers supplied drawings
2. Identify architectural specifications and describe their purpose and use.
3. Identify construction regulations, codes and standards.
 - i. National Building Code
 - ii. Canadian Standards Association standards
 - iii. Architectural Woodwork Manufacturers Association of Canada
 - iv. Buildings Accessibility Act and Regulations

4. Describe the importance of specifications and their precedence over working drawings.
5. Describe the alphabet of lines.
 - i. object
 - ii. broken
 - iii. extension
 - iv. dimension
 - v. centre
 - vi. leader
 - vii. break
 - viii. cutting plane
6. Identify and describe blueprint symbols and abbreviations.
 - i. wall symbols
 - ii. exterior
 - iii. interior
 - iv. mechanical
 - v. masonry
 - vi. scale

Reading Construction Drawings

7. Identify and describe the use of types of drawings.
 - i. elevation
 - ii. floor
 - iii. mechanical
 - iv. manufacturers
8. Identify and describe information on building plans.
 - i. lines
 - ii. symbols
 - iii. dimensions
 - iv. elevations
 - v. plan views
 - vi. abbreviations

- vii. design
- viii. window/door schedules
- ix. section views
- x. finish schedules
- xi. isometric
- xii. cabinets, casework and furniture details

- 9. Describe the use of information on elevation views.
 - i. orientation
 - ii. symbols
 - iii. scale

Basic Sketching

- 10. Explain the purpose of sketching.
 - i. communication
 - ii. visualization
 - iii. explaining details

- 11. Describe freehand sketching techniques.
 - i. lines
 - ii. proportion
 - iii. circles
 - iv. irregular shapes

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

- 1. Identify and interpret information contained in construction drawings.

- 2. Locate information from blueprints and drawings.

- 3. Read and interpret architectural drawings.

- i. floor
 - ii. details
 - iii. elevations
 - iv. sections
4. Interpret specifications.
- i. manufacturing
 - ii. tolerance
 - iii. company standards books
5. Use codes, regulations and standards
- i. National Building Code
 - ii. Canadian Standards Association standards
 - iii. Architectural Woodwork Manufacturers Association of Canada
 - iv. Buildings Accessibility Act and Regulations
6. Develop freehand sketches with regard to:
- i. details
 - ii. joints
 - iii. layouts
7. Produce shop drawings for a selected project.

AK1200 Hand Tools

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 2.

Pre-Requisites: AK-1130 – Construction Safety

Course Outcomes:

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

- use hand tools.

Theory:

1. Identify the main types of hand tools and describe their applications, accessories, care and use.
 - i. measuring
 - ii. layout
 - iii. alignment
 - iv. levels
 - v. sanders
 - vi. edge-cutters (hand planes & chisels)
 - vii. saws
 - viii. drilling and boring
 - ix. clamps
 - x. glue applicators
 - xi. sharpeners and conditioners

2. Describe the procedures used to sharpen hand tools.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Maintain hand tools and demonstrate sharpening procedures.
2. Demonstrate safe working procedures when using hand tools.
3. Demonstrate the storage of hand tools.

AK1210 Fasteners and Adhesives

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis

Pre-Requisites: AK-1200 – Hand Tools

Course Outcomes:

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

- select and use fasteners and adhesives.

Theory:

1. Identify the main types of fasteners and describe their characteristics, applications and procedures to install.
 - i. general
 - ii. nail
 - iii. brads
 - iv. screws
 - v. biscuits
 - vi. dowels
 - vii. staples
 - viii. wall inserts
 - ix. special purpose
 - x. knockdown hardware
 - xi. tight joint fasteners
 - xii. cabinet connectors
 - xiii. angle brackets

2. Identify the various metals and coatings used in fasteners and explain their advantage.

3. Identify the main types of adhesives and describe their characteristics, applications and procedures to prepare and apply.
 - i. hide glue
 - ii. casein glue
 - iii. standard and cross-linking polyvinyl resins
 - iv. urea-resin
 - v. resorcinol
 - vi. epoxy
 - vii. contact cements
 - viii. hot-melts
 - ix. mastics
 - x. solvents

4. Identify and describe the most suitable adhesive for specific applications in terms of:
 - i. shelf-life, pot-life
 - ii. assembly times
 - iii. moisture conditions, temperatures
 - iv. undesirable staining of materials
 - v. coloring of glue
 - vi. type of material to be glued
 - vii. moisture content

5. Describe how to store and maintain adhesives.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Select appropriate, space and install fasteners for various tasks.

2. Select and apply glues and adhesives.

3. Mix glues and apply adhesives according to manufacturers specifications using:

- i. brushes
 - ii. rollers
 - iii. bottles
 - iv. glue spreaders
 - v. glue injectors
4. Apply the required pressures to glue joints.
 5. Square projects using clamps.
 6. Glue up solid lumber.
 7. Clean, maintain and store gluing tools and equipment.
 8. Clean up excess glue from projects following a lay-up period.

AK1220 Materials

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis

Pre-Requisites: AK1130 – Construction Safety

Course Outcomes:

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

- demonstrate knowledge of the materials used in cabinetmaking.

Theory:

1. Identify and classify the different types of solid wood common to the Cabinetmaker trade.
 - i. hardwoods (deciduous):
 - white oak
 - American black walnut
 - elm
 - birch
 - beech
 - maple
 - oak
 - ash
 - walnut
 - mahogany
 - cherry
 - poplar
 - ii. softwoods (coniferous):
 - basswood
 - pine

- cedar
 - spruce
 - fir
2. Identify the geographic areas of growth for hard and softwoods.
 3. Describe the different common methods of producing lumber:
 - i. plain sawn/flat grained
 - ii. quarter sawn/edge grained
 - iii. rift sawn/rift grained
 4. Describe the relative commercial values of lumber:
 - i. costs
 - ii. types
 - iii. sizes
 - iv. waste factor
 5. Identify the structure and growth properties of wood
 6. Describe the cell structure of wood and how different properties are affected by it.
 7. Identify properties of common wood species.
 - i. density
 - ii. color
 - iii. odor
 - iv. strength
 - v. hardness
 - vi. aesthetics
 - vii. stiffness
 - viii. bending qualities
 - ix. affects of light regarding discoloration
 8. Identify the different types of wood grains:
 - i. straight
 - ii. irregular
 - iii. curly

- iv. spiral
 - v. interlocked
 - vi. open and closed
9. Identify common grades and the criteria used for grading softwood and hardwood lumber.
10. Describe the common defects and flaws related to growth and machining.
- i. felling shakes
 - ii. wind shakes
 - iii. pitch pockets
 - iv. knots
 - v. stress
 - vi. birds eyes
 - vii. burls
11. Describe the nominal and actual dimensions of softwood and hardwood lumber.
12. Describe seasoning and storage processes in relation to:
- i. moisture content
 - ii. equilibrium moisture content
 - iii. relative humidity
13. Describe the method used to identify the moisture content in wood samples:
- i. oven drying
 - ii. moisture meter
14. Describe the process for:
- i. air drying
 - ii. kiln drying (types of kilns)
15. Describe flaws and defects related to improper drying and storage:
- i. case-hardening
 - ii. checks

- iii. warpage
 - iv. honeycomb
 - v. stains (stickers, molds, etc.)
 - vi. rot
16. Describe the procedures to calculate board, lineal and square feet.
17. Identify the different types of veneers used in industry:
- i. herring bone
 - ii. slip match
 - iii. book match (flat sliced)
 - iv. diamond match
 - v. quarter sliced
 - vi. rift sliced
 - vii. rotary cut.
18. Describe the storage and handling of veneers.
19. Discuss relative commercial values of veneers by cost, type, size and waste factors.
20. Identify manufactured wood products.
- i. plywood (interior, exterior and specialty)
 - ii. other core materials
21. Identify the core-types commonly used.
- i. veneer
 - ii. lumber
 - iii. particle board
 - iv. oriented strand board
 - v. fibre-board
 - vi. combination
 - vii. balanced construction (laminates, veneers, etc.)
22. Describe the advantages of core-type woods over solid woods.

23. Describe the manufacturing methods of face veneers.
 - i. rotary
 - ii. flat sliced
24. Describe the advantages and disadvantages of various composite core materials.
 - i. particle-board
 - ii. fibre-board
 - iii. hard-board
25. Describe how different moisture-conditions affect composite core materials and storage.
26. Describe the use of sheet material.
 - i. plastic
 - ii. plastic laminated
27. Describe common sizes and types of solid surface materials.
 - i. acrylic
 - ii. polyester
28. Identify types of glass and describe their properties, thickness and use.
 - i. float
 - ii. tempered
 - iii. laminated
 - iv. wired
29. Describe the procedures used to cut glass, smooth and webering edges.
30. Describe installation requirements for glass and mirrors:
 - i. setting and spacing blocks
 - ii. stops and special tracks
 - iii. hardware
31. Describe brass, stainless steel, chrome, copper and aluminum in terms of:
 - i. use

- bases
 - inlays
 - structural
 - facings
 - ii. strength
 - iii. surface treatment
 - iv. types, sizes
 - v. adhering properties to wood
 - vi. methods of cutting
 - vii. finishes
32. Describe extruded mouldings, their types and applications:
- i. vinyl
 - ii. aluminum
33. Discuss cutting, shaping and securing methods for extruded mouldings.
34. Describe sound control relative to:
- i. transmission
 - ii. absorption
 - iii. reflection
35. Describe the materials and methods used to control sound.
36. Describe the standard types of molding.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

Theory only.

AK1230 Portable Power Tools

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 2, 3, 6, 7, 12.

Pre-Requisites: AK1200 – Hand Tools

Course Outcomes:

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

- operate portable power tools.

Theory:

1. Identify pneumatic power sources and connections.
2. Identify the types of portable power tools and describe their applications, safety accessories, care and use.
 - i. saws
 - circular
 - jig
 - reciprocating
 - mitre
 - ii. drills
 - iii. screwdrivers
 - iv. planes
 - v. sanders
 - belt
 - finish
 - vi. routers and trimmers
 - vii. nailers and staplers

- viii. plate joiners
 - ix. screw guns
 - x. heat guns
 - xi. pocket screw jigs and dowel jigs
3. Describe the importance of matching accessories for portable power tools to their intended use.
- i. blades
 - ii. fences
 - iii. knives
 - iv. template guides
 - v. cutters
 - vi. depth gauges
 - vii. bits
4. Describe the use and care of extension cords and air hoses.
5. Describe powder-actuated tools (low velocity), their applications, care and use.
- i. types
 - ii. safety
 - iii. codes and regulations
 - iv. fasteners and charges
 - v. causes of and disposal of misfires
 - vi. relationships between pins, charges and materials.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Set up and use pneumatic and electric hand tools.

2. Use the different types of staples and pins with a portable pneumatic nailer and stapler.
3. Service and store powder-actuated tools and supplies.
4. Operate a low velocity tool.

AK1240 Common Stationary Equipment

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 2, 3, 6, 7, 12.

Pre-Requisites: AK1230 – Portable Power Tools

Course Outcomes:

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

- operate common stationary equipment.

Theory:

1. Describe safety precautions for electrical power sources.
 - i. single and three phase connections
 - ii. voltage and amperage/line loss
 - iii. signs of overload in motors
 - iv. lockout procedure

2. Identify the types of common stationary equipment and describe their applications, safety accessories, care and use.
 - i. saws
 - ii. table
 - iii. band
 - iv. radial-arm
 - v. panel (vertical and sliding)
 - vi. scroll
 - vii. cut-off
 - viii. glue sprayers
 - ix. edge-bander

- x. sanders
 - disk
 - stroke
 - edge
 - spindle
 - drum/wide belt
- xi. mortisers
 - bit
 - chain
 - oscillating
 - chisel
- xii. drill presses
- xiii. planers
- xiv. jointers
- xv. shapers
- xvi. borers
- xvii. bench grinders

3. Describe the importance of matching accessories for common stationary equipment to their intended use.

- i. blades
- ii. knives
- iii. cutters
- iv. bits
- v. jigs

4. Describe the requirements for maintenance and log keeping.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

Plan of Training – Cabinetmaker

1. Set-up and operate common stationary equipment.
2. Change and maintain blades, bits and cutters.
3. Fabricate a jig.

AK1250 Joint Fabrication and Assembly

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 6, 7, 14, 15, 16.

Pre-Requisites: AK1240 – Common Stationary Equipment

Course Outcomes:

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

- fabricate and assemble joints.

Theory:

1. Describe the principles involved in joining wood.
2. Identify and describe the different forces affecting joints.
 - i. shear
 - ii. tensile
 - iii. compression
3. Identify the types of woodworking joints and describe their characteristics and applications.
 - i. butt
 - ii. mitre
 - iii. lap joints
 - iv. dado
 - v. rabbet joint
 - vi. dowel joint
 - vii. tongue and groove joints
 - viii. spline joints

- ix. mortise and tenon joints
- x. dovetail joints
- xi. biscuit or plate joint
- xii. coped joint
- xiii. finger
- xiv. scarf
- xv. pocket screwed joints

4. Describe the procedures used to fabricate and assemble joints.

Practical

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are mandatory in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Fabricate joints from solid woods and manufactured materials.
2. Develop and interpret basic shop drawings and simple layouts.
3. Develop and fit joints to specifications using:
 - i. hand tools
 - ii. power tools
4. Assemble joints by using:
 - i. glue
 - ii. clamps
 - iii. assorted fasteners
5. Clean-up joints.

AK1260 Laminating

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 8, 9, 10, 11, 12, 13.

Pre-Requisites: AK1250 – Joint Fabrication and Assembly

Course Outcomes:

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

- identify different types of laminates.
- perform laminating procedures.

Theory:

1. Identify types of laminates and describe their characteristics, applications and use.
 - i. wood
 - ii. plastic
 - iii. metal on plastic laminate

2. Classify laminates according to:
 - i. grades
 - ii. finishes
 - iii. sizes
 - iv. specialties (solid core and acid resistant)

3. Describe the properties and applications of laminates regarding:
 - i. machining
 - ii. bending
 - iii. gluing
 - iv. installing

4. Describe the manufacturing procedures for plastic laminates.
5. Describe the procedures used to install and finish laminates.
 - i. measuring and over sizing
 - ii. selection and use of adhesives
 - iii. adhesion methods
 - iv. application sequence for edges and surfaces
 - v. application sequence for curved surfaces
 - vi. trimming
 - hand and power tools
 - inside corners
 - vii. selection and use of cleaning solvents
6. Describe briefly the manufacturing process for post-formed countertops.
7. Describe the procedures for joining plastic laminates using hand and power tools.
8. Describe the procedures for joining plastic laminates to other materials using hand and power tools.
9. Describe the criteria for selecting materials for laminating.
 - i. solid woods, plywoods or veneers
 - ii. sizes
 - iii. moisture contents
 - iv. density
 - v. grain patterns
 - vi. colors
 - vii. temperature
10. Identify the criteria for selecting glues related to use of product:
 - i. moisture conditions
 - ii. temperature conditions
 - iii. strength requirements

11. Describe gluing, assembling and clamping systems relative to:
 - i. growth rings and grain direction
 - ii. special milling of components

12. Describe the clamping and lay-up systems relative to:
 - i. clamps, jigs and wedges
 - ii. length of lay-up times related to glues and temperature

13. Define the terms sizing and dressing of glued up units.

14. Describe the procedures for dry bending solid woods and plywoods relative to:
 - i. wood species
 - ii. material
 - iii. grains and radii
 - iv. kerf cuts
 - v. lamination of layers

15. Describe the procedures for steam bending solid woods and plywoods relative to:
 - i. wood species
 - ii. material
 - iii. grains and radii
 - iv. lamination of layers

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Apply laminates.

2. Bend wood using dry and steam methods.

3. Apply laminates to curved surfaces.

- i. select materials
 - ii. select adhesives
 - iii. select proper tools
 - iv. apply laminates
 - v. conduct final cleanup
4. Laminate solid wood.

AK1290 Basic Casework

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 6, 7, 14, 15, 16.

Pre-Requisites: AK1101 – Blueprint II (Intermediate)

Course Outcomes:

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

- identify and install hardware used in basic casework.
- layout and assemble basic casework.

Theory:

1. Identify common types of hinges and describe their characteristics, applications and procedures to install.
 - i. butt
 - ii. surface mounted
 - iii. concealed
 - iv. semi-concealed
 - v. pin
 - vi. piano
 - vii. double action hinge

2. Describe the advantages and disadvantages of common hinges in relation to:
 - i. strength
 - ii. aesthetics
 - iii. adjustments

3. Identify the types of handles, pulls, knobs and accessories and describe their characteristics, applications and procedures to install.
4. Describe typical location of hardware relative to:
 - i. style
 - ii. balance
 - iii. application
5. Identify the types of catches, locks and latches and describe their characteristics, applications, location and procedures to install.
 - i. touch latches
 - ii. friction
 - iii. magnetic and roller - bullet catches
 - iv. drawer/door locks
 - v. gang locks
 - vi. anti-tilt devices (drawers)
 - vii. elbow catches
 - viii. double-ball catches
 - ix. escutcheon plates
6. Identify types of hardware used for sliding cabinet doors and drawers and describe their characteristics, applications and procedures to install.
 - i. shop made (wood on wood)
 - ii. manufactured types (metal and nylon)
7. Identify types of hardware for adjustable/non-adjustable shelves and describe their characteristics, applications, spacing and procedures to install.
 - i. standards
 - ii. ferrules
 - iii. pins
 - iv. brackets
 - v. cleats

8. Identify types of special purpose hardware and describe their characteristics, applications, location and procedures to install.
 - i. tray-lift
 - ii. turning shelf
 - iii. tambour
 - iv. lid stays
 - v. racks
 - vi. flipper/pocket door
 - vii. cabinet connectors
 - viii. grommets (cable holes)
 - ix. levelers
 - x. casters
 - xi. computer
 - xii. blind corner
 - xiii. miscellaneous

9. Describe jigs and templates used for location and installation of hardware.

10. Identify types of knockdown fittings and describe their characteristics, applications, location and procedures to install.

11. Describe the 32mm system.

12. Describe the procedures used to fabricate casework.
 - i. preliminary work
 - ii. shop drawings
 - iii. notes
 - iv. layout rods
 - v. other full-scale layouts
 - vi. cutting lists/optimizing
 - vii. planning
 - sectional
 - knockdown
 - shop/site assembled

- viii. selection of materials
 - solid stock
 - sheet materials
 - allowance for waste
- ix. selection of cutting and surfacing equipment
- x. cutting procedures and sequence
- xi. machining methods
 - custom work
 - mass production
- xii. sanding and prefinishing (before final assembly)
- xiii. pre-assembly
- xiv. assembly

13. Describe the procedures used to fabricate and construct basic cabinet doors.

- i. planning
- ii. selection of materials
- iii. construction
- iv. installation and adjustment of hardware

14. Describe the procedures used to fabricate and construct basic cabinet drawers.

- i. planning
- ii. selection of materials
- iii. construction
- iv. installation and adjustment of hardware

Millwork

15. Describe the procedures used to fabricate and construct interior and exterior doors.

- i. planning
 - sizing
 - clearances
- ii. selection of materials
- iii. door construction
 - panel

- solid
 - core (veneer)
 - iv. installation and adjustment of hardware

- 16. Identify types of interior and exterior door jambs and describe their characteristics, applications and procedures to install.
 - v. machining requirements
 - vi. side-light requirements
 - vii. transom requirements

- 17. Describe the procedure used to fabricate window frames and sashes.
 - i. planning
 - sizing
 - clearances
 - ii. selection of materials
 - iii. construction of materials
 - joint selection
 - sash installation
 - glazing procedures

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Fabricate casework with doors and drawers.
 - i. develop layout-rod
 - ii. select materials
 - iii. produce cutting list
 - iv. cut sheet material
 - v. break-out solid woods
 - vi. dress and cut to size
 - vii. glue up or laminate panels

- viii. machine components
 - ix. assemble
 - x. install hardware
2. Develop a project using:
- i. jigs
 - ii. templates
 - iii. stops
3. Demonstrate the 32 mm system.
4. Fabricate a project using millwork procedures.

AK1301 Wood Finishing I

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 17 and 18.

Pre-Requisites: AK1230 – Portable Power Tools

Course Outcomes:

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

- demonstrate knowledge of finishing products and wood preparation.
- apply finishing products using proper techniques.

Theory:

1. Identify the types of abrasives and describe their applications.
 - i. flint
 - ii. garnet
 - iii. aluminum oxide
 - iv. silicon carbide
 - v. abrasive fibres
2. Describe grit-sizes and their usage.
3. Describe pre-finishing procedures.
 - i. glue removal
 - ii. final surface repairs
 - iii. final sanding
 - iv. filling
 - v. metal

4. Identify the types of stains and describe their characteristics, applications and procedures for use.
 - i. water
 - ii. alcohol
 - iii. oil
5. Describe the standard staining operations to achieve the desired color.
6. Describe the use of paste wood fillers.
7. Describe the difference between sealing and wash-coating.
8. Identify the types of finishing products and describe their characteristics, applications and procedures for use.
 - i. lacquers
 - ii. varnishes
 - iii. oils
 - iv. water based finishes
9. Identify compatible solvents and thinners for finishing products.
10. Describe the different methods of applying finishing coats.
 - i. spraying
 - ii. brushing
 - iii. wiping
11. Describe common finishing problems and their solutions
12. Identify the types of spray equipment and describe their applications, adjustments, care and use.
 - i. conventional
 - ii. airless and air assisted airless
 - iii. hot spray
 - iv. electrostatic

- v. high volume - low pressure
- vi. flat line systems

13. Describe fire hazards posed by finishing products.

14. Describe the harmful effects of vapors from solvents and how to protect against them:

- i. respiratory
- ii. skin and eye

15. Describe the safe disposal of potentially dangerous or harmful materials.

- i. oily rags
- ii. finishing products

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Prepare projects previous to applying finish.

- i. removing glue
- ii. final surface repair
- iii. filling
- iv. final sanding

2. Apply different types of stain to wood.

3. Apply sealer and wash-coats.

4. Apply top-coats.

- i. lacquers
- ii. varnishes
- iii. oils

- iv. water based finishes
- 5. Use different types of spray equipment to demonstrate spray techniques.
- 6. Clean and store tools and spray equipment.

AK1101 Blueprint II - Intermediate

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task I

Pre-Requisites: AK1100 – Blueprint I - Basic

Course Outcomes:

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

- develop free hand sketches
- develop shop drawings
- layout for shop projects

Theory:

1. Describe the pertinent information found on drawings.
 - i. architectural
 - ii. structural drawings
 - iii. mechanical drawings
 - iv. electrical drawings
 - v. shop drawings

2. Describe plan views in relation to:
 - i. partition-layout
 - ii. room-size
 - iii. door and window location
 - iv. location of millwork

3. Describe the process to interpret interior elevation views, sections and details and cross-reference with specifications and room-finishing schedules to make the shop-

drawings.

4. Describe how preparatory and finishing work by other trades affects the cabinetmaker's work.
 - i. backing in partitions and walls
 - ii. interior finish on floors and walls
 - iii. mechanical and electrical work

5. Describe how to construct geometric shapes and lines.
 - i. draw lines to scale
 - ii. scale lines
 - iii. divide lines into equal parts
 - iv. bisect lines
 - v. angles
 - vi. bisect angles
 - vii. concave and convex curves
 - viii. circles, arcs, tangents, ellipses, polygons

6. Describe procedures to sketch orthographic projections
 - i. visualize object
 - ii. select views
 - iii. layout sketch
 - iv. sketch projection
 - v. dimension sketch
 - vi. make notations

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Develop freehand sketches.

2. Develop working drawings and layouts.
3. Construct geometric shapes and lines.
 - i. draw lines to scale
 - ii. scale lines
 - iii. divide lines into equal parts
 - iv. bisect lines
 - v. angles
 - vi. bisect angles
 - vii. concave and convex curves
 - viii. circles, arcs, tangents, ellipses, polygons
4. Sketch orthographic projections.
 - i. visualize object
 - ii. select views
 - iii. layout sketch
 - iv. sketch projection
 - v. dimension sketch
 - vi. make notations
5. Evaluate designs using such concepts as:
 - i. balance
 - ii. proportion
6. Design an efficient kitchen-cabinet layout.
7. Use working drawings and specifications of a commercial building and produce:
 - i. shop drawings
 - ii. sketches of typical millwork
8. Develop shop drawings and layouts for shop-projects, including all necessary views and details and materials take-off lists.

AK1320 Industry Codes and Practices

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 6.

Pre-Requisites: AK1130 – Construction Safety

Course Outcomes:

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

- identify zoning regulations and permits
- identify the roles of other construction trades

Theory:

1. Describe the role of federal, provincial and municipal authorities with regards to:
 - i. research
 - ii. regulations and codes (NBC, CSA)
 - iii. zoning and permits
2. Describe the procedure for obtaining building permits.
3. Describe the basic zoning regulations.
4. Identify and describe the roles of architects, engineers, designers and construction associations.
5. Describe the legal relationship that exists between the general and the sub-contractor.
6. Describe the responsibilities of the cabinetmaker in relationship to the:
 - i. client

- ii. architect
 - iii. general contractor
 - iv. designer
7. Describe sequencing and scheduling of trades relevant to:
- i. bar charts
 - ii. critical path methods
 - iii. scheduling (supply dates and starts)
 - iv. completion times
8. Describe the required procedures to follow for changing design and specifications of work in progress.
9. Identify and describe the importance of appropriate communications with fellow employees.
10. Identify the regulations dealing with maximum allowable exposure to noise and the importance of protecting one's hearing.
- i. define "decibels".
11. Identify the dangers associated with radiation from high-frequency electronic gluing and drying equipment.
12. Describe the possible hazards from vibrating tools.
13. Describe the structure of companies with regards to:
- i. difference between proprietorship and Ltd. Co.
 - ii. payments, sales tax and G.S.T.
 - iii. contracts (general, construction)
 - iv. bid depository
 - v. labour costs
 - vi. material costs
 - vii. overhead costs

14. Explain the basic requirements for valid legal contracts; circumstances that may result in voided contracts; what constitutes a breach of contract.

15. Describe the legal relationships which exist in construction contracts and the legal precedence of construction documents regarding:
 - i. owner
 - ii. designer
 - iii. general contractor
 - iv. sub-contractors
 - v. suppliers-workers
 - vi. architect

16. Describe how labour costs are calculated with regards to:
 - i. direct wages
 - ii. indirect labour costs
 - iii. record keeping- (time sheets)
 - iv. piece-work

17. Explain how material costs are calculated from material-lists.

18. Describe the most common overhead costs and identify the differences between:
 - i. small shops
 - ii. large production shops

19. Describe Quality Control systems.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

Theory only.

AK1330 Installation Procedures

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 5, 12.

Pre-Requisites: AK1320 – Industry Codes and Practices
 AK1290 – Basic Casework

Course Outcomes:

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

- install specific shop casework to specifications and drawings.

Theory:

1. Identify the accepted heights and spacings of wall mounted units.
2. Describe how studs or backings can be found in framed walls.
3. Describe the proper securing methods and materials:
 - i. adhesives
 - ii. screws and bolts
 - iii. hollow and solid wall fasteners
4. Identify various types of counter-top surface materials :
 - i. marble
 - ii. granite
 - iii. solid
 - iv. stainless steel
 - v. butcher block
 - vi. tile

- vii. plastic laminate
5. Describe the problems associated with alignments and adjustments due to minor warpages and imperfect walls and floors.
 6. Describe procedures for:
 - i. leveling
 - ii. plumbing
 - iii. shimming
 - iv. scribing
 - v. co-ordinating project with other trades
 7. Describe the checks for ease of operation following installation of doors, drawers, slides, etc.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Install casework according to specifications and drawings.
2. Demonstrate good housekeeping practices

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

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
 - current labour market implications on completing an apprenticeship program
6. Explain Plans of Training.
- 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
 - ii. and the registration process
 - iii. explain the steps to complete an apprenticeship program
 - iv. identify who is responsible for tracking and signing-off on trade skills.
 - v. identify the nearest Industrial Training Office to your community
 - vi. 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

3. Visit the Red Seal Web site <http://www.red-seal.ca>, review the National Occupational Analyses for your trade.
 - 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

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 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.

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

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 proof reading 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

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
 - ii. and present orally using visual aids 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

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.
 - 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

Objectives & 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
12. Examine quality assurance/quality control documentation.
 - 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

Objectives & 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
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 & 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 development of a document.
- i. enter text
 - ii. change the display

9. Describe the procedure for opening, saving and exiting documents.
 - 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
 - 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,
 - ii. 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 & 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. passwords

- 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
- 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.
6. Post a document on-line.

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

Objectives & Content:

1. Meetings.
 - i. identify & 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.

- 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

4. Employment Insurance.

- 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

6. Human 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

Objectives & Content:

1. Identify and examine employment trends and opportunities.
2. Identify sources that can lead to employment.
3. Access and review information on the Newfoundland and Labrador Apprenticeship and Certification Web site and the Apprenticeship Employment Gateway.
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.

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

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
 - 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

Block 2

AK1270 Specialty Stationary Equipment

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 2, 3, 6, 7, 12.

Pre-Requisites: AK1260 – Laminating

Course Outcomes:

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

- operate specialty stationary equipment.

Theory:

1. Identify the types of specialty stationary equipment and describe their applications, safety accessories, care and use.
 - i. lathes
 - ii. tenoners
 - single end
 - double end
 - iii. cold and hot presses
 - iv. dovetailer
 - v. guillotine
 - vi. drill tub
 - vii. hinge & line boring machine
 - viii. drill pocketing machine

2. Describe the importance of matching accessories for specialty stationary equipment tools to their intended use.
 - i. blades
 - ii. fences
 - iii. knives
 - iv. guides
 - v. cutters
 - vi. hold downs
 - vii. bits
 - viii. guards
 - ix. power feed attachments

Practical

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Demonstrate an ability to set up and operate light production equipment.

AK1302 Wood Finishing II

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 17 and 18.

Pre-Requisites: AK1301 - Wood Finishing I

Course Outcomes:

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

- demonstrate knowledge of finishing products and wood preparation.
- apply finishing products using proper techniques.

Theory:

1. Identify the types of abrasives and describe their applications.
 - i. pumice
 - ii. rotten stone
 - iii. rubbing compound
 - iv. abrasive fibres

2. Describe the characteristics of abrasives.
 - i. hardness
 - ii. sharpness
 - iii. color
 - iv. open/closed
 - v. wet/dry

Identify the differences between types and grades of backing materials used for sheets and belts.

- i. high quality paper
 - ii. cloth
3. Identify which finishing process should be used to achieve desired appearances and performance.
4. Identify the bleaches and the compatible neutralizers commonly used for wood.
5. Describe procedures to prepare and apply standard bleach.
6. Identify the products that are compatible with successive top-coats.
7. Identify the types of finishing products and describe their characteristics, applications and procedures for use.
 - i. shellacs
 - ii. UV finishes
 - iii. wax-finishes
 - iv. polyesters
 - v. synthetic finishes
8. Describe special customized treatments and their applications related to:
 - i. glazing
 - ii. shading (antique effects)
 - iii. distressing

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Establish finishing process required to achieve desired appearances and durability.
2. Stain project to achieve desired colors including sap-staining, shading and toning.

3. Apply top-coats.

- i. wax finishes
- ii. synthetic finishes
- iii. shellac

4. Apply finish coats.

- i. clear
- ii. light or dark tones
- iii. high or low sheen

Select and use compounds for a particular application.

- i. pumice
- ii. rotten stone
- iii. wax
- iv. rubbing compound

AK1310 Stairs

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 8 and 9.

Pre-Requisites: AK1101 – Blueprint II (Intermediate)

Course Outcomes:

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

- construct and install stairs.

Theory:

Fundamentals of Stair Construction

1. Describe relevant issues, practices and procedures relating to:
 - i. safety
 - ii. materials
 - iii. fasteners
 - iv. joinery
 - v. tools
 - vi. blueprint reading
 - vii. building codes

2. Identify and describe types of common stairs.
 - i. straight flight
 - ii. L-shaped
 - iii. U-shaped
 - iv. winder
 - v. interior

- vi. curved
3. Define stair terminology.
- i. total rise
 - ii. total run
 - iii. unit rise
 - iv. unit run
 - v. headroom
 - vi. flight
 - vii. line of travel
 - viii. effective depth
 - ix. angle of incline
 - x. open and closed stringers
 - xi. ballustrade
 - xii. wedges
4. Identify and describe stair components and their characteristics.
- i. stringers
 - ii. risers
 - iii. treads
 - iv. skirts
 - v. nosing
 - vi. newels
 - vii. ballaster
 - viii. handrails
 - ix. guardrails
 - x. fillets
 - xi. rousettes
 - xii. finials
 - xiii. shoe rails
 - xiv. easements
 - xv. goosenecks
 - xvi. volutes
 - xvii. landings

5. Identify and describe components of finish stairs.
 - i. stringers
 - open
 - closed
 - ii. housed
 - iii. wall skirt
 - iv. mitred skirt
 - v. nosing return
 - vi. newels
 - starting newel
 - landing newel
 - vii. balustrade
 - viii. gooseneck
 - ix. volute
 - x. turn out
 - xi. level to rake (handrail)
 - xii. balluster
 - xiii. fillet
 - xiv. stringer and buttress cap
 - xv. riser
 - xvi. tread
 - xvii. moldings

6. Describe the procedures to calculate finish stair material.
 - i. balluster spacing
 - ii. ballusters
 - iii. tread stock
 - iv. riser stock

- v. skirt material
- vi. stringers
- vii. buttress
- viii. handrail
- ix. newel posts
- x. fillets
- xi. mouldings
- xii. shoe rail
- xiii. housed stringer
- xiv. open stringer

7. Describe the layout, construction and installation of finish stairs.

- i. total rise
- ii. total run
- iii. unit rise
- iv. unit run
- v. headroom
- vi. stair ratio
- vii. fasteners
- viii. adhesives
- ix. NBC
- x. drop of stringer
- xi. hangers
- xii. attachment
- xiii. handrail
- xiv. guardrails
- xv. landings
- xvi. line of flight
- xvii. storey pole
- xviii. materials
- xix. stair joinery
- xx. assembly
- xxi. scribing
- xxii. jig

- xxiii. template
- xxiv. reveal
- xxv. equalizing first tread rise
- xxvi. stairwell opening
- xxvii. code reference

Geometric Stairs

- 8. Describe the types of geometric stairs.
 - i. spiral
 - ii. circular
 - iii. elliptical
 - iv. curved
- 9. Describe the components of geometric stairs.
 - i. wall skirts
 - ii. mitred skirts
 - iii. gooseneck
 - iv. volutes
 - v. turnouts
 - vi. level to rake (handrail)
 - vii. ballusters
 - viii. ballustrade
 - ix. nosing return
 - x. starting newel
 - xi. landing newel
 - xii. fillets
 - xiii. string and buttress caps
 - xiv. tread
 - xv. riser
 - xvi. staved stringer
 - xvii. laminated stringer
 - xviii. handrail
 - xix. line of travel
 - xx. point of radiance

xxi. rough framing

10. Describe the procedures to calculate geometric stair dimensions.

- i. inner tread width
- ii. outer tread width
- iii. circumference
- iv. length of handrails
- v. length of stringers
- vi. total rise
- vii. total run
- viii. unit rise
- ix. number of risers
- x. number of treads
- xi. degree of turn
- xii. inner radius
- xiii. outer radius
- xiv. unit run at the line of travel
- xv. tread angle
- xvi. rough opening dimensions

11. Describe the construction and installation of geometric stairs.

- i. geometric layout
- ii. moulds
 - drums
 - staved
- iii. laminate stringer
- iv. stretch out line
- v. reference lines
- vi. treads
- vii. risers
- viii. staving
- ix. handrails
- x. winders
- xi. fasteners

- xii. adhesives
- xiii. ballusters
- xiv. ballustrades
- xv. volutes
- xvi. rosettes
- xvii. goose necks
- xviii. easements
- xix. shoe rail
- xx. finial
- xxi. fillets

Practical

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Calculate stair dimensions.
2. Estimate materials
3. Design, construct and install a stair system.

AK2100 Blueprint III (Advanced)

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task I.

Pre-Requisites: AK1101 – Blueprint II (Intermediate)

Course Outcomes:

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

- sketches, shop drawings to specifications for commercial projects.

Theory:

1. Describe arbitrary and conflicting information within drawings and specifications for commercial buildings.
2. Describe the various details and specifications for walls, ceilings and column in plan elevations, sectional and exploded views for commercial buildings.
3. Describe Reflected Ceiling Plans and the information they contain.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Produce quick freehand sketches.

2. Develop layouts, templates and full-scale patterns.
3. Develop shop drawings for all shop projects.
4. Develop appropriate cutting lists.
5. Produce a shop drawing according to detailed specifications and instructions.

Block 3

AK1281 High Production Equipment

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 2, 3, 6, 7, 12.

Pre-Requisites: AK1270 – Specialty Stationary Equipment

Course Outcomes:

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

- operate high production equipment.

Theory:

1. Identify the types of high production equipment and describe their applications, safety accessories and care and use.
 - i. saws
 - straight line rip
 - multi-rip
 - ii. gluers
 - spray
 - spreader
 - iii. clamping
 - case clamp
 - clamp carrier
 - iv. pneumatic press
 - v. profile grinders
 - vi. CNC equipment

- vii. horizontal copying lathe
 - viii. profile sander
 - ix. moulder
 - x. edge bander
 - xi. optimizing cut-off saw
 - xii. beam saw
2. Describe the importance of matching accessories for high production equipment tools to their intended use.
- i. blades
 - ii. guides
 - iii. knives
 - iv. guards
 - v. cutters
 - vi. fences
 - vii. bits
 - viii. power feed attachments

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Demonstrate an ability to set-up and operate high production equipment.

AK2101 Blueprint IV (Computer Aided Drafting)

NOA Reference:

The materials in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 1.

Pre-Requisites: AK2100 – Blueprint III (Advanced)

Course Outcomes:

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

- demonstrate knowledge of computer aided drafting.

Theory:

1. Describe drafting tools and materials used for drawing plans.
2. Describe the use of:
 - i. computer assisted drawings
 - ii. computer spreadsheets
 - iii. computer estimating software
 - iv. CNC equipment
3. Describe the procedures in generating computer drawings, including:
 - i. orthographic views
 - ii. isometric views
4. Describe how to use computer assisted drafting to draw a room containing cabinets which includes:
 - i. job parameters
 - ii. exterior walls, doors and windows
 - iii. peninsula walls

- iv. appliance placement
 - v. lower and upper cabinets
 - vi. cabinet choice and modifications
 - vii. counter tops choice and modification
 - viii. moulding choice and placement
 - ix. view elevation, perspective and bird's eye view
 - x. set up of rendering graphics(customizing the color & texture specifications)
 - xi. cut list and modifications
 - xii. job costing
 - xiii. accessories
 - xiv. estimates
 - xv. set up multi-draw
5. Describe how to use computer assisted drafting to draw a room containing a commercial counter which includes:
- i. cross-sections of the cabinets
 - ii. detail drawings of special sections and joints required
 - iii. proper text and dimensions
 - iv. set up multi-drawings
6. Describe the procedure to save and print plans.
7. Describe the different types of computer software available to the cabinetmaking industry.

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Use computer assisted drafting to draw a room containing cabinets which includes:
 - i. job parameters
 - ii. exterior walls, doors and windows

- iii. peninsula walls
 - iv. appliance placement
 - v. lower and upper cabinets
 - vi. cabinet choice and modifications
 - vii. counter tops choice and modification
 - viii. moulding choice and placement
 - ix. view elevation, perspective and bird's eye view
 - x. set up of rendering graphics
 - xi. cut list and modifications
 - xii. job costing
 - xiii. accessories
 - xiv. estimates
 - xv. set up multi-draw
2. Use computer assisted drafting to draw a room containing a commercial counter which includes:
- i. cross-sections of the cabinets
 - ii. detail drawings of special sections and joints required
 - iii. proper text and dimensions

AK2201 Advanced Casework and Furniture Design

NOA Reference:

The material in the course satisfies in whole or in part, the requirements for the National Occupational Analysis for the Cabinetmaker Occupation Task 6, 7, 14, 15, 16.

Pre-Requisites: AK1290 – Basic Casework
AK2100 – Blueprint III (Advanced)

Course Outcomes:

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

- demonstrate knowledge of furniture design and layouts of architectural woodwork.
- design and construct casework and furniture using a variety of advanced machining techniques.

Theory:

Furniture

1. Describe principles and elements relating to cabinetry:
 - i. harmony
 - ii. rhythm (veneer selection)
 - iii. proportion
 - iv. balance and emphasis
2. Identify and describe the different styles of furniture.
3. Describe the color wheel and its applications.

4. Describe accepted industry practices in heights, widths and depths relative to:
 - i. service and work counters
 - ii. tables, desks, vanities, chairs, benches, visual boards
 - iii. knee and toe spaces
 - iv. traffic flow
 - v. golden mean rectangle (Geometric ratio & proportion)

5. Describe the use of specifications and drawings and their applications relative to customized cabinets, furniture units and other fixtures.

6. Describe industry practices with regard to:
 - i. sequences of work
 - ii. layouts, cutting lists
 - iii. breakout of material
 - iv. machining and assembly
 - v. shipping and installation

7. Describe production procedures based on availability of equipment.

8. Describe face and backing veneer preparation including:
 - i. selection of veneer
 - ii. methods of cutting veneer
 - iii. methods of jointing veneer
 - iv. matching

9. Describe gluing practices for vacuum, manual and hydraulic presses using hot and cold methods:
 - i. type of glue used
 - ii. pressures
 - iii. loading

10. Identify the various trimming methods when using hand and power tools.

11. Describe construction relevant to:
 - i. legs and rails
12. Describe construction for sloped and contoured casework.
 - i. doors
 - ii. drawers
 - iii. hardware
 - iv. joints

Panelling

13. Describe architectural woodworking and its application for paneling for walls and ceilings.
14. Describe the various joints for pre-assembled frame and panel construction.
15. Describe installation methods for panelling walls and ceiling.
 - i. nail
 - ii. glue
 - iii. screw
 - iv. hang
16. Describe the procedures for panelling walls and ceilings.
 - i. preparation and layout
 - ii. selection of hardware
 - iii. installation
 - iv. touch up and finish
17. Describe the application of solid tongue and groove panelling with considerations given to shrinkage problems.
18. Describe flush panelling and its applications.

19. Describe grain-figure selection and various matchings for desired effect.
 - i. wall panels
 - ii. ceiling panels
 - iii. transom panels
 - iv. mouldings

Practical:

Practical skills enhance the apprentice's ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

1. Layout and build casework to reflect design and style principles:
 - i. selection (wood)
 - ii. sizing of cores
 - iii. wood veneer applications
 - iv. various matchings
 - v. frame and panel-units
 - vi. geometric shapes
 - vii. arched items
 - viii. wood bending
 - ix. laminating