



APPRENTICESHIP AND TRADES  
CERTIFICATION DIVISION

AIRCRAFT MAINTENANCE  
ENGINEER TRADE

**GENERAL CONDITIONS**

2020.03

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## **1. INTRODUCTION**

- 1.1 Transport Canada has 5 license ratings in the Aircraft Maintenance Engineer (AME) occupation.
  - M1 (small aircraft)
  - M2 (large aircraft)
  - S – Structures
  - E – Avionics
  - Balloons

The Balloon rating is outside the scope of training in NL and is not included in a NL apprenticeship.
- 1.2 An AME must be licensed by Transport Canada in one of these ratings to work independently in the occupation without supervision from, and approval of work by, a licensed AME acting as a mentor.
- 1.3 Transport Canada has the responsibility for:
  - identify the regulatory requirements necessary for the issuance of an AME license
  - identifying learning outcomes that all AME training must satisfy to be accepted for AME licensing
  - approving AME training organizations / programs which may receive knowledge and time credit towards an AME license
  - developing and administering all technical and regulatory certification exams necessary for AME licensing
  - identifying the required experience and range of workplace skills that an applicant for an AME license will be required to accomplish when seeking a particular AME license rating
- 1.4 The Provincial Apprenticeship and Certification Board (PACB), through the Apprenticeship and Trades Certification Division (ATCD), has the responsibility for:
  - identifying the requirements necessary for journeyperson certification
  - the development and maintenance of AME apprenticeship training standards in conjunction with the College of the North Atlantic (CNA) and in accordance with Transport Canada requirements

- the development and maintenance of an AME apprenticeship logbook compliant with Transport Canada requirements applicable to AME license ratings
- certification of Journeyperson Aircraft Maintenance Engineers in the province of Newfoundland and Labrador

1.5 Unless otherwise indicated in this document, AME apprentices will be subject to all policies and procedures of ATCD related to becoming an apprentice and serving and completing an apprenticeship.

## **2. ENTRANCE**

2.1 An applicant for apprenticeship must meet the entrance requirements:

- defined by CNA for entrance into a CNA AME training program, or
- defined by their training institution where training was completed at a Transport Canada approved/accepted training institution in another jurisdiction

## **3. VOLUNTARY CERTIFICATION**

3.1 Certification as a Journeyperson in this occupation in the province of Newfoundland and Labrador is voluntary. A Journeyperson designation from the province is NOT necessary to work in the occupation.

## **4. CLASSIFICATION**

4.1 The PACB will offer a single certification as a Journeyperson AME.

4.2 Following Transport Canada regulations, Journeyperson AMEs will also require licensing in at least one of the following ratings:

- M1 – Maintenance (small aircraft)
- M2 – Maintenance (large aircraft)
- S – Structures
- E – Avionics

## **5. APPRENTICESHIP PERIOD**

- 5.1 The apprenticeship period for those pursuing M1, M2 and E ratings will be 4 levels and 7,200 hours. For those pursuing an S rating, the period will be 3 levels and 5,400 hours.
- 5.2 Specific time requirements for M, E, and S ratings from Transport Canada may vary from those required for apprenticeship. Apprentices will consult Transport Canada requirements for specific hours.

## **6. TRAINING REQUIREMENTS**

- 6.1 PACB designates the CNA *Aircraft Maintenance Engineering Technician* (AMET) program and the *Aircraft Structural Repair Technician* (ASRT) program as the pre-employment programs for the AME trade. These programs are recognized as providing all required training for the trade in their respective disciplines.

Appendix A details the content of the current AMET program and the credit provided in an apprenticeship.

Appendix B details the content of the current ASRT program and the credit provided in an apprenticeship.
- 6.2 Graduates of the AMET program will receive hour and theory credit for all successfully completed training as specified in the CNA curriculum standard for the program current at time of the apprentice's registration. These apprentices will not require further in-school training during their apprenticeship. Apprentices will pursue a Transport Canada license in the Maintenance (M1/M2) or Avionics (E) ratings concurrent with their apprenticeship.
- 6.3 Graduates of the ASRT program will receive hour and theory credit for all successfully completed training as specified in the CNA curriculum standard for the program current at time of the apprentice's registration. These apprentices will not require further in-school training during their apprenticeship. Apprentices will pursue a Transport Canada license in the Structures (S) rating concurrent with their apprenticeship.
- 6.4 Apprentices pursuing a direct-entry path to apprenticeship will complete and receive hour and theory credit for 4 levels of training, as specified in the CNA curriculum standard designated for apprenticeship training current at time of the apprentice's

registration. These apprentices will pursue a Transport Canada license in the Maintenance (M1 or M2) rating concurrent with their apprenticeship.

Training will occur between periods of work experience at the apprenticeship hour intervals indicated:

- Level 1 1 800 hours
- Level 2 3 600 hours
- Level 3 5 400 hours
- Level 4 6 900 hours

Class calls may not always occur at the minimum hours indicated. Some variation is permitted to allow for the availability of training resources and apprentices.

## **7. WORKPLACE SKILLS**

- 7.1 Apprentices will be issued an apprenticeship logbook where endorsements of workplace skills will be recorded as they are earned. Skills will be endorsed by a journeyperson in the trade, or by a person designated by the director of apprenticeship as eligible to endorse skills.
- 7.2 In accordance with Transport Canada requirements, an overall total of 70% of the skills in the logbook applicable to the AME license rating and experience obtained must be endorsed by a journeyperson AME to be eligible for journeyperson certification.
- 7.3 If the apprenticeship logbook is used for Transport Canada license application, the endorsements must be provided by a person meeting the requirements of Chapter 566 of the Airworthiness Manual.

## **8. EXAMINATIONS**

- 8.1 Transport Canada develops and administers mandatory exams required for licensing as an AME in each rating area.
- 8.2 The PACB designates the then current Transport Canada exams as the exams required for certification as a journeyperson AME.
- 8.3 Proof of successful completion of all Transport Canada required exams will serve as completion of the examination requirements for an AME journeyperson.

## **9. CERTIFICATION**

### **9.1 License Recognition**

Current M1, M2, E, and S license holders can complete an application for AME journeyperson certification. Upon completion of the application and satisfactory proof of a valid Transport Canada AME license, the applicant will be granted Journeyperson status.

### **9.2 Apprentices**

An apprentice will be required to:

#### **9.2.1 Complete one of the 3 approved NL training programs:**

- CNA AMET Program (M,E)
- CNA ASRT Program (S)
- CNA 4 Level apprenticeship training (M)

Or

Complete a Transport Canada approved or accepted training program (with M, E or S technical and hour credit) in another Canadian jurisdiction. The apprentice will receive equivalency credit for theory requirements, and an hour credit equal to that awarded by Transport Canada for the program.

#### **9.2.2 Achieve competency and endorsement in designated workplace skills**

#### **9.2.3 Accumulate 7,200 hours of approved work experience for M1, M2 and E ratings, or 5,400 hours for S rating.**

#### **9.2.4 Successfully complete all required Transport Canada exams**

#### **9.2.5 Provide proof of Transport Canada AME license (M1, M2, E, or S)**

### **9.3 Restrictions**

An applicant for apprenticeship and / or journeyperson certification must be a resident of Newfoundland and Labrador.

## **10. INSTRUCTOR CERTIFICATION**

- 10.1 Instructors in a program approved for apprenticeship credit are required to hold Newfoundland and Labrador Journeyperson certification within 6 months of employment, or 18 months of designation of the trade, whichever is later.

## APPENDIX A

### Summary of College of the North Atlantic (CNA) Aircraft Maintenance Engineering Technician (AMET)

Program duration: 2 years, 6 semesters  
Credential: Diploma  
Total hour credit in apprenticeship: 2,226 hrs

No.	TITLE AND DESCRIPTION	Hrs
<b>Semester 1</b>		
<b>MA1070</b>	<b>Structural Repair Shop Mathematics</b> This is an introductory course providing practical exercises in mathematics. The course begins with a review of basic mathematics and leads to a solid foundation of practical and realistic application for Aircraft Structural Repair.	30
<b>MA1072</b>	<b>Aircraft Maintenance Mathematics</b> This is a course designed to support the mathematical needs related to the field of Aircraft Maintenance Engineering. This course is to be used in conjunction with MA1070 to fulfill the math requirements for AME.	30
<b>GM1120</b>	<b>General Maintenance Procedures (M, E, S)</b> This M, E, and S course is to inform the student of the responsibilities and safety requirements when working in an aircraft environment. This course will also enable the student to select materials and instructions so they can successfully complete a maintenance task.	30
<b>GM1130</b>	<b>Aircraft Servicing (M, E)</b> This M and E course will enable the student to work safely and efficiently in an aviation maintenance environment. This is to enable students to position aircraft, select materials and instructions that will provide for the safe completion of a maintenance task. Students will perform servicing checks on both fixed and rotary wing aircraft.	25
<b>GM1140</b>	<b>Standard Workshop Practices (M, E, S)</b> This M, E, and S course is designed for students entering into the Aviation Programs. This course enables the student to obtain the knowledge and skills required to select and use hand and power tools, precision measuring instruments, shop equipment and the knowledge to be able to identify different types of aircraft hardware.	55
<b>PE1100</b>	<b>Basic Electronics (M, E)</b> This M and E introductory course in electrical theory covers the basic concepts of electricity, circuit analysis and magnetism. The laboratory work is designed to develop skills in the construction of electrical circuits, use of electrical measuring instruments, and reinforce theoretical concepts.	55

<b>PT1115</b>	<b>Reciprocating Engine Fundamentals (M, E)</b> This M and E course will provide students with the basic knowledge of the design, construction and theory of operations of aircraft reciprocating engines.	20
<b>PT1110</b>	<b>Reciprocating Engine Fundamentals (M)</b> This M course will provide students with the basic knowledge of the operation of aircraft reciprocating engines and engine components. Students will test, troubleshoot, repair, and adjust power plants and related systems. Students will perform engine ground-runs and basic aircraft servicing	35
<b>AF1130</b>	<b>Aircraft Structures &amp; Materials (M, E, S)</b> This M, E, and S course will provide the student with the knowledge of aircraft structural design and the materials and processes used in their construction. The student will be introduced to stresses acting on aircraft structures and will be able to determine the urgency of repair when damaged.	55
<b>PE1140</b>	<b>Basic AC Electronics (M, E)</b> This M and E course covers basics of A.C. theory and application. Learners will analyze circuits using impedance, admittance and phase to obtain any required circuit quantities as current, voltage, power and frequency. This course examines resonance frequency and phase relating to sinusoidal waveform on capacitors, inductors, and resistors. Electrical measuring equipment such as oscilloscope, frequency generators, frequency counters, VOM, and other electronic measuring devices will be used to enforce theoretical concepts.	55
<b>PE1200</b>	<b>Basic Aircraft Electrical Systems (M, E)</b> The purpose of this M and E course is to give the student an overview of aircraft electrical systems. Batteries, generators, alternators and ground power sources will be explained. Basic wiring practices as well as an introduction to wiring schematics and ignition systems will be completed. The practical portion of this course will include all aspects of wire routing, securing, tying, splicing and attaching.	55

**Semester 2**

<b>PH1300</b>	<b>Physics for Aircraft Maintenance</b> This is an introductory physics course designed to extend the students' knowledge and understanding of basic physics principles as they apply to an aircraft maintenance environment, and applications related to mechanics. The course also extends abilities in data handling, problem solving and experimentation.	60
<b>PE2100</b>	<b>Analog Electronics (M, E)</b> This M and E course is an introduction to analog application. The student will cover all basic theory in semiconductors, power supplies, amplifiers, and filters. In labs the student will identify symptoms in malfunctioning equipment and perform preliminary checks and eliminate obvious problems. This course will direct the student through a balanced approach of theory and practical experience in constructing	55

	circuits from diagrams, component identification and the use of electronic test equipment.	
<b>GM1320</b>	<b>Aircraft Weight &amp; Balance (M, E)</b> This M and E course is designed to provide a student with an in depth knowledge of Aircraft Weight and Balance. Students will be required to differentiate between fixed wing and rotary wing weight and balance, as well as longitudinal and lateral centre of gravity. Students will interpret manufacturers' specifications and procedures for weighing aircraft and compute a weight and balance report.	25
<b>GM1420</b>	<b>Non-Destructive Testing (M)</b> This M course is designed to provide the student with an in depth knowledge of Non-Destructive testing techniques. Materials and equipment will also be discussed.	30
<b>AV1220</b>	<b>Basic Aircraft Instruments I (M, E)</b> This M and E course will give students an understanding of the requirements for operation and maintenance practices of various types of mechanical and electrical transmitters, transducers, and instruments that are used to provide operational information for most common aircraft engine associated systems.	55
<b>AS2225</b>	<b>Aerodynamics &amp; Flight Controls (M,E)</b> This M and E course is designed to provide the student with basic knowledge of aerodynamic forces, flight characteristics and aircraft design. Inspection and adjustments of flight controls is covered in depth.	25
<b>AS2220</b>	<b>Aerodynamics &amp; Flight Controls (M)</b> This M course is designed to provide the student with basic skills to inspect, install and adjust aircraft flight controls. Installation of float and ski systems will be covered in depth.	30
<b>GM1550</b>	<b>Maintenance Regulations (M, E, S)</b> This M, E, S course will provide the student with the regulatory guidelines to be followed while performing maintenance on aircraft or aeronautical products as a requirement of the Canadian Aviation Regulations (CARs). Human performance in aviation maintenance will also be covered.	55
<b>TS1550</b>	<b>WHMIS</b> 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).	6
<b>AS2520</b>	<b>Reciprocating Engine Fuel Metering (M)</b> This M course will provide the student with the knowledge of aircraft fuel systems, fuel metering systems, their design, components, function, operation, and maintenance.	55
<b>AV1320</b>	<b>Aircraft Communications Equipment (M, E)</b> This is an M and E introductory course designed to give the learner the basic concepts of all communication systems used on aircraft. Emergency Locator Transmitters (ELT'S) will also be looked at. Basic	55

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	radio theory will be studied to the block diagram level. Ramp testing, removal and replacement of various communication systems will take place.	
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**Semester 3**

<b>AF1240</b>	<b>Aircraft Structural Repair (M, E, S)</b> This M, E, & S course will provide the student the knowledge and skill in the principles of aircraft structural repair using different types of sheet metal forming processes, materials, fasteners, and equipment.	55
<b>DP1840</b>	<b>Motors, Generators &amp; Starting Systems (M, E)</b> The M and E course will give the student an overview of the principles of all AC and DC motors. The student will be able to differentiate between AC/DC motors. AC/DC generators and alternator theory will also be covered, including construction and maintenance of engine starters (electrical). The inspection and servicing procedures for the starting systems will be covered in this course.	55
<b>AS2165</b>	<b>Aircraft Landing Gear Systems (M, E)</b> This is an M and E course to provide students with the knowledge of aircraft landing gear and associated systems, their design and operation.	30
<b>AS2160</b>	<b>Aircraft Landing Gear Systems (M)</b> This is an M course to enable students to perform inspection, trouble shooting, repair and maintenance on Aircraft Landing Gear and related systems.	25
<b>AS2120</b>	<b>Aircraft Hydraulics &amp; Pneumatic Systems (M)</b> This M course will enable students to perform inspections, troubleshooting principles, repair and maintenance on Aircraft Hydraulic and Pneumatic Systems. Aircraft Plumbing will also be covered.	25
<b>AS2125</b>	<b>Aircraft Hydraulics &amp; Pneumatic Systems (M,E)</b> This M and E course is to provide students with the basic knowledge of aircraft hydraulic and pneumatic systems design and function. Aircraft plumbing systems will also be covered.	30

**Semester 4**

<b>EG1160</b>	<b>Technical Graphics</b> This course focuses on basic engineering graphics principles and standards to effectively communicate technical graphical design and also provides the foundation for more advanced engineering graphics concepts. Engineering graphics is the predominant means by which accurate information is communicated within industries pertinent to all engineering technology disciplines. From the simplest in-the-field sketch, to the most advanced 3-D model, each may constitute a legal document.	60
<b>PT2120</b>	<b>Reciprocating Engine Systems (M)</b> This M course will provide the student with knowledge of reciprocating engine internal systems, their design, construction, operation, and maintenance. Students will test, troubleshoot, repair, adjust, remove	55

	and replace reciprocating engine systems.	
<b>PT2210</b>	<b>Turbine Engine Maintenance (M, E)</b> This M and E course is designed to provide the student with a comprehensive knowledge of turbine engine design and operation. Students will be dismantling a turbine engine and required to identify each component.	55
<b>AS2335</b>	<b>Aircraft Systems, (M, E)</b> This M and E course is designed to provide the student with basic knowledge of the operation of aircraft support, environmental and safety systems.	30
<b>AS2330</b>	<b>Aircraft Systems (M)</b> This M course is designed to provide the student with basic task utilizing the operation of aircraft support, environmental and safety systems.	25
<b>AV2220</b>	<b>Aircraft Instruments II (M, E)</b> This M and E course is designed to give the students an understanding of flight instruments, the typical panel layouts and installation practices associated with them. It covers air pressure- sensitive and gyro-stabilized systems, including Air Data and Attitude Reference systems. The course also utilizes synchronous transmitter theory. Practical labs include direct hydraulic pressure testing, operation and inspections of Pneumatic gyro systems, pitot-static testing & troubleshooting, and performing a compass swing.	55
<b>AV1500</b>	<b>Basic Navigation I (M, E)</b> This M and E course provides students with information about basic navigation principles and terms used in aircraft systems. Installation practices regarding bonding, panel layouts, antenna installations and remote mounting equipment are discussed. The course will also include descriptions of some common navigation system types.	31
<b>AV1510</b>	<b>Navigation Systems Installation (E)</b> This E course is designed to give the students practical experience in installing Avionic Navigation equipment on aircraft. Students will gain procedural knowledge of the steps involved in designing, and implementing systems installation procedures, including associated regulatory supporting documentation.	24
<b>AF1270</b>	<b>Composite Materials (M, S)</b> This M and S course will provide the students with the knowledge to identify composite materials and the skill inspect them for damage and perform an effective repair when required.	55
<b>PE1300</b>	<b>Battery Maintenance (M, E)</b> This M and E course is designed to have the students deep cycle an Aircraft NI-CAD battery and charge an aircraft lead acid battery.	25
<b>PE1350</b>	<b>Electrical Power Systems (M, E)</b> This M and E course is designed to provide an in depth study of AC/DC power generation. External Power systems and Electrical Load Distribution will also be addressed in greater detail.	30

<b>Semester 5</b>		
<b>CM2160</b>	<b>Communications Essentials</b> This course is designed to introduce learners to the principles of effective communication including letter, memos, short report writing, oral presentations and interpersonal skills. Learners will apply the principles using trade specific examples.	45
<b>SD1710</b>	<b>Job Search Techniques</b> This course is designed to give students an introduction to the critical elements of effective job search techniques. Upon completion of this course, students will be able to demonstrate effective use of Job Search Techniques.	15
<b>PE2140</b>	<b>Digital Electronics (M, E)</b> This M and E course provides an effective way to teach students the basics of digital methods and techniques. The microprocessor architecture covers the operation, memories, how personal computers work. All labs experiments and troubleshooting techniques will enhance the student concepts of digital electronics in this course.	55
<b>AV2170</b>	<b>Pulse Navigation Systems (M, E)</b> This M and E course will provide the students with information relating to avionic systems that employ high power pulse transmitters for navigation information gathering and display. Microwave principles and properties of UHF frequencies as relating to aircraft installations are discussed.	25
<b>AV2180</b>	<b>Integrated Navigation Systems Installation (E)</b> This course is designed to give students practical experience in installing integrated avionics navigation equipment on aircraft. It involves designing a system that will share a navigation display. Students will gain procedural knowledge of the steps involved in designing and implementing systems installation procedures including associated regulatory supporting documentation. Students will inspect installations and report deficiencies if any.	30
<b>AS2415</b>	<b>Propellers and Systems (M, E)</b> This M and E course will provide the basic knowledge in design, construction, operation and maintenance of propellers and associated systems.	20
<b>AS2410</b>	<b>Propellers and Systems (M)</b> This M only course will provide the student with a basic knowledge of aircraft propeller systems and their maintenance requirements. Students will also test, troubleshoot, repair, adjust, remove and replace propeller systems.	35
<b>AF1280</b>	<b>Stress Skin Repair/Modification (M, E)</b> This M and E course will provide the student with the skill to perform a stress skin repair or antenna installation on an aircraft. The course will involve damage assessment, designing and installing a stress skin repair or installing an antenna including an internal reinforcement doubler. The student will perform corrosion preventing processes and install the stress skin repair or antenna as per standard practices.	25

<b>AF1290</b>	<b>Non-Metallic Structures (M)</b> This M course will provide the student with the knowledge of aircraft windows and lenses and the required inspection, repair, maintenance and installation methods. The course will also provide an introduction into the construction, inspection and repair procedures for aircraft fabric and aircraft wood structures.	12
<b>AV2310</b>	<b>Major Communications Radio Install (E)</b> This E only course prepares the student to inspect, install, troubleshoot, repair and maintain electronic communication radio equipment and their systems. A major installation will be completed including all of the required paperwork and technical records.	55
<b>GM1570</b>	<b>Corrosion Control (M, E, S)</b> This is an M, E and S course that will provide the student with the knowledge to identify various types of corrosion, the causes of corrosion and the susceptible locations of corrosion on aircraft structures. This course is designed to provide the knowledge to inspect aircraft structures for corrosion, assessment of damage, removal of corrosion, treatment of corroded areas and protection methods used to prevent or retard further deterioration of aircraft structural components.	18
<b>RW3140</b>	<b>Rotary Wing Aircraft (M)</b> This M course is to introduce the student to the helicopter and the helicopter industry. Its aim is to provide students with knowledge of helicopter fundamentals, theory of flight and the different main rotor systems. This is to enable students to perform maintenance functions on a helicopter main rotor and associated systems.	55
<b>PT2240</b>	<b>Turbine Engine Systems (M)</b> This M course will provide the student with a detailed description of turbine engine systems and their installations. Particular attention is paid to the lubrication and fuel control systems of the Pratt and Whitney PT6 and Allison 250 engines. Helicopter application of turbine engines is also discussed in detail.	55

**Semester 6**

<b>RW3141</b>	<b>Rotary Wing Aircraft Systems (M)</b> This M course is to provide the students with knowledge of the basic systems found on a helicopter. This will enable the student to perform maintenance inspections and repairs on the complete aircraft.	55
<b>AV3110</b>	<b>Monitoring and Digital Systems (E)</b> This M and E course provides information regarding the design of communication systems between individual avionic pieces of equipment. It explains how newer Data bus technology is used in modern aircraft. Topics also include electronic systems that record and display data. Practical applications include inspecting, testing and troubleshooting installed avionic and electrical systems.	55
<b>AV2510</b>	<b>Auto Flight Theory (M, E)</b> This M and E course of study will cover servo systems and components, aircraft dynamics, pitch, roll, yaw, speed commands, and	25

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	the fundamental principles involved in the automatic flight of both fixed wing and rotary wing aircraft.	
<b>AV2540</b>	<b>Auto Flight Ramp Testing (M)</b> This M only course will have the students ramp test the auto pilot system in a fixed wing aircraft including the associated flight director modes.	15
<b>AV2570</b>	<b>Auto Flight Troubleshooting (E)</b> This E only course will have the students explain aircraft systems including troubleshooting, and ramp testing of auto flight equipment. Students will locate and repair faults and defects on the College's aircraft.	15
<b>PT2121</b>	<b>Reciprocating Engine Overhaul (M)</b> This M course will provide the student with the knowledge of reciprocating engine inspection removal, installation, overhaul and maintenance procedures, so that he can develop sound maintenance practices. Students will test, troubleshoot, repair, adjust, remove and replace power plants and related systems.	55

## **APPENDIX B**

### **Summary of College of the North Atlantic (CNA) Aircraft Structural Repair Technician (ASRT) Program**

Program duration: 1 year, 3 semesters  
Credential: Certificate  
Total hour credit in apprenticeship: 1,074 hrs

#	<b>TITLE AND DESCRIPTION</b>	<b>Hrs</b>
<b>Semester 1</b>		
<b>MA1070</b>	<b>Structural Repair Shop Mathematics</b> This is an introductory course providing practical exercises in mathematics. The course begins with a review of basic mathematics and leads to a solid foundation of practical and realistic application for Aircraft Structural Repair.	30
<b>GM1550</b>	<b>Maintenance Regulations (M, E, S)</b> This M, E, S course will provide the student with the regulatory guidelines to be followed while performing maintenance on aircraft or aeronautical products as a requirement of the Canadian Aviation Regulations (CARs). Human performance in aviation maintenance will also be covered.	55
<b>GM1120</b>	<b>General Maintenance Procedures (M, E, S)</b> This M, E, and S course is to inform the student of the responsibilities and safety requirements when working in an aircraft environment. This course will also enable the student to select materials and instructions so they can successfully complete a maintenance task.	30
<b>GM1105</b>	<b>Aircraft Plumbing (S)</b> This S course will enable the student to identify and manufacture the different types of pressure and vacuum lines and hoses used on the various aircraft systems.	25
<b>GM1140</b>	<b>Standard Workshop Practices (M, E, S)</b> This M, E, and S course is designed for students entering into the Aviation Programs. This course enables the student to obtain the knowledge and skills required to select and use hand and power tools, precision measuring instruments, shop equipment and the knowledge to be able to identify different types of aircraft hardware.	55
<b>AF1130</b>	<b>Aircraft Structures &amp; Materials (M, E, S)</b> This M, E, and S course will provide the student with the knowledge of aircraft structural design and the materials and processes used in their construction. The student will be introduced to stresses acting on aircraft structures and will be able to determine the urgency of repair when damaged.	55

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<b>AF1240</b>	<b>Aircraft Structural Repair (M, E, S)</b> This M, E, & S course will provide the student the knowledge and skill in the principles of aircraft structural repair using different types of sheet metal forming processes, materials, fasteners, and equipment.	55
<b>TS1550</b>	<b>WHMIS</b> 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).	6
<b>AF1400</b>	<b>Specialized Processes and Fixtures (S)</b> This S course will provide the students with the knowledge and skill to be able to select and manufacture jigs and holding fixtures, perform special metal treatment processes and repair forgings and extrusions as per manufacturer's specifications.	60
<b>AF2110</b>	<b>Aircraft Maintenance Fundamentals (S)</b> This course is designed to provide the Aircraft Structural Repair student with the knowledge of Aircraft Maintenance fundamentals.	60
<b>Semester 2</b>		
<b>EG1160</b>	<b>Technical Graphics</b> This course focuses on basic engineering graphics principles and standards to effectively communicate technical graphical design and also provides the foundation for more advanced engineering graphics concepts. Engineering graphics is the predominant means by which accurate information is communicated within industries pertinent to all engineering technology disciplines. From the simplest in-the-field sketch, to the most advanced 3-D model, each may constitute a legal document.	60
<b>SD1710</b>	<b>Job Search Techniques</b> This course is designed to give students an introduction to the critical elements of effective job search techniques. Upon completion of this course, students will be able to demonstrate effective use of Job Search Techniques.	15
<b>AF1250</b>	<b>Aircraft Stress Skin Repair</b> This S course will develop the students' knowledge and skill to repair damaged stressed skin structures by patching and spot welding.	60
<b>GM1570</b>	<b>Corrosion Control (M, E, S)</b> This is an M, E and S course that will provide the student with the knowledge to identify various types of corrosion, the causes of corrosion and the susceptible locations of corrosion on aircraft structures. This course is designed to provide the knowledge to inspect aircraft structures for corrosion, assessment of damage, removal of corrosion, treatment of corroded areas and protection methods used to prevent or retard further deterioration of aircraft structural components.	18
<b>GM1580</b>	<b>Corrosion Control (S)</b> This S course will provide the student with the skills to inspect aircraft structures for corrosion, assess damage, remove corrosion, treat corroded areas and apply protection methods used to prevent or retard	42

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	further deterioration of aircraft structures.	
<b>AF1270</b>	<b>Composite Materials (M, S)</b> This M and S course will provide the students with the knowledge to identify composite materials and the skill inspect them for damage and perform an effective repair when required.	55
<b>AF1500</b>	<b>Windshields, Windows and Lenses (S)</b> This (S) course will provide the students with the knowledge and skill to identify various types of aircraft windshields, windows and lenses, inspect them for damage and evaluate whether repair or replacement is required. The student will manufacture an aircraft window to fit aircraft structure and install it. The student will also perform proper maintenance and repairs to windshields, windows and lenses.	49
<b>GM1600</b>	<b>Structural Damage/Repair and Assembly (S)</b> This is an advanced course in aircraft sheet metal repair that will develop the student's knowledge and skill to assess damaged structures, procure and repair scheme, and embody a certified repair that meets airworthiness requirements.	72
<b>AF1220</b>	<b>Aircraft Structures, Wood, Fabric, Tubular (S)</b> This S course provides an introduction into inspection and repair procedures of aircraft wood, tubular and fabric structures. This includes their design, construction and the stresses affecting them.	78
<b>Semester 3</b>		
<b>AF1340</b>	<b>Advanced Composite Materials (S)</b> This S advanced level course will reinforce the students' knowledge and skill to apply advanced composite fabrication techniques, identify advanced composite structural damage, complete a full damage assessment, and perform an effective structural repair as per Canadian Aviation Regulatory or aircraft manufacturer's standards.	60
<b>GM1525</b>	<b>Sheet Metal Fabrication (S)</b> This S course is designed to provide the student with the knowledge of aircraft structural fabrication and replacement. The student will utilize the knowledge and skills learned in previous aircraft structural repair courses. They will use aircraft technical drawings, follow guidelines and specifications to fabricate and replace aircraft structural component. The student will produce the certification as required by the Canadian Aviation Regulations for the completed projects.	120
<b>TS1530</b>	<b>Standard First Aid</b> This course is designed to give the apprentice the ability to recognize situations requiring emergency action and to make appropriate decisions concerning first aid.	14