



**PROVINCIAL PLAN OF TRAINING
FOR THE
MOTOR VEHICLE BODY REPAIRER
(Metal and Paint)
OCCUPATION**

Document Status	Date Distributed	Mandatory Implementation Date	Comments
Revised Version	March 2007		
Revised	September 11, 2007		

August 2007

Preface

This Apprenticeship Guide is based on the 2005 edition of the National Occupational Analysis for the Motor Vehicle Body Repairer trade. It was developed through the cooperative efforts of the Atlantic Apprenticeship Council, which consists of both the Atlantic Directors of Apprenticeship and Apprenticeship Board Chairs. This document describes the curriculum content for the Motor Vehicle Body Repairer apprenticeship training program and outlines each of the technical training units necessary for the completion of apprenticeship.

Acknowledgement

The 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. A sincere thank you.

Apprenticeship Curriculum Standard Evaluation Form

Thank you for your interest in the development and revision of this document. Upon review of this document, please record your feedback in relation to the following items:

- unit division and organization
- relevancy of the content
- errors or omissions
- other suggestions for improvement and consideration

Overall comments are to be entered on this evaluation form and specific changes are to be entered directly on the document in the relevant area(s). When making proposed corrections(s) in the curriculum standard, please use red ink. When all feedback has been recorded, return this evaluation form along with the curriculum standard to the Apprenticeship Office noted at the bottom of the page.

(PLEASE PRINT)

Trade: Motor Vehicle Body Repairer (Metal and Paint)

Full Name: _____

Type of Position: (Trade Practitioner, Instructor, etc.) _____

Company: _____

Address: _____

Comments: (Use a separate sheet of paper if necessary)

Return Evaluation Form and Curriculum Standard to:

*Manager, Industrial Training
Division of Institutional and Industrial Education
Department of Education
P.O. Box 8700
St. John's, NL
A1B 4J6*

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CONDITIONS GOVERNING APPRENTICESHIP TRAINING

1.0 GENERAL

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

2.0 ENTRANCE REQUIREMENTS

2.1 Entry into the occupation as an apprentice requires:

Indenturing into the occupation by an employer who agrees to provide the appropriate training and work experiences as outlined in this 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 plans of training. Mature students, at the discretion of the Director of Institutional and Industrial Education, may be registered. A mature student is defined as one who has reached the age of 19 and who can demonstrate the ability and the interest to complete the requirements for certification.

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

2.4 A Registration for Apprenticeship form must be duly completed.

3.0 PROBATIONARY PERIOD

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

4.0 TERMINATION OF A MEMORANDUM OF UNDERSTANDING

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

5.0 APPRENTICESHIP PROGRESSION SCHEDULE AND WAGE RATES

5.1 Progression Schedule

7200 Hour Programs	Requirements for Progression	Progress To
First Year Apprentice	Completion of entry level (Block 1) courses, plus relevant work experience totalling a minimum of 1800 hours *	Second Year
Second Year Apprentice	Completion of advanced level (Block 2) courses, plus relevant work experience totalling a minimum of 3600 hours	Third Year
Third Year Apprentice	Completion of advanced level (Block 3) courses, plus relevant work experience totalling a minimum of 5400 hours	Fourth Year
Fourth Year Apprentice	Completion of advanced level (Block 4) courses and (Block 5) <i>if applicable</i> , plus sign-off of workplace skills required for certification totaling a minimum of 7200 hours**	Write Certification Examination
5400 Hour Programs	Requirements for Progression	Progress To
First Year Apprentice	Completion of entry level (Block 1) courses, plus relevant work experience totalling a minimum of 1800 hours *	Second Year
Second Year Apprentice	Completion of advanced level (Block 2) courses, plus relevant work experience totalling 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 totalling a minimum of 1600 hours *	Second Year
Second Year Apprentice	Completion of advanced level (Block 2) courses, plus relevant work experience totalling 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 which shall not be less than:

Program Duration	Wage Rates		Comments
7200 Hours	1 st Year	55%	These wage rates are percentages of the prevailing 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	65%	
	3 rd Year	75%	
	4 th Year	90%	
5400 Hours and 4800 Hours	1 st Year	55%	
	2 nd Year	70%	
	3 rd Year	85%	
4000 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 Board.

7.0 PERIODIC EXAMINATIONS AND EVALUATION

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

9.0 HOURS OF WORK

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

10.0 COPIES OF THE REGISTRATION FOR APPRENTICESHIP

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

11.0 RATIO OF APPRENTICES TO JOURNEYPERSONS

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

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

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

13.0 AMENDMENTS TO A PLAN OF APPRENTICESHIP TRAINING

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

14.0 EMPLOYMENT, RE-EMPLOYMENT AND TRAINING REQUIREMENTS

- 14.1 The plan of training requires Apprentices to attend regularly their place of employment.
- 14.2 The plan of training requires Apprentices to regularly attend training programs for that occupation as prescribed by The Provincial Apprenticeship and Certification Board.
- 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 M.O.U.'s reinstated by the Provincial Apprenticeship and Certification Board but would be subject to a commitment to complete the entire program as outlined in the General Conditions of Apprenticeship. Permanent cancellation in the said occupation is the result of non-compliance.
- 14.4 Cancellation of the Memorandum of Understanding to challenge journeyperson examinations, if unsuccessful, would require an apprentice to serve a time penalty of two (2) years before reinstatement as an apprentice or registering as a Trade Qualifier.
- 14.5 Under the plan of training the employer is required; to keep each apprentice employed as long as work is available, and if the apprentice is laid off due to lack of work, to give opportunity to be re-employed before another is hired.

- 14.6 The employer will permit each apprentice to regularly attend training programs as prescribed by the Provincial Apprenticeship and Certification Board.
- 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.

REQUIREMENTS FOR RED SEAL CERTIFICATION FOR APPRENTICES

1. Evidence that the required work experiences outlined in this plan of training have been obtained. This evidence must be in a format that clearly outlines the experiences and must be signed by an appropriate person or persons attesting that these experiences have been obtained to the level required.
2. Successful completion of all required courses in program.
3. A combination of training from an approved training program and suitable work experience totalling 7200 hours
4. Completion of a National Red Seal examination, to be set at a place and time determined by the Industrial Training Division.
5. Payment of the appropriate examination fee.

ROLES AND RESPONSIBILITIES OF STAKEHOLDERS IN THE APPRENTICESHIP PROCESS

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

The Apprentice

- to complete all required technical training courses as approved by the Provincial Apprenticeship and Certification Board.
- to find appropriate employment.
- to complete all required work experiences in combination with the required hours.
- to ensure that the work experiences are well documented.
- to approach apprenticeship training with an attitude and commitment that fosters the qualities necessary for a successful career as a qualified journeyperson.
- to obtain the required hand tools as specified by the Board for each period of training of the apprenticeship program.

The Employer

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

The Training Institution

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

The Industrial Training Division

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

The Provincial Apprenticeship and Certification Board

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

Program Outcomes

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

- Task 1 Use Documentation.
- Task 2 Use tools and equipment.
- Task 3 Organize work.
- Task 4 Apply corrosion protection material.
- Task 5 Repair and replace trim.
- Task 6 Perform final check.
- Task 7 Repair structural components.
- Task 8 Replace structural components.
- Task 9 Repair panels.
- Task 10 Replace panels.
- Task 11 Replace structural glass.
- Task 12 Replace non-structural glass.
- Task 13 Repair and replace mechanical components.
- Task 14 Repair and replace electrical components.
- Task 15 Repair and replace interior components.
- Task 16 Replace seat belt restraint systems.
- Task 17 Replace air bag systems.
- Task 18 Prepare surfaces.
- Task 19 Prepare and apply refinishing materials.
- Task 20 Detail exterior.
- Task 21 Detail interior.

Program Structure

The courses listed below are required technical training in the Motor Vehicle Body Repairer (Metal and Paint) Apprenticeship Program.

Entry Level Courses					
NL Course No.	Atlantic Course No.	Course Name	Hours	Pre-Requisites	Page No.
TS-1510		Occupational Health and Safety	6	None	14
TS-1520		WHMIS	6	None	17
TS-1530		Standard First Aid	14	None	20
AB-1610	ABR-100	Safety	12	None	21
AB-1600	ABR-105	Trade Related Documents	12	None	22
SV-1110		Ozone Depletion	7	None	23
AB-1620	ABR-115	Tools and Equipment	45	ABR-100	24
AB-1630	ABR-120	Fasteners and Adhesives	12	ABR-100-115	26
AB-1640	ABR-125	Vehicle Construction	12	ABR-100	27
AB-1650	ABR-130	Post-Repair Vehicle Inspection	12		28
AB-1660	ABR-135	Metallurgy	30	ABR-125	29
AB-1670	ABR-140	Cutting and Heating	45	ABR-115	30
AB-1680	ABR-145	Gas Metal Arc Welding (GMAW[MIG])	45	ABR-115, 140	32
AB-1690	ABR-155	Resistance Spot Welding	15	ABR-115-140	34
AB-1700	ABR-160	Metal Working 1 (Mild Steel)	45	ABR-135	35
AB-1710	ABR-165	Body Fillers and Abrasives	45	ABR-160	37
AB-1720	ABR-170	Corrosion Protection	45	ABR-160	38
AB-1730	ABR-175	Surface Preparation (Cleaning, Stripping and Masking)	60	ABR-175	40
AB-1740	ABR-180	Non-Metal Repair	90	All entry level courses completed	42
AB-1750	ABR-185	Stationary Glass	30	ABR-190	43
AB-1760	ABR-190	Moveable Glass and Hardware	30	ABR-210	45
AB-1770	ABR-195	Undercoats	40	ABR-170	47
AB-1800	ABR-200	Refinishing 1	60	ABR-195	48

Entry Level Courses					
NL Course No.	Atlantic Course No.	Course Name	Hours	Pre-Requisites	Page No.
AB-1780	ABR-205	Cleaning and Detailing	30	ABR-200	49
AB-1790	ABR-210	Upholstery, Trim and Hardware	30	ABR-115	50
AB-1810	ABR-235	Batteries	15	ABR-100	60
*MA-1060		Basic Math	60	None	76
CM-2150		Workplace Communications	45	None	79
MR-1220		Customer Service	30	None	81
SP-2330		Quality Assurance/Quality Control	30	None	83
MC-1050		Introduction to Computers		None	85
SD-1700		Workplace Skills	30	None	89
SD-1710		Job Search Techniques	15	None	91
SD-1720		Entrepreneurial Awareness	15	None	93
OT-1210		Workplace Exposure	60	All Level I Courses completed	
Total Hours			1097		

REQUIRED WORK EXPERIENCE

Block 2					
NL Course No.	Atlantic Course No.	Course Name	Hours	Pre-Requisites	Page No.
AB2710	ABR-230	Electronic Fundamentals	75	ABR-235	58
AB-2700	ABR-160	Metal Working 2 (Aluminum)	45	ABR-135	73
AB-2720	ABR-147	Position Arc Welding (GMAW)	30	ABR-115-140	74
AB-2730	ABR-215	Restraints Systems	30	ABR-230,235	52
AB-2740	ABR-220	Structural Components	60	ABR 125-135	54
Total Hours			240		

Comment [s1]:

REQUIRED WORK EXPERIENCE

Block 3					
NL Course No.	Atlantic Course No.	Course Name	Hours	Pre-Requisites	Page No.
AB2810	ABR-225	Non-Structural Components	75	ABR-125.135	56
AB-2820	ABR-240	Electrical & Electronic Repairs	75	ABR-230	61
AB-2800	ABR-275	Refinishing 2	75	ABR-230	72
AB-2830	ABR-255	Damage Analysis of Conventional Frames And Unitized Bodies	45		67
Total Hours			240		

REQUIRED WORK EXPERIENCE

Block 4					
NL Course No.	Atlantic Course No.	Course Name	Hours	Pre-Requisites	Page No.
AB-2900	ABR-245	Mechanical Systems and Components	75	Entry level completed	63
AB-2910	ABR-250	Steering Suspension and Braking Systems	75	ABR-245	65
AB-2920	ABR-260	Unitized Body Repairs	30	ABR-255	68
AB-2930	ABR-265	Conventional Frame Repair	30	ABR-255	69
AB-2940	ABR-270	Damage Analysis and Estimating Costs	30	Entry level completed	71
Total Hours			240		

*A student who can meet the Mathematics requirement through an ACUPLACER online test may be exempted from Mathematics 1060.

TS-1510 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.

**TS-1520 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 program
 - v) Definitions of legal and technical terms
2. Examine hazard identification and ingredient disclosure.
 - i) Prohibited, restricted and controlled products
 - ii) Classification and the application of WHMIS information requirements
 - iii) Responsibilities for classification
 - the supplier
 - the employer
 - the worker - Classification: rules and criteria
 - information on classification
 - classes, divisions and subdivision in WHMIS
 - general rules for classification
 - class A - compressed gases
 - class B - flammable and combustible materials
 - class C - oxidizing material
 - class D - poisonous and infectious material
 - class E - corrosive material
 - class F - dangerously reactive material
 - iv) Products excluded from the application of WHMIS legislation

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

- v) Comparison of classification systems - WHMIS and TDG
- vi) General comparison of classification categories
- vii) Detailed comparison of classified criteria

3. Explain labeling and other forms of warning.

- i) Definition of a WHMIS label
 - supplier label
 - workplace label
 - other means of identification
- ii) Responsibility for labels
 - supplier responsibility
 - employer responsibility
 - worker responsibility
- iii) Introduce label content, design and location
 - supplier labels
 - workplace labels
 - other means of identification

4. Introduce material safety data sheets (MSDS).

- i) Definition of a material safety data sheet
- ii) Purpose of the data sheet
- iii) Responsibility for the production and availability of data sheets
 - supplier responsibility
 - employer responsibility
 - workers responsibility

Practical:

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

SUGGESTED RESOURCES:

1. WHMIS Regulation
2. Sample MSDS sheets

TS-1530

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

AB-1610

SAFETY

Outcomes:

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

- demonstrate knowledge of types of safety equipment.
- demonstrate knowledge of the applications and procedures for use of safety equipment.
- demonstrate knowledge of safe work practices.
- demonstrate knowledge of regulations pertaining to safety.

Pre-requisites: None

Objectives and Content:

1. Identify types of personal protective equipment (PPE) and describe their applications.
 - i) clothing
 - ii) equipment
2. Describe the care and maintenance of personal protective equipment.
3. Identify workplace hazards and describe safe work practices and equipment.
 - i) personal
 - ii) shop/facility
 - iii) environmental
4. Identify and describe workplace safety and health regulations.
 - i) federal
 - ii) provincial/territorial
 - iii) municipal (awareness of)

Practical:

1. Conduct safety inspection of shop including fire exits, identifying location and expiry dates of fire extinguishers, MSDS sheets, eye wash stations.
2. Demonstrate proper care of Personal protective equipment.
3. Demonstrate knowledge of signage used in the shop.

AB-1600

TRADE RELATED DOCUMENTS

Outcomes:

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

- demonstrate knowledge of trade documents
- demonstrate knowledge of preparing and interpreting trade documents
- demonstrate knowledge of ordering and organizing parts and materials

Pre-requisites: None

Objectives and content:

1. Identify sources of related information.
2. Identify and interpret information found on the vehicle.
 - i) VIN
 - ii) paint code
3. Identify types of documents and describe the procedures used to interpret them.
 - i) Material Safety Data Sheets
 - ii) manuals and bulletins
 - iii) work orders
 - iv) estimates
4. Describe the procedures used to prepare documentation.
5. Describe procedures for ordering parts and materials.
6. Describe procedures for organizing/storing parts and materials.

Practical:

1. Retreive vehicle identification number and all other necessary information as specified by the Instructor for a specific job.

SV-1110

OZONE DEPLETION

Outcomes:

Upon successful completion of this unit, the apprentice will be able to write an exam covering the regulation on ozone-depleting substances with a pass of 75%.

Pre-requisites: None

Objectives and Content:

1. Describe procedures for handling ozone-depletion substances (refrigerants) used in motor vehicles as per Regulations.
2. Identify the Act relating to ozone-depletion substances regulations.

AB-1620

TOOLS AND EQUIPMENT

Outcomes:

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

- demonstrate knowledge of tools and equipment, their applications, maintenance and procedures for use

Pre-requisites: ABR-100

Objectives and Content:

1. Identify types of hand tools and describe their applications and procedures for use.
 - i) basic
 - ii) trade specific
2. Identify types of basic measuring equipment and describe their applications and procedures for use.
3. Identify types of specialized measuring equipment and describe their applications.
4. Identify types of testing/diagnostic equipment and describe their applications.
5. Identify types of power tools and describe their applications and procedures for use.
 - iii) electric
 - iv) pneumatic
 - v) hydraulic
6. Identify types of shop equipment and describe their applications.
 - vi) cleaning
 - vii) lifting
7. Identify types of welding and cutting equipment and describe their applications.
 - viii) electric
 - ix) gas
8. Identify types of straightening equipment and describe their applications.
9. Identify types of refinishing and detailing tools and equipment and describe their applications.
10. Identify and describe care and maintenance procedures relating to tools and equipment.

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Practical:

1. Demonstrate the use of various hand tools.
2. Demonstrate the use of various measuring equipment.
3. Demonstrate the use of various testing/diagnostic equipment.
4. Demonstrate the use of various power tools.
 - i) electric
 - ii) pneumatic
 - iii) hydraulic
5. Demonstrate the use of shop equipment used for cleaning & lifting.
6. Demonstrate the use of straightening equipment.
7. Demonstrate care & maintenance of tools & equipment.

AB-1630

FASTENERS AND ADHESIVES
(Theory Only)

Outcomes:

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

- demonstrate knowledge of fasteners and adhesives, their applications and safety considerations

Pre-requisites: ABR-100, ABR-115

Objectives and Content:

1. Identify and describe safety considerations and procedures relating to fasteners and adhesives.
 - i) personal
 - ii) vehicle
2. Identify types of fasteners and describe their applications.
3. Describe the procedures to remove and install fasteners.
4. Identify types of adhesives and describe their applications.
5. Identify the considerations when applying and removing adhesives.
 - i) product specific

AB-1640

VEHICLE CONSTRUCTION
(Theory Only)

Outcomes:

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

- demonstrate knowledge of vehicle construction
- demonstrate knowledge of vehicle components

Pre-requisites: ABR-100

Objectives and Content:

1. Identify types of vehicle construction and describe their characteristics.
 - i) conventional frames
 - ii) unitized bodies
 - iii) space frames
2. Identify body sections and describe their components.
3. Identify and describe structural and non-structural components.
4. Identify and describe the types of substances used in vehicle construction.

AB-1650 POST-REPAIR VEHICLE INSPECTION

Outcomes:

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

- demonstrate knowledge to perform a visual inspection
- demonstrate knowledge of vehicle component operation

Pre-requisites: None

Objectives and Content:

1. Identify and describe the procedures used to perform a visual inspection of the vehicle.
2. Identify vehicle components requiring operational checks.
3. Describe the procedures used to perform vehicle component operational checks.
4. Identify the purpose and procedures for conducting a vehicle road test.

Practical:

1. Complete a post-repair vehicle inspection check list.

AB-1660

METALLURGY

Outcomes:

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

- demonstrate knowledge of various metals and their characteristics
- demonstrate knowledge of metallurgic principles and their applications to control expansion, contraction and distortion

Pre-requisites: ABR-125

Objectives and Content:

1. Define and explain terms associated with metallurgy.
2. Identify types of metals used in vehicle construction.
3. Describe the properties of metals.
4. Identify and describe procedures associated with working metals.
 - i) forming
 - ii) shearing
 - iii) punching
 - iv) drilling
 - v) cutting
 - vi) welding
5. Describe the effects metal working has on metallurgic properties.
 - i) stress
 - ii) contraction
 - iii) expansion
 - iv) distortion
 - v) work hardening
6. Describe the procedures to prevent or correct problems that occur when working metals.

Practical:

1. Measure, cut, and form panels as per Instructor.

AB-1670

CUTTING AND HEATING

Outcomes:

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

- demonstrate knowledge of cutting and heating equipment, their applications, maintenance and procedures for use

Pre-requisites: ABR-115

Objectives and Content:

1. Identify and describe cutting and heating equipment and components.
 - i) oxy-fuel
 - ii) plasma arc
2. Identify the applications for oxy-fuel cutting and heating.
3. Identify the application for plasma arc cutting and heating.
4. Describe safety considerations when using cutting and heating equipment.
 - i) personal
 - ii) shop/facility
 - iii) equipment
 - iv) vehicle
5. Describe the procedures to set-up, maintain, and shut-down oxy-fuel equipment.
6. Describe the procedures to set-up, maintain, and shut-down plasma arc cutting equipment.
7. Describe the procedures used to cut with oxy-fuel equipment.
8. Describe the procedures used to cut with plasma arc cutting equipment.
9. Describe the procedures used to heat with oxy-fuel equipment.

Practical:

1. Set-up oxy-fuel equipment.
2. Perform heating & cutting procedures using oxy-fuel equipment.
3. Cut mild steel using oxy-fuel equipment.
4. Cut ferrous & non-ferrous metals with oxy-fuel equipment.

5. Use Plasma Arc equipment to cut metal.

AB-1680 GAS METAL ARC WELDING – GMAW (MIG)

Outcomes:

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

- demonstrate knowledge of gas metal arc welding equipment, its applications, maintenance and procedures for use
- demonstrate knowledge of weld defects, their causes and the procedures to prevent and correct them

Pre-requisites: ABR-115, ABR-140

Objectives and Content:

1. Define and explain terminology associated with gas metal arc welding.
2. Describe gas metal arc welding and its applications.
3. Identify safety precautions relating to gas metal arc welding.
 - i) personal
 - ii) equipment
 - iii) vehicle
4. Identify and describe gas metal arc welding equipment and accessories.
5. Describe the procedures to set-up, operate and shut-down gas metal arc welding equipment.
6. Describe the procedures used to maintain and troubleshoot gas metal arc welding equipment.
7. Identify the types of welds performed using gas metal arc welding equipment.
 - i) plug
 - ii) fillet (continuous)
 - iii) stitch
 - iv) tack
8. Describe the procedures used to weld various substrates using the gas metal arc welding process.
 - i) steel
 - ii) aluminum
9. Describe the weld defects, their causes and the procedure to prevent and correct them.

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Practical:

1. Disassemble and reassemble GMAW welding system.
2. Fillet weld flat (GMAW): "t" joint and lap joint in steel and aluminum.
3. Fillet weld horizontal (GMAW): "t" joint and lap joint in steel and aluminum.
4. Butt weld flat (GMAW): square butt joint and single vee butt joint in steel and aluminum.

AB-1690 RESISTANCE SPOT WELDING (RSW)

Outcomes:

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

- demonstrate knowledge of resistance spot welding and its applications

Pre-requisites: ABR-115, ABR-140

Objectives and Content:

1. Describe Resistance Spot Welding (RSW) and Squeeze Type Resistance Spot Welding (STRSW) and their applications.
2. Identify safety precautions relating to resistance spot welding and squeeze type resistance spot welding.
 - i) personal
 - ii) equipment
 - iii) Vehicle

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Practical:

1. Perform welds using STRSW equipment.

AB-1700 METAL WORKING 1 (Mild Steel)

Outcomes:

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

- demonstrate knowledge of metal working procedures for sheet metal repair

Pre-requisites: ABR-135

Objectives and Content:

1. Identify the types of automotive sheet metal.
 - i) steel
 - ii) aluminum

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2. Identify and describe types of damage to mild steel sheet metal.
 - i) direct
 - ii) indirect

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3. Identify considerations when performing metal work on mild steel sheet metal.
 - i) tool selection
 - ii) repair sequence
 - iii) protection of adjacent panels
 - iv) panel preparation

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4. Identify the types of panels and their associated repair procedures.
 - i) accessible
 - hammer and dolly
 - shrinking (hot or cold)
 - ii) limited access
 - prybar
 - pick
 - dent puller
 - uni-spotter
5. Describe the methods used to detect surface irregularities.
6. Describe the procedures used to rough out and align damaged mild steel sheet metal.
7. Describe the procedures used to prepare mild steel sheet metal for finishing.

Practical:

1. Retrieve information on different types of metals used and where they are located on a vehicle and identify any special procedures to be followed.
2. Unlock and shape metal to contour.
3. Shrink metal.
4. Pick and file metal.

AB-1710 BODY FILLERS AND ABRASIVES

Outcomes:

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

- demonstrate knowledge of abrasives, their applications, safety considerations and procedures for use
- demonstrates knowledge of types of body fillers, their applications, safety considerations and procedures for use

Pre-requisites: ABR-160

Objectives and Content:

1. Identify the types of abrasives and describe their characteristics and applications.
2. Describe the procedures and techniques for using abrasives.
3. Identify the types of body fillers and describe their characteristics and applications.
4. Identify safety considerations when working with body fillers and abrasives.
5. Describe the procedures to apply body fillers.
 - i) tools
 - ii) surface preparationn
 - iii) mixing
 - iv) application techniques
6. Describe the procedures for shaping and finishing body fillers.
 - i) grit selection
 - ii) tool selection
 - iii) sanding techniques
 - iv) detect surface irregularities
 - visual
 - guide coat
 - tactile (touch)

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Practical:

1. Demonstrate techniques for using abrasives.
2. Demonstrate body filler application.
3. Demonstrate the procedures for shaping and finishing body fillers.

AB-1720

CORROSION PROTECTION

Outcomes:

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

- demonstrate understanding of corrosion and its causes
- demonstrate knowledge of the effects of corrosion on metal
- demonstrate knowledge of types of corrosion protection, their characteristics and application procedures

Pre-requisites: ABR-160

Objectives and Content:

1. Identify the types and causes of corrosion.
2. Identify environmental and atmospheric conditions that influence the rate of corrosion.
3. Identify and describe the types of corrosion protection.
 - i) electro-plating
 - ii) undercoats and topcoats
 - iii) anti-corrosion compounds
4. Describe the procedures used to inspect for corrosion related damage.
5. Identify corrosion protection materials used during repair procedures.
 - i) primers
 - ii) sealers
 - iii) anti-corrosion compounds
6. Identify the methods and tools used to restore corrosion protection.
7. Describe the procedures to restore corrosion protection to Original Equipment Manufacturer (OEM) specifications.
 - i) documentation
8. Describe the procedures to restore corrosion protection to electrical components.

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Practical:

1. Use various types of corrosion protection.
2. Inspect for corrosion related damage.
3. Demonstrate the procedure used to restore corrosion protection to Original Equipment manufacturers specifications.
4. Demonstrate the procedure used to restore corrosion protection to electrical components.

AB-1730

SURFACE PREPARATION (Cleaning, Stripping and Masking)

Outcomes:

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

- demonstrate knowledge of surface cleaning procedures
- demonstrate knowledge of surface preparation using abrasives
- demonstrate knowledge of stripping equipment and products, their applications, safety precautions and procedures for use
- demonstrate knowledge of masking techniques

Pre-requisites: ABR-175

Objectives and Content:

1. Describe ideal working conditions for surface preparation.
 - i) personal
 - ii) shop/facility
 - iii) equipment
 - iv) environmental
2. Identify products used to clean surfaces, their applications and procedures for use.
3. Identify substrate types and describe the procedures and considerations for evaluating their condition.
4. Identify topcoats and undercoats and describe the procedures and considerations for evaluating their condition.
5. Identify the methods used to strip topcoats and undercoats, their applications and safety or environmental considerations.
 - i) sanding
 - ii) chemical strippers
 - iii) media blasting
 - iv) mechanical
6. Describe the procedures used to strip paint.
7. Describe the procedures used to prepare surfaces using abrasives.
8. Identify the materials used in masking.

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9. Describe the procedures and techniques used to mask surfaces.
10. Describe the procedures and techniques to remove masking from surfaces.

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Practical:

1. Mark off areas using masking technique.
2. Strip paint using chemicals & blasting equipment.
3. Remove grease and dirt from surfaces to be painted.
4. Prepare paint booth (clean & drain air line system).
5. Sand surfaces using hand and power techniques.

AB-1740

NON-METAL REPAIR

Outcomes:

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

- demonstrate knowledge of non-metal materials, their applications and associated repair procedures

Pre-requisites: All entry level courses completed

Objectives and Content:

1. Identify non-metal materials and describe their characteristics and applications.
 - i) plastics
 - ii) fiberglass
 - iii) composites
 - iv) sheet molded compounds (SMC)
2. Identify products and material used in non-metal repair.
 - i) ISO codes
3. Describe the procedures used for non-metal repairs of:
 - i) plastics
 - ii) fiberglass
 - iii) composites
 - iv) sheet molded compounds (SMC)
4. Identify plastic welding equipment and the associated set-up and shut-down procedures.

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Practical:

1. Perform plastic welding and bonding procedures.
2. Repair & fill fiberglass panels.
3. Repair polyplastic compounds.
4. Fill damaged area with plastic filler.

AB-1750

STATIONARY GLASS

Outcomes:

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

- demonstrate knowledge of the types of stationary glass, its characteristics and importance to vehicle structure
- demonstrate knowledge of the procedures to replace stationary glass to industry standards

Pre-requisites: ABR-190

Objectives and Content:

1. Identify the types of stationary glass and describe their characteristics.
2. Describe stationary glass and its importance to the vehicle structure/integrity.
3. Describe the procedures to determine if stationary glass can be repaired or if replacement is necessary.
4. Identify the fastening methods for stationary glass and describe the associated components.
 - i) mechanical
 - ii) gasket mounted
 - iii) bonded
5. Identify components and accessories associated with stationary glass.
6. Identify tools and equipment used in stationary glass replacement and their procedures for use.
7. Describe materials used for stationary glass replacement, their characteristics and procedures for use.
8. Describe the procedures and precautions for removal and installation of stationary glass and its related components.
9. Describe the procedures used to detect and repair leaks around stationary glass.

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Practical:

1. Perform fastening methods for stationary glass.
2. Remove and install stationary glass mechanical, bonded and gasket.
3. Perform checks to detect and repair leaks around stationary glass.

AB-1760 MOVEABLE GLASS AND HARDWARE

Outcomes:

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

- demonstrate knowledge of types of moveable glass and their characteristics
- demonstrate knowledge of hardware and attachments associated with moveable glass
- demonstrate knowledge of procedures to replace moveable glass and repair or replace its associated hardware and attachments

Pre-requisites: ABR-210

Objectives and Content:

1. Identify the types of moveable glass and describe their characteristics.
2. Describe moveable glass related hardware.
 - i) motors
 - ii) regulators
 - iii) channels
3. Identify the fastening methods for moveable glass and describe the associated components.
 - i) mechanical
 - ii) pressure
 - iii) bonded
4. Describe the procedures and considerations for inspecting moveable glass and its associated hardware.
5. Describe the procedures used to remove and install moveable glass.
6. Describe the procedures used to detect and repair leaks.
7. Describe the procedures used to service and adjust moveable glass.

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Practical:

1. Replace fixed glass (rubber mounted).
2. Replace fixed glass (adhesive mounted).

3. Install moveable glass.
4. Service & adjust moveable glass.
5. Perform checks for wind noise and water leaks.

AB-1770

UNDERCOATS

Outcomes:

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

- demonstrate knowledge of undercoats, their applications, safety considerations and procedures for use
- demonstrate knowledge of undercoat materials, their characteristics and mixing procedures
- demonstrate knowledge of types of equipment used in applying undercoats, their set-up, maintenance and procedures for use

Pre-requisites: ABR-170

Objectives and Content:

1. Identify types of undercoats and describe their characteristics and applications.
2. Describe safety considerations and requirements relating to undercoats.
 - i) personal
 - ii) shop/facility
 - iii) environment
3. Identify equipment used in applying undercoats.

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Practical:

1. Set-up, adjust, and maintain equipment used in applying undercoats.
2. Demonstrate the procedures used to prepare substrate prior to applying undercoats.
3. Demonstrate the procedures for mixing undercoats.
4. Demonstrate undercoat application techniques and procedures.
5. Demonstrate procedure to prevent and correct undercoat defects.
6. Demonstrate how to prepare undercoats for topcoat.

AB-1800

REFINISHING 1

Outcomes:

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

- demonstrate knowledge of refinishing materials and their characteristics
- demonstrate knowledge of refinishing equipment, its applications, maintenance and procedures for use

Pre-requisites: ABR-195

Objectives and Content:

1. Describe safety considerations relating to refinishing.
 - i) personal
 - ii) shop/facility
 - iii) environment
2. Describe the surface preparation procedures for refinishing.
3. Identify refinishing equipment and its applications.
4. Describe the procedures used to set-up, operate, adjust, and maintain refinishing equipment.
5. Identify types of single-stage finishes and describe their characteristics.
6. Identify the types of basecoat/clearcoat finishes and describe their characteristics.

Practical:

1. Prepare surface for refinishing and blending.
2. Set-up, operate, adjust, and maintain refinishing equipment.
3. Apply single-stage finishes.
4. Apply basecoat/clearcoat finishes.

AB-1780

CLEANING AND DETAILING

Outcomes:

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

- demonstrate knowledge of cleaning and detailing equipment and products
- demonstrate knowledge of cleaning and detailing practices and procedures

Pre-requisites: ABR-200

Objectives and Content:

1. Identify equipment used in detailing vehicle exterior.
2. Identify equipment used in detailing vehicle interior.
3. Identify products used in vehicle detailing and their related safety considerations.
4. Describe techniques for correcting topcoat defects.
 - i) polishing
 - ii) buffing
5. Describe the procedures to remove overspray.
6. Describe the procedures used to polish vehicle exterior.
7. Describe the procedures used to clean vehicle interior.
8. Describe the procedures used to wash vehicle exterior.

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Practical:

1. Perform final clean-up for customer delivery:
 - remove overspray
 - wash & polish vehicle exterior
 - clean vehicle interior
2. Perform water sanding and buffing techniques.

AB-1790 UPHOLSTERY, TRIM AND HARDWARE

Outcomes:

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

- demonstrate knowledge of types of trim, their applications and characteristics.
- demonstrate knowledge of procedures to repair and replace upholstery, trim and hardware
- demonstrate knowledge of procedures to detect and repair noises and leaks contributed to trim and hardware

Pre-requisites: ABR-115

Objectives and Content:

1. Identify and describe exterior trim and hardware.
2. Identify and describe interior upholstery, trim and hardware.
3. Describe fasteners and adhesives used in the installation of upholster, trim and hardware.
4. Describe the procedures used to repair or replace exterior trim.
5. Describe the procedures used to remove and install pin stripes and decals.
6. Describe the procedures used to inspect interior upholstery, trim and hardware for collision related damage.
7. Describe the procedures used to repair or replace interior trim.
8. Describe the procedure used to repair or replace upholstery.
9. Describe the procedures used to detect leaks related to interior and exterior trim and hardware.
10. Describe the procedures used to repair leaks related to interior and exterior trim and hardware.
11. Describe the procedures used to locate noises related to interior and exterior trim and hardware.
12. Describe the procedures used to repair noises related to interior and exterior trim and hardware.

Practical:

1. Repair and replace exterior trim.
2. Remove and install pin stripes and decals.
3. Inspect interior upholstery, trim and hardware for collision damage.
4. Repair and replace interior trim.
5. Repair and replace upholstery.
6. Repair leaks related to interior and exterior trim and hardware.
7. Repair noises related to interior and exterior trim and hardware.

AB-2740

RESTRAINT SYSTEMS

Outcomes:

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

- demonstrate knowledge of types of restraint systems, their components and operation
- demonstrate knowledge of procedures to replace restraint systems
- demonstrate knowledge of safety considerations relating to restraint systems

Pre-requisites: ABR-230, ABR-235

Objectives and Content:

1. Identify the types of restraint systems and their components and operation.
 - i) active
 - ii) passive
2. Identify and interpret documentation relating to servicing restraint systems.
 - i) service manuals
 - ii) original equipment manufacturer (OEM) recommendations
3. Identify safety considerations relating to restraint systems and their components.
 - i) handling
 - ii) storage
 - iii) disposal
4. Describe the procedures used to remove seat belt restraint systems and their components.
5. Describe the procedures used to inspect seat belt restraint systems and their components.
6. Describe the procedures used to install seat belt restraint systems and their components.
7. Describe the procedures used to remove air bags and their related components.
8. Describe the procedures used to install air bags and their related components.
9. Describe the procedures used to perform operation check of restraint systems.

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Practical:

1. Inspect seat belts.
2. Locate and identify Safety Restraint Systems (SRS).
3. Locate & retrieve restraint related codes.
4. Remove and re-install air bags.

AB-2740

STRUCTURAL COMPONENTS

Outcomes:

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

- demonstrate knowledge of the procedures to repair and replace structural components
- demonstrate knowledge of procedures to adjust and align structural components

Pre-requisites: ABR-125, ABR-135

Objectives and Content:

1. Identify and describe structural components.
2. Identify and explain safety considerations when repairing or replacing structural components.
3. Describe the procedures used to inspect structural components for:
 - i) corrosion
 - ii) collision
4. Identify and describe tools and measuring equipment used to repair or replace structural components.
5. Describe the procedures used to repair structural components.
 - i) original equipment manufacturer (OEM) recommendations
 - ii) industry standards
6. Describe the procedures used to remove and re-install structural components.
7. Describe the procedures used to replace structural components.
 - i) full replacement
 - ii) sectioning
8. Describe the procedures used to adjust and align structural components.

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Practical:

1. Inspect structural components for corrosion and collision.
2. Use tools and equipment to repair and replace structural components.

3. Repair structural components.
4. Remove and re-install structural components.
5. Adjust and align structural components.

AB-2810

NON-STRUCTURAL COMPONENTS

Outcomes:

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

- demonstrate knowledge of non-structural component repair and replacement procedures
- demonstrate knowledge of procedures to align and adjust non-structural components

Pre-requisites: ABR-125, ABR-135

Objectives and Content:

1. Identify and describe non-structural components.
2. Identify and describe safety consideration when repairing or replacing non-structural components.
3. Describe the procedures used to inspect non-structural components for:
 - i) corrosion
 - ii) collision
4. Identify and describe tools and equipment used to repair or replace non-structural components.
5. Describe the procedures used to repair non-structural components.
 - ii) original equipment manufacturer (OEM) recommendations
 - i) industry standards
6. Describe the procedures used to remove and re-install non-structural components.
7. Describe the procedures used to replace non-structural components.
 - i) full replacement
 - ii) sectioning
8. Describe the procedures used to adjust and align non-structural components.

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Practical:

1. Inspect non-structural components for:
 - i) corrosion
 - ii) collision
2. Use tools and equipment to repair and replace non-structural components.

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3. Repair non-structural components.
4. Remove and re-install non-structural components.
5. Adjust and align non-structural components such as doors, hinges etc.

AB-2710 ELECTRONIC FUNDAMENTALS

Outcomes:

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

- demonstrate knowledge of electrical theory and its application
- demonstrate knowledge of equipment and procedures used to test electrical and electronic components
- demonstrate knowledge of safety precautions relating to electrical and electronic components
- demonstrate knowledge of electrical schematics, their applications and interpretation

Pre-requisites: ABR-235

Objectives and Content:

1. Describe the basic electrical theory.
2. Identify and define trade related terminology associated with electrical and electronic components.
3. Identify and describe safety precautions relating to electrical and electronic components.
4. Identify and describe basic electrical and electronic components and their operation.
5. Identify instruments used to test electrical and electronic circuits and components and their procedures for use.
6. Identify and describe electrical schematics and their use in the trade.
7. Describe the procedures used to interpret electrical schematics in the repair of electrical systems and electronic components.
 - i) original equipment manufacturer (OEM) recommendations
8. Describe the procedures used to test electrical and electronic circuits and components.

Practical:

1. Interpret an electrical schematic.
2. Demonstrate the use of Multi-meters.
3. Use OHMS law to calculate values in a parallel series circuit.

AB-1810

BATTERIES

Outcomes:

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

- demonstrate knowledge of batteries, their operation and associated safety considerations
- demonstrate knowledge of procedures to test and charge batteries
- demonstrate knowledge of procedures to remove and replace batteries

Pre-requisites: ABR-100

Objectives and Content:

1. Identify the types of batteries and describe their purpose, location, construction, operation and ratings.
2. Identify safety precautions relating to batteries.
 - i) handling
 - ii) storage
 - iii) disposal
3. Describe the procedures used to test batteries.
4. Describe the procedures used to charge batteries.
5. Describe the procedures used to remove and replace batteries.

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Practical:

1. Remove and re-install batteries while maintaining memories.
2. Load test an automotive battery.
3. Charge an automotive battery.
 - i) slow charge
 - ii) fast charge

AB-2820 ELECTRICAL AND ELECTRONIC REPAIRS

Outcomes:

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

- demonstrate knowledge of procedures for diagnosing and determining damage to electrical and electronic systems and components
- demonstrate knowledge of procedures to repair and replace electrical and electronic components

Pre-requisites: ABR-230

Objectives and Content:

1. Identify electrical systems, electronic systems and accessories.
 - i) vehicle management systems
 - ii) electrical generation and distribution systems
 - iii) lighting systems
2. Identify tools and equipment used in electrical and electronic repairs and adjustments and describe their applications and procedures for use.
3. Identify and describe safety considerations associated with electrical and
 - i) electronic systems during repairs.
 - ii) personal
 - iii) vehicle
4. Describe the procedures to protect electrical and electronic systems during repairs.
5. Describe electrical and electronic damage associated with collisions.
6. Describe the procedures used to diagnose electrical or electronic systems and components.
7. Describe the procedures used to repair, adjust and replace electrical and electronic systems and components.

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Practical:

1. Align headlights as per manufacturer's specifications.
2. Diagnose and repair a lighting circuit.

3. Diagnose and repair:

- power window circuit
- power lock circuit
- horn circuit
- wiper/washer circuit
- rear defrost circuit

AB-2900 MECHANICAL SYSTEMS AND COMPONENTS

Outcomes:

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

- demonstrate knowledge of procedures for inspecting and determining damage to mechanical systems and components
- demonstrate knowledge of procedures to repair and replace mechanical systems and components

Pre-requisites: Entry level completed

Objectives and Content:

1. Identify mechanical components.
 - i) drive train
 - ii) exhaust system
 - iii) fuel system
 - iv) heating/cooling system
 - v) accessories
2. Identify and describe safety considerations relating to servicing mechanical systems and components.
 - i) personal
 - ii) shop/facility
 - iii) environment
3. Identify and describe safety regulations and documentation relating to servicing mechanical systems.
 - i) jurisdictional regulations
 - ii) federal regulations
4. Identify tools and equipment used to service mechanical systems and components.
5. Describe the procedures to inspect mechanical systems for collision related damage.
6. Describe the procedures used to remove and re-install mechanical components in order to perform collision repairs.
7. Describe the procedures used to clean, repair and replace mechanical systems components.
8. Describe the procedures used to perform operation check of mechanical system and components.

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Practical:

1. Perform an inspection of the mechanical systems on a vehicle for collision damage.
2. Remove, clean, repair, and re-install mechanical components of a vehicle.

AB-2910 STEERING, SUSPENSION AND BRAKING SYSTEMS

Outcomes:

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

- demonstrate knowledge of procedures for inspecting and determining damage to steering, suspension and braking systems and components
- demonstrate knowledge of procedures to repair and replace steering, suspension and braking systems and components

Pre-requisites: ABR-245

Objectives and Content:

1. Identify types of steering and suspension systems and their components.
2. Identify and explain terminology associated with steering, suspension and braking systems and components.
3. Define and explain terminology associated with steering, suspension and braking systems and components.
4. Identify and describe regulations and documentation relating to servicing steering, suspension and braking systems.
5. Identify and describe safety considerations relating to servicing steering, suspension and braking systems and components.
 - i) personal
 - ii) shop/facility
 - iii) environment
 - iv) liability
6. Identify tools and equipment used to service steering, suspension and braking systems components.
7. Describe the procedures to identify damaged or worn steering and suspension system components.
8. Describe the procedures used to remove and re-install steering, suspension and braking components in order to perform collision repairs.
9. Describe the procedures used to service steering and suspension components.
10. Identify the alignment process and its importance in the repair of steering and suspension system components.

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11. Describe the procedures used to service and replace braking system components.
12. Describe the procedures used to perform operation check of steering, suspension and braking system and components.

Practical:

1. Inspect & repair tires.
2. Remove tires from rims.
3. Replace tires.
4. Balance wheel & tire assemblies.
5. Clean, inspect and repack serviceable wheel bearing.
6. Identify & locate different types of suspension systems.
7. Locate & identify steering linkage systems.
8. Identify & locate various braking systems (drum & disc).
9. Identify & locate ABS brake components.
10. Retrieve ABS trouble codes.
11. Remove and re-install steering, suspension and braking components.
12. Replace steering components.
13. Perform power-steering pressure tests.

**AB-2830 DAMAGE ANALYSIS OF CONVENTIONAL
 FRAMES AND UNITIZED BODIES**

Outcomes:

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

- demonstrate knowledge of tools and equipment used to analyze damage to conventional frames and unitized bodies
- demonstrate knowledge of procedures to analyze damage to conventional frames and unitized bodies

Pre-requisites: None

Objectives and Content:

1. Identify energy management zones in conventional frames and unitized bodies as per manufacturing specifications.
2. Identify and describe measuring tools and equipment used to analyze damage to conventional frames and unitized bodies, their applications and procedures for use.
3. Identify and describe the procedures and considerations for analyzing damage to unitized bodies.
4. Identify and describe the procedures and considerations for analyzing damage to conventional frames.

Practical:

1. Identify and locate energy management zones in conventional frames and unitized bodies.
2. Perform damage analyses on both a conventional frame and a unitized body vehicle.

AB-2920

UNITIZED BODY REPAIRS

Outcomes:

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

- demonstrate knowledge of equipment used to repair unitized bodies, their applications and procedures for use
- demonstrate knowledge of procedures used to repair unitized bodies
- demonstrate knowledge of anchoring and anchoring equipment
- interpret related documentation and specifications

Pre-requisites: ABR-255

Objectives and Content:

1. Define and explain terminology relating to repairing unitized bodies.
2. Identify and describe safety precautions relating to straightening and repairing unitized bodies.
 - i) personal
 - ii) shop/facility
 - iii) vehicle
 - iv) liability
3. Identify measuring equipment and describe its application and procedures for use.
4. Identify the type of damage and determine the appropriate repair procedure.
5. Identify straightening equipment and describe its applications and procedures for use.
6. Identify anchoring techniques and procedures used for unitized body repair.
7. Describe the procedures used to repair unitized bodies.
 - i) original equipment manufacturer (OEM) specification

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Practical:

1. Set-up and use measuring equipment used in repairing unitized bodies.
2. Set-up and use straightening equipment used in repairing unitized bodies.
3. Demonstrate anchoring techniques and procedures used for repairing unitized bodies.

AB-2930 CONVENTIONAL FRAME REPAIR

Outcomes:

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

- demonstrate knowledge of equipment used to repair and align frames, their applications and procedures for use
- demonstrate knowledge of procedures used to repair and align frames
- demonstrate knowledge of sectioning procedures for frames

Pre-requisites: ABR-255

Objectives and Content:

1. Define and explain terminology relating to repairing conventional frames.
2. Identify and describe safety precautions relating to repairing and aligning conventional frames.
 - i) Personal
 - ii) shop/facility
 - iii) vehicle
 - iv) liability
3. Identify and describe types of conventional frame construction.
4. Identify measuring equipment and describe its application and procedures for use.
5. Describe the procedures to identify the type of damage and determine the appropriate repair procedure.
6. Identify straightening equipment and describe its applications and procedures for use.
7. Identify anchoring techniques and procedures used for conventional frame repair.
8. Describe the procedures used to repair conventional frames.
 - i) original equipment manufacturer (OEM) specifications
9. Describe the procedures used to section a conventional frame.
 - i) original equipment manufacturer (OEM) specifications

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Practical:

1. Set-up and use measuring equipment used for repairing conventional frames.
2. Demonstrate the use of straightening equipment.
3. Demonstrate anchoring techniques and procedures used for conventional frame repair.

AB-2940 DAMAGE ANALYSIS AND ESTIMATING COSTS

Outcomes:

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

- perform an estimate.
- prepare estimate documentation.

Pre-requisites: Entry level completed

Objectives and Content:

1. Describe the importance of effective communication relating to preparing estimates.
 - i) customers
 - ii) co-workers
 - iii) appraisers
 - iv) insurance adjusters
2. Identify the sources of information used in the preparation of estimates.
3. Describe the procedures used to perform estimates.
4. Describe the procedures used to prepare estimate documentation.

Practical:

1. Locate and list all of the necessary sources of information from the vehicle and applicable data bases.
2. Perform estimate and prepare estimate documentation.

AB-2800

REFINISHING 2

Outcomes:

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

- demonstrate knowledge of refinishing materials, their characteristics and mixing procedures

Pre-requisites: ABR-230

Objectives and Content:

1. Describe color theory.
2. Describe the procedures used for color matching.
3. Describe the procedures for mixing and applying single stage finishes.
 - i) spot
 - ii) panel
 - iii) complete
4. Describe the procedures for mixing and applying basecoat/clearcoat and tri-coat finishes.
 - i) spot
 - ii) panel
 - iii) complete
5. Describe the procedures used to refinish plastic parts.
 - i) interior
 - ii) exterior
6. Identify topcoat defects that occur during application and describe the procedures used to prevent or correct them.

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Practical:

1. Demonstrate the procedure for:
 - color matching
 - for mixing and applying single stage finishes
 - for mixing and applying basecoat, clearcoat, and tri-coats.
 - refinishing plastic parts
 - to correct and prevent topcoat defects

ABR-280

METAL WORKING 2 (Aluminum)

Outcomes:

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

- demonstrate knowledge of metal working procedures for aluminum sheet metal repair.

Objectives and Content:

1. Identify and describe types of damage to aluminum sheet metal.
 - i) direct
 - ii) indirect
2. Identify considerations when performing metal work on aluminum sheet metal.
 - i) tool selection
 - ii) repair sequence
 - iii) protection of adjacent panels
 - iv) panel preparation
3. Identify the types of panels and their associated repair procedures.
 - i) accessible
 - hammer and dolly
 - shrinking (hot or cold)
 - ii) limited access
 - prybar
 - pick
 - dent puller
4. Describe the procedures used to rough out and align damaged aluminum sheet metal.
5. Describe the procedures used to prepare aluminum sheet metal for finishing.

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Practical:

1. Unlock and shape metal to contour.
2. Prepare aluminum sheet metal for finishing.

AB1500

POSITION ARC WELDING (GMAW)

Description:

This GMAW course requires the use of safety equipment. GMAW equipment and accessories for welding light metals (110 volt MIG welder), and materials and supplies. It involves setting up GMAW equipment, preparing and welding the joint, shutting down the equipment and testing the weld. It includes information on types of welding machines, types of shielding gas, power supplies, types of wire, codes and standards, welding techniques, methods of transfer and GMAW parameters.

Course Outcomes:

1. To develop the skills and knowledge required for welding light metal structures with respect to various codes and standards.
2. To practice safety in potentially harmful situations.

Objectives and Content:

Fillet weld vertical; Fillet weld overhead; Butt weld horizontal; Butt weld vertical; Butt weld overhead

Practical:

1. Fillet weld light metals vertical (GMAW)
 - i) Describe the GMAW process used on the vertical position such as work and travel angle, gun manipulation, defects commonly encountered and effects of welding variables
 - ii) Run stringer beads in vertical position on m.s.
 - iii) Weld in vertical position
 - "T" joint
 - Lap joint
2. Fillet weld light metals overhead (GMAW)
 - i) Describe the overhead position, the necessary position, the necessary safety, positioning of the joint, common defects encountered, gun manipulation, effects of welding variables on weld characteristics.
 - ii) Run stringer beads on overhead position
 - iii) Weld in the overhead position
 - "T" joint
 - Lap joint

3. Butt weld light metals horizontal (GMAW)
 - i) Describe horizontal butt welds, joint design, joint fit up, common defects, work and travel angles, gun manipulation, welding variables and characteristics
 - ii) Weld butt joint:
 - i. Square butt joint
 - ii. Single "V" joint
 - iii) Perform guided bend test
4. Butt weld light vertical (GMAW)
 - i) Describe the vertical position butt weld joint design and fit up, common defects, work and travel angles, gun manipulation effects of welding variables and characteristics.
 - Weld in vertical position:
 - i. Square butt
 - ii. Single vee
 - ii) Perform guided bend test
5. Butt weld light metals overhead (GMAW)
 - i) Describe the butt weld in the overhead position, joint design and fit up, common defects, work and travel angles, gun manipulation, effects of welding variables and characteristics
 - ii) Weld butt joint:
 - Square butt joint
 - Single "V" joint
 - iii) Perform guided bend test

MA-1060

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 a knowledge of math relating to on-the-job skills and practices. A detailed course outline is available from the Department of Education, Industrial Training Section to training institutions upon request.

Prerequisites: None

Course Outcomes:

1. To develop numeracy skills and knowledge required for institutional and on-the-job learning.
2. To develop the capability to apply mathematical concepts in the performance of trade practices.
3. To develop an appreciation for mathematics as a critical element of the learning environment.
4. 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.

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.

REQUIRED RELATED COURSES

CM-2150

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.

Prerequisites: None

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

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 & 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 & discuss components of an effective presentation.
- ii) Review & discuss delivery techniques.
- iii) Review & discuss preparation & use of audio/visual aids.
- iv) Discuss & 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 & write an informal report with documented resources.
 - i) Edit, proofread, and revise the draft to create an effective informal report and present orally using visual aids.
 - ii) Participate in confidence building exercises.
4. Present an effective presentation.
5. Evaluate presentations.

MR-1220

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.

Prerequisites: None

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

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 & challenges they may present.
 - v) Describe customer loyalty.
 - vi) Examine barriers to quality Customer Service.
2. Explain how to determine customers 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 & resolving conflict.

- i) Examine & discuss ways to control feelings.
- ii) Examine & discuss ways to interact with an upset customer.
- iii) Examine & discuss ways to resolve conflict/customer criticism.
- iv) Examine & discuss ways to prevent unnecessary conflict with customers.

Practical:

1. Participate in activities to demonstrate knowledge of the course objectives.

SP-2330 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.

Prerequisites: None

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

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 a 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.

MC-1050

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.

Prerequisites: None

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

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) Demonstrate how to view directory structure and folder content.
 - ii) Organize files and folders.

- iii) Copy, delete, and move files and folders.
- iv) Create folders.
- v) Maximize and minimize a window.
- vi) 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 in the development of a document.

- i) Enter text
- ii) Change the display

10. 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

9. 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)

10. 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

11. Explain how to change Layout Format.

- i) Changing layout format: (margins, spacing, alignment, paragraph indent, tabs, line spacing, page numbering)

12. Explain how to change Text Attributes.

- i) Changing text attributes: (bold, underline, font, etc.)

13. Describe the Auxiliary Tools.
 - i) Using Spell Check & Thesaurus
14. 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
15. Examine & Discuss Electronic Spreadsheet.
 - i) Spreadsheet Basics
 - ii) The Worksheet Window
16. Describe Menus.
 - i) Menu Bar
 - ii) Control menu
 - iii) Shortcut menu
 - iv) Save, Retrieve form menus
17. Describe the components of a worksheet.
 - i) Entering constant values and formulas
 - ii) Using the Recalculation feature
18. 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
19. Describe how to print a worksheet.
 - i) Printing to the Screen
 - ii) Printing to the Printer
 - iii) Printing a selected Range
20. 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
21. State major security issues in using computers.
 - i) Pass words
 - ii) Accessing accounts
 - iii) Viruses and how they can be avoided
 - iv) Identity theft and ways to protect personal information

22. 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

23. 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 & print a spread sheet.

6. Post a document on-line.

SD-1700

WORKPLACE SKILLS

Description:

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

Prerequisites: None

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

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.

SD-1710

JOB SEARCH TECHNIQUES

Description:

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

Prerequisites: None

Course Outcomes:

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

- demonstrate effective use of Job Search Techniques

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.

SD-1720

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.

Prerequisites: None

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.

Objectives & 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 being in business.
2. Identify and discuss various types of business ownership.
 - i) Explore the Characteristic 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.
 - iv) Identify potential business opportunities.
4. Review the Entrepreneurial Process.

- i) Explain the entrepreneurial process.
- ii) Describe the purpose of a business plan.
- iii) Identify & discuss the main elements of a business plan.

Practical:

1. From a list potential business opportunities prepare a list of elements that would have to be included in a business plan.