

Aircraft Maintenance

Training Sector

10

Motorized
Equipment
Maintenance



Technical Training Program

280.CO

Aircraft Maintenance

Training Sector

10

Motorized
Equipment
Maintenance

Formation professionnelle et technique
et formation continue

Direction générale des programmes
et du développement

Development Team

Coordination

Yvon Boutet
Coordinator, Mechanical Maintenance Sector
Direction générale de la formation professionnelle
et technique

Design and Development

Yves Turcotte
Teacher
École nationale d'aérotechnique
Collège Édouard-Montpetit

English Version

Direction de la production en langue anglaise
Secteur des services à la communauté anglophone

Technical Editing

Jane Petring
Teacher
École nationale d'aérotechnique
Collège Édouard-Montpetit

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Representatives Employed in the Field

Lawrence Blaney
Licenced aircraft maintenance mechanic
Air Canada

Steve Bouchard
Ramp maintenance technician
Air Transat

Daniel Charpentier
Team leader
Preflight mechanic
Bombardier Canadair

Gervais Côté
Maintenance manager
Aérogolfe Itée

Mathieu Lafrenière
Maintenance manager
Aérotaxi

Michel Langlois
Maintenance manager
Air Transat

Richard Létourneau
Helicopter maintenance mechanic
Bell Helicopter Textron

Gabriel Maillé
Technical instructor
Bombardier Aerospace

Gaétan Mercier
Maintenance coordinator
Royal HMC, Conifair Aviation

Carl Pulson
Maintenance mechanic
Air Canada

Denis Robitaille
Maintenance manager
Les Hélicoptères Abitibi Itée

Normand Roy
Professional technologist
Ordre des technologues professionnels du Québec
(Employer: Air Canada)

Steve Rusnak
Supervisor, Quality assembly
Air Nova / Air Alliance

Denis Savoie
Aircraft maintenance manager
Transport Canada

Representatives Employed in Education

André V. Benoît
Instructor
John Abbott College

Mario Carpentier
Teacher
École nationale d'aérotechnique

Yves Chamberland
Teacher
École nationale d'aérotechnique

Réjean Gauveau
Teacher
École nationale d'aérotechnique

Frank Hofmann
Department head, Aircraft Maintenance
John Abbott College

Gilles Lapointe
Teacher
École nationale d'aérotechnique

Gérard Leblanc
Teacher
École nationale d'aérotechnique

Jean Potvin
Coordinator, Preflight department
École nationale d'aérotechnique

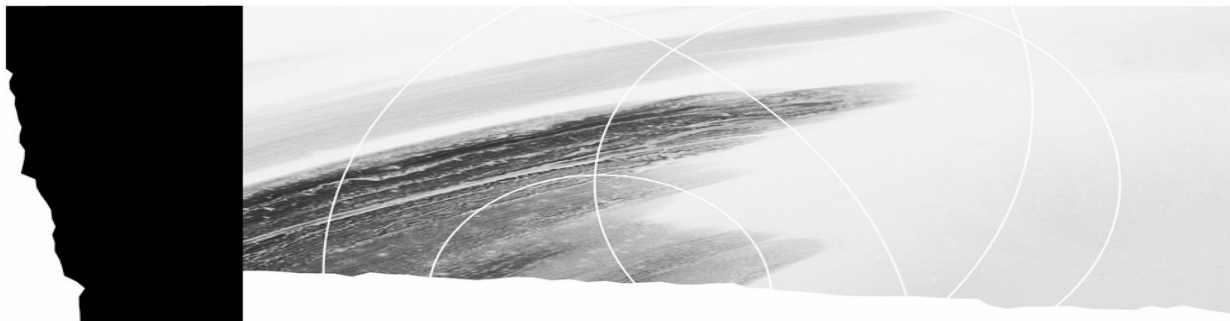
Paul Stubbs
Coordinator, Technical programs
John Abbott College

Gabrielle Thérout
Assistant director
Educational services
École nationale d'aérotechnique

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Aircraft Maintenance

Year of approval: 2006

Certification:	Diploma of College Studies
Number of credits:	91 2/3 credits
Total duration:	2 790 hours of instruction

General education components:	660	hours of instruction
Program-specific component:	2 130	hours of instruction

Conditions for Admission:

To be admitted to the program, students must meet the general conditions for admission set out in section 2 of the *College Education Regulations*, as well as the following requirements, if applicable:

- Mathematics 526
- Physics 534

Introduction to the Program

The *Aircraft Maintenance* program is in keeping with the aims and orientations of technical education that guide the Ministère de l'Éducation, du Loisir et du Sport. Designed in accordance with the framework for developing technical programs, this program is based on competencies, formulated in terms of objectives and standards.

The *Aircraft Maintenance* program includes a general education component common to all programs (16 2/3 credits), a general education component adapted to this program (6 credits), a complementary general education component (4 credits) and a program-specific component of 65 credits.

The program-specific component was also designed according to the framework for developing technical programs. This approach requires the participation of people working in the field and in education, and takes into account training needs, the job analysis and the general goals of technical education. The objectives and standards serve as the basis for the definition and the evaluation of learning activities, for which the colleges are responsible.

By successfully completing this program of study, students acquire not only the entry-level competencies required by the workplace to practise a trade or occupation, but also a range of knowledge, skills and attitudes that will ensure the students' versatility.

General Education Component Common to All Programs

(16 2/3 credits)

- 0004 To analyze and produce various forms of discourse.
- 0005 To apply a critical approach to literary genres.
- 0006 To apply a critical approach to a literary theme.
- 00B2 To apply a logical analytical process to how knowledge is organized and used.
- 000G To apply a critical thought process to world-views.
- 0017 Appliquer les notions de base de la communication en français courant.
- or
- 000A Communiquer en français avec une certaine aisance.
- or
- 000B Communiquer avec aisance en français.
- or
- 000C Traiter d'un sujet culturel et littéraire.
- 0064 To establish the role that being physically active plays amongst the lifestyle behaviours which promote health.
- 0065 To improve one's effectiveness when practising a physical activity.
- 0066 To demonstrate one's responsibility for being physically active in a manner which promotes health.

General Education Component Adapted to This Program**(6 credits)**

- 000L To communicate in the forms of discourse appropriate to one or more fields of study.
- 000U To apply a critical thought process to ethical issues relevant to the field of study.
- 0018 Appliquer des notions fondamentales de la communication en français, liées à un champ d'études.
- or
- 000Q Communiquer en français dans un champ d'études particulier.
- or
- 000R Communiquer avec aisance en français dans un champ d'études particulier.
- or
- 000S Dissserter en français sur un sujet lié au champ d'études.

Complementary General Education Component**(4 credits)**

- 000V To estimate the contribution of the social sciences to an understanding of contemporary issues.
- 000W To analyze one of the major problems of our time using one or more social scientific approaches.
- 000X To explain the general nature of science and technology and some of the major contemporary scientific or technological issues.
- 000Y To resolve a simple problem by applying the basic scientific method.
- 000Z To communicate with limited skill in a modern language.
- 0010 To communicate on familiar topics in a modern language.
- 0067 To communicate with relative ease in a modern language.
- 0011 To recognize the role of mathematics or informatics in contemporary society.
- 0012 To use various mathematical or computer concepts, procedures and tools for common tasks.
- 0013 To consider various forms of art produced by aesthetic practices.
- 0014 To produce a work of art.

- 025N To analyze the occupation.
- 025P To interpret schematics, drawings, assembly plans and installation plans.
- 025Q To apply shaping, assembly and installation techniques.
- 025R To use organic and synthetic materials.
- 025S To model and interpret mathematical results as they apply to aircraft maintenance.
- 025T To maintain direct-current circuits on an aircraft.
- 025U To inspect the operation of power and control components of hydraulic and pneumatic systems.
- 025V To inspect the operation of aircraft piston engines.
- 025W To perform activities related to the resistance of materials used in the aircraft industry.
- 025X To clean, inspect and protect aircraft materials.
- 025Y To overhaul aircraft piston engines.
- 025Z To prepare and assemble sheet metal.
- 0260 To apply principles of aerodynamics.
- 0261 To maintain the metal structures and structural components of an aircraft.
- 0262 To maintain aircraft structures and structural components made of composite materials, wood and fabric.
- 0263 To verify simple alternating-current circuits on an aircraft.
- 0264 To maintain propellers and propeller-related systems.
- 0265 To verify communications, navigation and instrumentation systems.
- 0266 To verify the operation of aircraft turbine engines.
- 0267 To maintain flight controls and flight control surfaces.
- 0268 To apply principles of aerodynamics to flight and helicopter maintenance.
- 0269 To maintain landing gear.
- 026A To overhaul aircraft turbine engines.
- 026B To assess the performance of piston and turbine engines.
- 026C To maintain aircraft systems.
- 026D To inspect airplanes and helicopters.
- 026E To maintain airplanes.
- 026F To maintain helicopters.

Glossary

Program

A program is an integrated set of learning activities leading to the achievement of educational objectives based on set standards (*College Education Regulations*, section 1).

Competency

In the program-specific component of a technical program: a competency is the ability to act successfully and evolve in order to adequately perform work-related tasks and activities based on an organized body of knowledge, skills in a variety of fields, perceptions, attitudes, etc. (*Élaboration des programmes d'études techniques, Cadre-général – Cadre technique 2002*, p. 15).

Objective

An objective encompasses the competency, skills or knowledge to be acquired or mastered (*College Education Regulations*, section 1). It describes the competency to be acquired and includes the statement of the competency as well as the elements needed to understand it.

Statement of the Competency

In the program-specific component of a technical program, a statement of the competency is derived from the job analysis, the general goals of technical education and, in certain cases, other determinants. In the general education components, the statement of the competency is the result of an analysis of general education needs.

Elements of the Competency

In the program-specific component of a technical program, the elements of the competency include only what is necessary in order to understand the competency. They specify the major steps involved in carrying out a task or the main aspects of the competency.

In the general education components, the elements of the objective, formulated in terms of a competency, specify the main aspects of the competency. They include only what is necessary in order to understand and attain the competency.

Standard

A standard is the level of performance at which an objective is considered to be achieved (*College Education Regulations*, section 1).

Achievement Context

In the program-specific component of a technical program, the achievement context corresponds to the situation in which the competency is exercised at entry level on the job market. The achievement context does not specify the context for learning or evaluation.

Performance Criteria

In the program-specific component of a technical program, the performance criteria define requirements by which to judge the attainment of each element of the competency and, consequently, of the competency itself. The performance criteria are based on the requirements at entry level on the job market. The performance criteria are not the evaluation instrument but, rather, they serve as a reference for the development of the evaluation instrument. Each element of the competency requires at least one performance criterion.

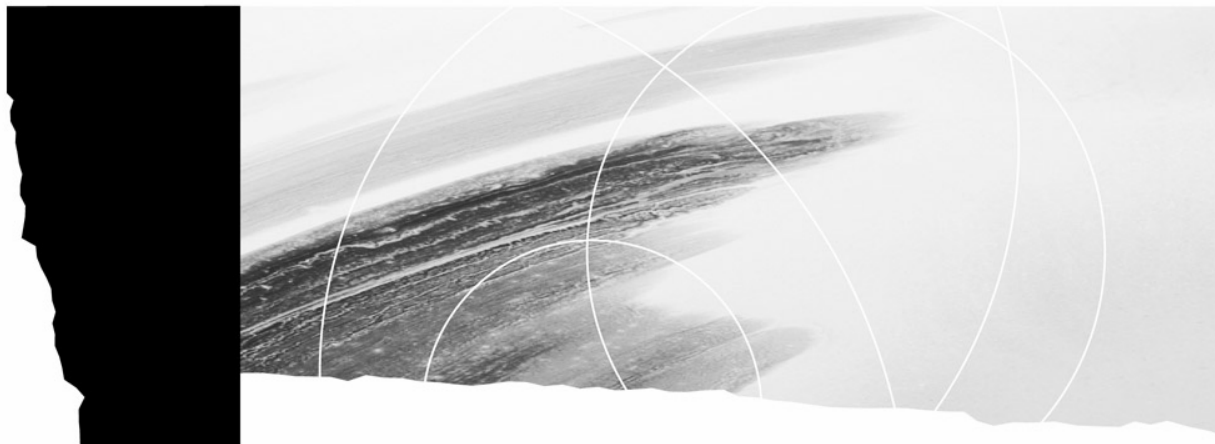
In the general education components, the performance criteria define the requirements for recognition of the attainment of the standard.

All the criteria must be respected for the objective to be recognized as having been attained.

Learning Activities

In the program-specific component of a technical program, the learning activities are classes (or labs, workshops, seminars, practicums or other educational activities) designed to ensure the attainment of the targeted objectives and standards. Colleges are entirely responsible for defining the learning activities and organizing the way in which programs are offered.

In the general education components, the elements of the learning activities that may be determined in whole or in part by the Minister are the field of study, the discipline(s), the weightings, the total hours of instruction, the number of credits and any details deemed essential.



Part I

**Goals of the General Education
Components**

**Educational Aims of the General
Education Components**

**Objectives and Standards of the
General Education Components**

Goals of the General Education Components

In Québec, college is the next stage after the compulsory years of schooling in elementary and secondary school, during which students acquire basic knowledge and skills. It represents a major crossroads in that it places greater emphasis on the cultural content of education and leads directly to the job market or to university. The college system meets current needs with respect to technical and pre-university education. It allows students to further their education without narrowing their options, since they may switch from one type of program to the other. Finally, it provides students with a well-rounded, balanced education.

General education is an integral part of every program and comprises three components: a component common to all programs, a component adapted to the particular program and a complementary component. The aim of general education is threefold: to provide students with a common cultural core, to help them learn and develop generic skills, and to foster desirable qualities and attitudes. Its purpose is to educate students as individuals, to prepare them for their role as responsible members of society and to enable them to share in the common cultural heritage.

Common Cultural Core

The common cultural core is intended to help students:

- master the language of instruction as a tool for communication and reflection
- master the basic rules of rational thought, discourse and argumentation
- communicate in another language, primarily French or English
- be open to the world and to cultural diversity
- appreciate the riches of our cultural heritage through awareness of the accomplishments of human civilization
- relate to major currents in the history of human thought
- think independently and critically
- develop personal and social ethics
- acquire the knowledge essential for their physical and intellectual well-being
- become aware of the need to develop habits conducive to good health

Generic Skills

General education allows students to acquire and develop the following generic skills:

- conceptualization, analysis and synthesis
- coherent reasoning
- critical judgment
- articulate expression
- the ability to apply what they have learned to the analysis of situations
- the ability to apply what they have learned to decision making
- work methods
- the ability to reflect on what they have learned

Desirable Qualities and Attitudes

The common cultural core and generic skills help students acquire and develop the following qualities and attitudes:

- autonomy
- a critical sense
- awareness of their responsibilities toward themselves and others
- open-mindedness

- creativity
- openness to the world

These goals apply to the three general education components:

- General education component common to all programs, which is allotted 16 2/3 credits distributed as follows:
 - language of instruction and literature: 7 1/3 credits
 - humanities or *philosophie*: 4 1/3 credits
 - physical education: 3 credits
 - second language: 2 credits
- General education component adapted to programs, which introduces tasks or learning situations that are relevant to the program-specific component of a program. The breakdown of credits, for a total of 6, is as follows:
 - language of instruction and literature: 2 credits
 - humanities or *philosophie*: 2 credits
 - second language: 2 credits
- Complementary general education component, which provides students with learning activities chosen to balance their training and complement the program-specific component. Students may choose courses for a total of 4 credits in the following areas:
 - social sciences
 - science and technology
 - modern languages
 - mathematics and computer literacy
 - art and aesthetics

The knowledge and skills acquired in the general education components should be emphasized and, whenever possible, applied in the program-specific component, and vice-versa. Thus, general education and the program-specific component of a program enhance each other as they contribute to the students' overall education.

Each college-level institution must provide general education through learning activities that are consistent with its educational project, in keeping with the aims, subject areas and ministerial guidelines provided.

The objectives and standards in the general education components were developed according to the provisions of the *College Education Regulations* (R.S.Q., c. C-29, s. 18).

Educational Aims of the General Education Components

The educational aims describe how each field of study in the common, adapted and complementary components of general education contributes to achieving the goals of general education. For the common and adapted components, the educational aims include a general statement of the role of each field of study; the principles underlying this role; the expected outcomes that define, in terms of cultural knowledge, generic skills, and qualities and attitudes, the contribution of each field to the achievement of the goals of general education; and an explanation of the sequence of objectives and standards.

General Education Common to All Programs and General Education Adapted to Programs

English, Language of Instruction and Literature

General Education Common to All Programs

The three sets of objectives and standards in English, Language of Instruction and Literature, pursue two general goals: mastery of the language of instruction and exploration of the riches of the literary heritage. Achievement of these goals is intended to bring the students to a college level of proficiency in the areas of reading, writing, listening and speaking. Building on the skills developed by students on completion of secondary school, the English program places a marked emphasis on written production and reading comprehension while at the same time consolidating listening and speaking skills.

The mastery of language skills will be achieved through regular and ongoing observance of the rules of correct writing and speaking and the production of texts, supported by reading and the study of literature. Students will also be encouraged to develop an appreciation of literature by becoming acquainted with a number of significant literary works representative of various genres and periods and expressing a variety of literary themes. Both the aesthetic and cultural value of these texts and their formal aspects will be the objects of study.

All students entering college will begin their English studies with an introductory set of objectives and standards. This set has two possible formats. While both provide a range of reading, writing and literary activities, one includes additional reinforcement of reading and writing skills.

General Education Adapted to Programs

The set of objectives and standards for English, Language of Instruction and Literature, is placed in the context of general education and is a complement to the general education common to all programs. Students will develop the skills required in order to communicate in the forms of discourse appropriate to their field of study.

Expected Outcomes

Students, who have achieved the general education objectives in English, Language of Instruction and Literature, will be able to:

- demonstrate a college level of proficiency in the areas of reading, writing, listening and speaking
- develop their own ideas into arguments and theses, organize them and edit their work
- understand basic vocabulary and terminology used when discussing literature
- analyze literary works

Humanities

Humanities, as part of the core curriculum, is intended to promote personal and social development and to give students a foundation that will help them understand their roles in contemporary society as members of the labour force, citizens and individuals. The three sets of objectives and standards in Humanities propose common frameworks for understanding the experiences, ideas and values of human beings and their diversity. They are aimed at developing critical thinking, reinforcing the ancillary skills involved in careful reading, organized writing, and well-developed oral presentations, and, where appropriate, improving media and computer literacy. Once students have mastered the three-stage process of analysis, synthesis and evaluation, they will be able to reflect in an informed manner and to communicate what they have learned in an organized and coherent fashion.

Principles

- 1) Humanities constitutes a thematic, multidisciplinary, at times transdisciplinary, exploration of the human experience, including its accomplishments, failures, abilities, creations, ideas and values.
- 2) Humanities helps students to recognize, define and classify information and provides them with common frameworks for diverse methods of analyzing, synthesizing and evaluating conceptions of society, knowledge and values.
- 3) Humanities aims to prepare students for common civic responsibilities and the exercise of rights.
- 4) Humanities pursues the general goal of developing critical thought, valuing it and recognizing its limitations.

Expected Outcomes

Students who have achieved the general education objectives in Humanities will be able to:

- describe, explain and organize main elements, ideas, values and implications of a world-view in a coherent fashion
- compare world-views
- recognize the basic elements in a specific example of the organization, transmission and use of knowledge
- define the dimensions, limits, and uses of knowledge in appropriate historical contexts
- identify, organize and synthesize the salient elements of a particular example of knowledge
- situate important ethical and social issues in their appropriate historical and intellectual contexts
- explain, analyze and debate ethical issues in a personal and professional context

Sequence of Objectives and Standards

The first two sets of objectives and standards in Humanities, which are part of the general education component common to all programs, develop similar skills in a recursive fashion.

In the first set the emphasis is on how knowledge is defined, acquired, classified, transmitted and applied. Students examine both messages and media to identify the strengths and limitations of each. Students learn to situate knowledge in a social, historical and personal context, a skill they will need in order to become lifelong learners.

The second set focuses on how individuals, groups, societies or nations organize ideas, perceptions and values into explanatory patterns. Students explore major ideas and value systems by which diverse individuals, groups, societies or nations seek to explain the world and their place in it.

The third set, which is part of the general education component adapted to programs, is aimed at deepening and reinforcing the critical thinking skills developed in the first two sets. It is, therefore, sequenced so that students can build on the critical skills, knowledge and insights developed in the first two sets. By situating these issues in their appropriate world-view and knowledge contexts, students

develop a critical and autonomous approach to ethical values in general and to the values involved in their own fields of interest in particular. This final set also provides students with an opportunity to consolidate personal and social values.

Français, langue seconde

L'enseignement du français, langue seconde, contribue à la formation fondamentale de la personne, en même temps qu'il a pour objet de lui permettre de communiquer efficacement avec ses concitoyens et concitoyennes.

Principes

- 1) La maîtrise du français, langue seconde, est essentielle pour quiconque veut participer pleinement à la vie de la société québécoise, dont le français est la langue officielle. En conséquence, la formation générale en français, langue seconde, a pour finalité de rendre les étudiants et les étudiantes aptes à utiliser de façon efficace les moyens dont dispose la langue pour communiquer en société. À cette fin, ils devront acquérir des connaissances en vue de les déployer dans les formes de discours qu'il leur faudra pratiquer.
- 2) À leur arrivée au collégial, les étudiants et les étudiantes ont déjà acquis des compétences dans les quatre habiletés langagières, à savoir : parler, lire, écouter et écrire, mais sont, de façon générale, plus compétents en matière d'expression orale. En conséquence, la formation porte sur le développement des quatre habiletés langagières tout en mettant l'accent sur la lecture et l'écriture.
- 3) En tant que partie intégrante de la formation générale, le français, langue seconde, contribue au développement de la pensée critique et de l'expression structurée.

Résultats attendus

Tout étudiant ou toute étudiante qui a atteint les objectifs de formation générale en français, langue seconde, pourra, selon son niveau de compétence, montrer :

- que, sur le plan des connaissances, il ou elle :
 - sait faire une présentation orale structurée;
 - connaît les différentes formes du discours;
 - connaît les différentes techniques de lecture et d'écriture;
- que, sur le plan des habiletés, il ou elle :
 - est capable de questionner, d'analyser, de juger, et d'argumenter en français;
 - est apte à entretenir des rapports sociaux et à partager la vie culturelle du Québec;
 - est apte à établir, à poursuivre et à pratiquer des rapports professionnels en français;
- que, sur le plan des qualités et des attitudes à développer, il ou elle :
 - fait preuve d'ouverture par rapport aux différents aspects de la culture québécoise;
 - a conscience des différences et des similitudes entre sa culture d'origine et la culture québécoise francophone;
 - a la préparation voulue pour s'insérer dans la vie sociale et économique.

Séquence des objectifs et des standards

Pour répondre aux divers besoins d'apprentissage des étudiants et des étudiantes du collégial, les ensembles en français, langue seconde, sont répartis selon quatre niveaux. Chacun de ces niveaux permet d'amener les étudiants et les étudiantes à interpréter et à produire des textes de plus ou moins grande complexité.

La formation générale en français, langue seconde, comporte deux ensembles prévus en séquence. Le premier, qui fait partie de la formation générale commune à tous les programmes, a pour objet de

consolider les connaissances linguistiques déjà acquises et de les développer pour amener les étudiants et les étudiantes à communiquer de façon plus précise sur le plan tant du vocabulaire et de la syntaxe que de l'organisation textuelle.

Le second ensemble, qui fait partie de la formation générale propre aux programmes, s'appuie sur les acquis développés dans le premier ensemble en les enrichissant d'éléments de compétence liés aux champs d'études de l'étudiant ou de l'étudiante. On cherche à développer la précision de l'expression dans des situations de communication particulières qui relèvent du champ d'études de l'étudiant ou de l'étudiante.

Physical Education

Physical Education is aimed at promoting the development of the whole person and encouraging students to acquire responsible behaviours with respect to their health and quality of life.

Principles

- 1) Physical Education introduces students to different ways of being physically active with a view to making them aware that they are responsible for their health. Students learn concepts and acquire knowledge drawn from research, and methodically apply them to physical activities that will lead them to adopt healthy lifestyle practices.
- 2) Physical Education enables students to improve their efficiency in an activity and, in doing so, serves to increase their motivation and perseverance to remain physically active, and makes them aware of the contributing factors. To this end, students use a learning process designed to enhance their aptitudes (i.e. their skills and attitudes) for a given physical activity.
- 3) Physical Education helps students take responsibility for their own health through the maintenance and improvement of their physical fitness and through the sensible practice of physical activity. Students learn to combine being physically active in an effective manner with other factors that promote health.
- 4) Physical Education makes students aware of the importance of sharing the knowledge and behaviours they have acquired. The pleasure and sense of well-being students get out of Physical Education classes motivate them to encourage others to be physically active and to adopt healthy practices.

Expected Outcomes

Students who have achieved the general education objectives in Physical Education will be able to demonstrate:

- their knowledge of:
 - the relationship between physical activity, lifestyle and health based on the findings of scientific research
 - the scientific principles for improving or maintaining physical fitness
 - ways to assess their abilities and needs with respect to activities that can improve their health
 - the rules, techniques and conditions involved in different types of physical activity
 - a method for setting goals
 - the factors that help make physical activity part of their lifestyle
- the skills that will enable them to:
 - choose physical activities on the basis of their motivation, abilities and needs
 - establish relationships between lifestyle and health
 - apply the rules, techniques and conditions involved in different types of physical activity
 - set goals that are realistic, measurable, challenging, and situated within a specific time frame

- improve their mastery of the basic techniques, tactics and strategies associated with sports, outdoor and expression-oriented activities
 - use their creative and communication skills, particularly in group activities
 - evaluate their skills, attitudes and progress with respect to different forms of physical activity
 - maintain or increase their level of physical activity and fitness on their own
 - manage a personal physical activity program and assume responsibility in the organization of physical activities
- the attitudes and qualities that will enable them to:
 - understand the importance of taking responsibility for their health
 - be aware of the need to evaluate and respect their abilities and the conditions for carrying out an activity, before undertaking the activity
 - recognize the importance of self-confidence, self-control, respect for others and cooperation, through knowledge they have acquired and through participation in physical activity
 - respect the environment in which the activities are held
 - appreciate the aesthetic and play value of physical activity
 - promote a balanced and active lifestyle as a social value

Sequence of Objectives and Standards

The three sets of objectives and standards in Physical Education are designed in a learning sequence. The first two are prerequisites for the third.

The first set focuses on the relationship between health and physical activity as related to a healthy lifestyle. Students are required to try one or more activities and to relate them to their abilities, needs, motivation, lifestyle and knowledge of health prevention. This enables them to make an appropriate and justified choice of activities.

The second set looks at the improvement of effectiveness through the use of a goal-oriented approach in a sports, outdoor or expression-oriented activity. After making an initial assessment of their abilities and attitudes, students are called upon to evaluate them with respect to a physical activity, to set goals and to interpret their progress.

The third set is aimed at helping students integrate physical activity into their lifestyle, more particularly through more effective management of factors that facilitate such integration. During the hours of instruction, students apply the knowledge they have acquired in the first two sets of objectives. This is done through the safe and effective practice of physical activity and through the development, realization and evaluation of a personal physical activity program, which students follow and validate under their teacher's supervision. The hours allotted for individual work enable students to complete their personal programs.

Complementary General Education

Social Sciences

The two sets of objectives and standards aim to familiarize students with the social sciences and their particular approach to the human condition.

The first set supports learning activities that allow students to look at one or more of the social sciences in relation to major contemporary issues: subjects studied in the social sciences; contribution of the social sciences to an understanding of contemporary issues; issues facing the social sciences in the future.

The second set supports learning activities in the social sciences that allow students to rigorously analyze one of the major problems of our time, using one or more social scientific approaches.

Science and Technology

In Science and Technology, the educational aim is to present science and technology as a specific approach to reality in order to familiarize students with this field of knowledge. This general intention can take several forms, such as helping students gain experience with the scientific method or study the evolution, challenges and consequences of scientific and technological discoveries.

The first set of objectives and standards emphasizes the general nature and scope of science and technology. The second set emphasizes using the scientific method.

Modern Languages

The three sets of objectives and standards in Modern Languages introduce students to the basic language structures and vocabulary of a third language while making them aware of the culture of the people who speak the language.

Because some modern languages use different structures and writing systems, the three sets of objectives and standards have been designed accordingly. The degree of competency acquisition will therefore vary according to how distant the language is from our own language or system of thought. Furthermore, awareness of the culture of the people using a modern language does not figure as an element of competency, since learning a modern language necessarily implies developing such awareness.

Mathematics Literacy and Computer Science

In Mathematics Literacy and Computer Science, the two sets of objectives and standards are based on the aim of developing mathematical and computer culture.

The educational aim of the first set is to lead students to consider the place, role and evolution of this knowledge and these tools in our society and to describe their different uses. It consists of general education about the language of mathematics or computers, and does not include specialized training.

The second set targets the understanding and use of the language of mathematics or computers for everyday purposes. This intention refers mainly to the concepts, tools and general uses of mathematical or computer language in daily life.

Since the objectives and standards for the field of mathematics literacy and computer science are quite general, they can be used to define various learning activities that foster the development of competencies in mathematics or computer science, or in a combination of these two areas.

Art and Aesthetics

The educational aim of Art and Aesthetics is to help students to acquire general cultural knowledge by exploring various forms of art in one or more artistic fields. This basic education is intended to develop an artistic sensibility through exposure to works of art or experimentation in an artistic medium. Furthermore, it aims to teach the basic elements of the language of art and to enable students to make connections between those elements.

Through the first set of objectives and standards, students are introduced to works of art from contemporary culture and from other periods. This allows them to develop an appreciation for the dynamics of the imagination in art and to learn methods of analyzing artistic production.

Through the second set, students engage in creative or interpretive activities in a given artistic medium. As well, students are introduced to artistic works in that medium so that they may learn to recognize its primary forms of expression.

Objective**Standard****Statement of the Competency**

To analyze and produce various forms of discourse.

Elements of the Competency**Performance Criteria**

- | | |
|--|--|
| 1. To identify the characteristics and functions of the components of discourse. | <ul style="list-style-type: none"> • Accurate explanation of the denotation of words • Adequate recognition of the appropriate connotation of words • Accurate definition of the characteristics and function of each component |
| 2. To determine the organization of facts and arguments of a given discourse. | <ul style="list-style-type: none"> • Clear and accurate recognition of the main idea and structure • Clear presentation of the strategies employed to develop an argument or thesis |
| 3. To prepare ideas and strategies for a projected discourse. | <ul style="list-style-type: none"> • Appropriate identification of topics and ideas • Adequate gathering of pertinent information • Clear formulation of a thesis • Coherent ordering of supporting material |
| 4. To formulate a discourse. | <ul style="list-style-type: none"> • Appropriate choice of tone and diction • Correct development of sentences • Clear and coherent development of paragraphs • Formulation of a 750-word discourse |
| 5. To edit the discourse. | <ul style="list-style-type: none"> • Thorough revision of form and content |

Learning Activities

Discipline:	English
Weighting:	2-2-4 or 1-3-4
Credits:	2 2/3

Language of Instruction and Literature

Code: 0005

Objective**Standard****Statement of the Competency**

To apply a critical approach to literary genres.

Elements of the Competency**Performance Criteria**

- | | |
|--|---|
| 1. To distinguish genres of literary discourse. | <ul style="list-style-type: none"> • Clear recognition of the formal characteristics of a literary genre |
| 2. To recognize the use of literary conventions within a specific genre. | <ul style="list-style-type: none"> • Accurate recognition of the figurative communication of meaning • Adequate explanation of the effects of significant literary and rhetorical devices |
| 3. To situate a discourse within its historical and literary period. | <ul style="list-style-type: none"> • Appropriate recognition of the relationship of a text to its period |
| 4. To explicate a discourse representative of a literary genre. | <ul style="list-style-type: none"> • Selective use of appropriate terminology • Effective presentation of a 1000-word integrated response to a text |

Learning Activities

Discipline:	English
Weighting:	2-2-3
Credits:	2 1/3

Objective**Standard****Statement of the Competency**

To apply a critical approach to a literary theme.

Elements of the Competency**Performance Criteria**

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. To recognize the treatment of a theme within a literary text. 2. To situate a literary text within its cultural context. 3. To detect the value system inherent in a literary text. 4. To explicate a text from a thematic perspective. | <ul style="list-style-type: none"> • Clear recognition of elements within the text which define and reinforce a theme and its development • Adequate demonstration of the effects of significant literary and rhetorical devices • Appropriate recognition of a text as an expression of cultural context • Adequate demonstration of the effects of significant literary and rhetorical devices • Appropriate identification of expression (explicit/implicit) of a value system in a text • Selective use of appropriate terminology • Effective presentation of a 1000-word integrated response to a text |
|---|---|

Learning Activities

Discipline:	English
Weighting:	2-2-3
Credits:	2 1/3

Humanities

Code: 00B2

Objective**Standard****Statement of the Competency**

To apply a logical analytical process to how knowledge is organized and used.

Elements of the Competency**Performance Criteria**

- | | |
|---|---|
| 1. To recognize the basic elements of a field of knowledge. | <ul style="list-style-type: none"> • Appropriate description of the basic elements • Appropriate use of terminology relevant to fields of knowledge |
| 2. To define the modes of organization and utilization of a field of knowledge. | <ul style="list-style-type: none"> • Adequate definition of the dimensions, limits and uses of fields of knowledge |
| 3. To situate a field of knowledge within its historical context. | <ul style="list-style-type: none"> • Accurate identification of the main components in the historical development of fields of knowledge • Accurate description of the effects of historical development and societal milieu on the limitations and uses of a field of knowledge |
| 4. To organize the main components into coherent patterns. | <ul style="list-style-type: none"> • Coherent organization of the main components |
| 5. To produce a synthesis of the main components. | <ul style="list-style-type: none"> • Appropriate analysis of the components • Coherent synthesis of the main components • Appropriate expression, including a significant individual written component, of an analysis of the context, importance and implications of the organization and uses of knowledge |

Learning Activities

Discipline:	Humanities
Weighting:	3-1-3
Credits:	2 1/3

Humanities

Code: 000G

Objective**Standard****Statement of the Competency**

To apply a critical thought process to world-views.

Elements of the Competency**Performance Criteria**

- | | |
|--|--|
| 1. To describe world-views. | <ul style="list-style-type: none"> • Accurate description of a society or group with a distinctive world-view • Appropriate use of terminology relevant to these societies or groups |
| 2. To explain the major ideas, values and implications of a world-view. | <ul style="list-style-type: none"> • Adequate explanation of the salient components of a world-view |
| 3. To organize the ideas, values and experiences of a world-view into coherent patterns. | <ul style="list-style-type: none"> • Coherent organization of ideas about a world-view • Appropriate expression, including a significant individual written component, of an analysis of the context, importance and implications of world-views |
| 4. To compare world-views. | <ul style="list-style-type: none"> • Comparative analysis of these world-views • Appropriate inclusion of central elements, relationships and organizational principles of the societies or groups in the analysis |

Learning Activities

Discipline:	Humanities
Weighting:	3-0-3
Credits:	2

Langue seconde (niveau I)

Code: 0017

Objective**Standard****Statement of the Competency**

Appliquer les notions de base de la communication en français courant.

Elements of the Competency**Performance Criteria**

- | | |
|--|--|
| 1. Dégager le sens d'un message oral simple. | <ul style="list-style-type: none"> • Repérage précis des difficultés de compréhension du message. • Utilisation pertinente des techniques d'écoute choisies. • Distinction précise du sens général et des idées essentielles du message. • Description précise du sens général et des idées essentielles du message. |
| 2. Émettre un message oral simple. | <ul style="list-style-type: none"> • Repérage précis des difficultés d'expression. • Utilisation pertinente des techniques d'expression orales choisies. • Emploi pertinent du vocabulaire courant. • Expression intelligible du propos. |
| 3. Dégager le sens d'un texte. | <ul style="list-style-type: none"> • Repérage précis des difficultés de compréhension du texte. • Utilisation pertinente des techniques de lecture choisies. • Distinction claire des principaux éléments du texte. • Description précise du sens général et des idées essentielles d'un texte de 500 mots. |
| 4. Rédiger un texte simple. | <ul style="list-style-type: none"> • Repérage précis des difficultés d'écriture. • Utilisation pertinente des techniques d'écriture choisies. • Emploi pertinent du vocabulaire courant. • Formulation claire et cohérente d'un texte de 100 mots. |

Learning Activities

Discipline:	Français, langue seconde
Weighting:	2-1-3
Credits:	2

Langue seconde (niveau II)

Code: 000A

Objective**Standard****Statement of the Competency**

Communiquer en français avec une certaine aisance.

Elements of the Competency**Performance Criteria**

- | | |
|---|---|
| 1. Interpréter un texte oral simple de trois minutes en français courant. | <ul style="list-style-type: none"> • Distinction claire des principaux éléments du texte oral. • Explication précise du sens des mots dans le texte. • Repérage précis des idées et des sujets traités dans le texte. |
| 2. Produire un texte oral planifié de cinq minutes en français courant. | <ul style="list-style-type: none"> • Emploi pertinent du vocabulaire courant. • Respect du niveau de langue, du code grammatical et des règles de la prononciation. • Formulation claire et cohérente du propos. |
| 3. Interpréter un texte écrit en français courant. | <ul style="list-style-type: none"> • Distinction claire des principaux éléments du texte. • Explication précise du sens des mots dans le texte. • Repérage précis des idées principales et de la structure d'un texte de 700 à 1000 mots. |
| 4. Rédiger un texte simple en français courant. | <ul style="list-style-type: none"> • Respect du code grammatical et orthographique. • Utilisation judicieuse des principaux éléments du corpus. • Formulation claire et cohérente des phrases. • Articulation cohérente des paragraphes. • Rédaction d'un texte de 200 mots. |

Learning Activities

Discipline:	Français, langue seconde
Weighting:	2-1-3
Credits:	2

Langue seconde (niveau III)

Code: 000B

Objective**Standard****Statement of the Competency**

Communiquer avec aisance en français.

Elements of the Competency**Performance Criteria**

- | | |
|---|--|
| 1. Produire un texte oral planifié de cinq minutes de complexité moyenne. | <ul style="list-style-type: none"> • Emploi pertinent du vocabulaire courant. • Adaptation à l'interlocuteur ou à l'interlocutrice • Respect du niveau de langue, du code grammatical et des règles de la prononciation. • Formulation claire et cohérente du propos. • Agencement pertinent des idées. |
| 2. Commenter un texte écrit de complexité moyenne. | <ul style="list-style-type: none"> • Distinction claire des principaux éléments d'un texte comprenant entre 2 500 et 3 000 mots. • Explication précise du sens des mots dans le texte. • Distinction précise des idées principales et secondaires, des faits et des opinions. • Formulation d'éléments implicites. |
| 3. Rédiger un texte de complexité moyenne. | <ul style="list-style-type: none"> • Respect du code grammatical et orthographique. • Adaptation au lecteur ou à la lectrice. • Utilisation judicieuse des principaux éléments du corpus. • Formulation claire et cohérente des phrases, dont au moins trois sont complexes. • Articulation cohérente des paragraphes. • Rédaction d'un texte de 350 mots. |

Learning Activities

Discipline:	Français, langue seconde
Weighting:	2-1-3
Credits:	2

Langue seconde (niveau IV)

Code: 000C

Objective**Standard****Statement of the Competency**

Traiter d'un sujet culturel et littéraire.

Elements of the Competency**Performance Criteria**

- | | |
|--|---|
| 1. Analyser un texte culturel ou littéraire. | <ul style="list-style-type: none"> • Formulation personnelle des éléments principaux du texte. • Inventaire des thèmes principaux. • Relevé d'indices qui permettent de situer le texte dans son contexte socioculturel et historique. • Repérage des valeurs véhiculées. • Repérage juste de la structure du texte. • Articulation claire d'un point de vue personnel. |
| 2. Rédiger un texte sur un sujet culturel ou littéraire. | <ul style="list-style-type: none"> • Respect du sujet. • Respect du code grammatical et orthographique. • Adaptation au lecteur ou à la lectrice. • Utilisation judicieuse des principaux éléments du corpus. • Formulation claire et cohérente d'un texte de 500 mots. • Articulation claire d'un point de vue personnel. |

Learning Activities

Discipline:	Français, langue seconde
Weighting:	3-0-3
Credits:	2

Physical Education

Code: 0064

Objective**Standard****Statement of the Competency**

To establish the role that being physically active plays amongst the lifestyle behaviours which promote health.

Elements of the Competency**Performance Criteria**

- | Elements of the Competency | Performance Criteria |
|--|---|
| 1. To establish a relationship between their lifestyle and their health. | <ul style="list-style-type: none"> • Appropriate use of documentation • Appropriate connections between their lifestyle and their health |
| 2. To be physically active in a manner that promotes health. | <ul style="list-style-type: none"> • Observance of the rules involved in physical activities, including safety rules • Respect for their abilities when engaging in physical activities |
| 3. To recognize their needs, abilities and motivational factors with respect to regular physical activity. | <ul style="list-style-type: none"> • Appropriate use of quantitative and qualitative physical data • Statement of their main physical needs and abilities • Statement of their main motivational factors with respect to regular physical activity |
| 4. To propose physical activities that promote health. | <ul style="list-style-type: none"> • Appropriate and justified choice of physical activities according to their needs, abilities, and motivational factors |

Learning Activities

Discipline:	Physical Education
Weighting:	1-1-1
Credits:	1

Physical Education

Code: 0065

Objective**Standard****Statement of the Competency**

To improve one's effectiveness when practising a physical activity.

Element of the Competency**Performance Criteria**

1. To use a process designed to improve their effectiveness during a physical activity.

- Initial assessment of their skills and attitudes in relation to a physical activity
- Statement of their expectations and needs with respect to their ability to carry out the activity
- Appropriate formulation of personal objectives
- Statement of the means selected to achieve their objectives
- Observance of the rules involved in the physical activity, including safety rules
- Periodic evaluation of their skills and attitudes in relation to the activity
- Meaningful interpretation of the progress achieved and the difficulties experienced during the activity
- Appropriate, periodic adjustments of their objectives or the means used to achieve them
- Appreciable improvement of the motor skills required by the activity

Learning Activities

Discipline:	Physical Education
Weighting:	0-2-1
Credits:	1

Physical Education

Code: 0066

Objective**Standard****Statement of the Competency**

To demonstrate one's responsibility for being physically active in a manner which promotes health.

Elements of the Competency**Performance Criteria**

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. To make physical activity part of a healthy lifestyle. 2. To manage a personal physical activity program. | <ul style="list-style-type: none"> • Practise of a physical activity while maintaining a balance between effectiveness and the factors promoting health • Statement of their priorities according to their needs, skills, and motivational factors in relation to regular physical activity • Proper formulation of the objectives for their personal programs • Appropriate choice of activity or activities for their personal programs • Appropriate planning of the conditions in which the activity or activities in their personal programs are carried out • Appropriate choice of criteria for measuring the attainment of their personal programs • Periodic assessment of the time invested and the activities carried out during the program • Meaningful interpretation of the progress achieved and difficulties experienced during the activities • Appropriate, periodic adjustment of their objectives or the means used to attain them |
|---|--|

Learning Activities

Discipline:	Physical Education
Weighting:	1-1-1
Credits:	1

Language of Instruction and Literature

Code: 000L

Objective**Standard****Statement of the Competency**

To communicate in the forms of discourse appropriate to one or more fields of study.

Elements of the Competency**Performance Criteria**

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. To identify the forms of discourse appropriate to given fields of study. 2. To recognize the discursive frameworks appropriate to given fields of study. 3. To formulate a discourse. | <ul style="list-style-type: none"> • Accurate recognition of specialized vocabulary and conventions • Accurate recognition of the characteristics of the form of discourse • Clear and accurate recognition of the main ideas and structure • Appropriate distinction between fact and argument • Appropriate choice of tone and diction • Correctly developed sentences • Clearly and coherently developed paragraphs • Appropriate use of program-related communication strategies • Formulation of a 1000-word discourse • Thorough revision of form and content |
|--|---|

Learning Activities

Discipline:	English
Hours of instruction:	60
Credits:	2

Humanities

Code: 000U

Objective**Standard****Statement of the Competency**

To apply a critical thought process to ethical issues relevant to the field of study.

Elements of the Competency**Performance Criteria**

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. To situate significant ethical issues in appropriate world-views and fields of knowledge. 2. To explain the major ideas, values, and social implications of ethical issues. 3. To organize the ethical questions and their implications into coherent patterns. 4. To debate the ethical issues. | <ul style="list-style-type: none"> • Accurate recognition of the basic elements of ethical issues • Appropriate use of relevant terminology • Adequate identification of the main linkages with world-views and fields of knowledge • Adequate description of the salient components of the issues • Coherent organization of the ethical questions and their implications • Appropriate expression, including a significant individual written component, of an analysis of the context, importance and implications of the issues • Adequate development of substantiated argumentation including context and diverse points of view • Clear articulation of an individual point of view |
|--|--|

Learning Activities

Discipline:	Humanities
Hours of instruction:	45
Credits:	2

Objective**Standard****Statement of the Competency**

Appliquer des notions fondamentales de la communication en français, liées à un champ d'études.

Elements of the Competency**Performance Criteria**

- | | |
|---|---|
| <p>1. Dégager le sens d'un message oral simple lié à un champ d'études.</p> <p>2. Dégager le sens et les caractéristiques d'un texte lié à un champ d'études.</p> <p>3. Émettre un message oral simple lié à un champ d'études.</p> | <ul style="list-style-type: none"> • Repérage précis des difficultés de compréhension du message. • Distinction précise des caractéristiques du message. • Repérage juste du vocabulaire spécialisé. • Utilisation pertinente des techniques d'écoute choisies. • Distinction claire des principaux éléments du message. • Description précise du sens général et des idées essentielles du message.
<ul style="list-style-type: none"> • Repérage précis des difficultés de compréhension du texte. • Distinction précise des caractéristiques du texte. • Repérage précis du vocabulaire spécialisé. • Utilisation pertinente des techniques de lectures choisies. • Distinction claire des principaux éléments du texte. • Description précise du sens général et des idées essentielles du texte.
<ul style="list-style-type: none"> • Repérage précis des difficultés d'expression orale. • Utilisation pertinente des techniques d'expression orale choisies. • Utilisation pertinente du vocabulaire courant et spécialisé. • Expression intelligible du propos. |
|---|---|

Langue seconde (niveau I)

Code: 0018

4. Rédiger un court texte lié à un champ d'études.
- Repérage précis des difficultés d'écrire.
 - Utilisation pertinente des techniques d'écriture choisies.
 - Utilisation pertinente du vocabulaire courant et spécialisé.
 - Formulation claire et cohérente du texte.

Learning Activities

Discipline:	Français, langue seconde
Hours of instruction:	45
Credits:	2

Langue seconde (niveau II)

Code: 000Q

Objective**Standard****Statement of the Competency**

Communiquer en français dans un champ d'études particulier.

Elements of the Competency**Performance Criteria**

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Distinguer les types de textes propres au champ d'études. 2. Interpréter des textes représentatifs du champ d'études. 3. Utiliser des techniques de production de textes appropriées au champ d'études. | <ul style="list-style-type: none"> • Distinction précise des caractéristiques formelles de chacun des principaux types de textes et des conventions utilisées. • Distinction claire des principaux éléments du texte. • Interprétation claire du vocabulaire spécialisé. • Repérage précis des idées et des sujets traités. • Utilisation pertinente des techniques de lecture et d'écoute. • Emploi pertinent du vocabulaire spécialisé et des conventions. • Respect du niveau de langue et du code grammatical. • Formulation claire et cohérente du propos. • Utilisation pertinente des techniques d'expression. |
|--|--|

Learning Activities

Discipline:	Français, langue seconde
Hours of instruction:	45
Credits:	2

Langue seconde (niveau III)

Code: 000R

Objective**Standard****Statement of the Competency**

Communiquer avec aisance en français dans un champ d'études particulier.

Elements of the Competency**Performance Criteria**

1. Commenter des textes propres au champ d'études.

- Distinction précise des caractéristiques formelles des principaux types de textes et des conventions utilisées.
- Explication précise du sens des mots dans le texte.
- Repérage précis de la structure du texte.
- Reformulation juste des idées principales et secondaires, des faits et des opinions.
- Emploi juste du vocabulaire spécialisé.

2. Produire un texte sur un sujet lié au champ d'études.

- Respect du sujet.
- Emploi pertinent du vocabulaire spécialisé et des conventions.
- Respect du niveau de langue et du code grammatical.
- Formulation claire et cohérente du propos.
- Agencement pertinent des idées.
- Adéquation entre forme et fond.

Learning Activities

Discipline:	Français, langue seconde
Hours of instruction:	45
Credits:	2

Langue seconde (niveau IV)

Code: 000S

Objective**Standard****Statement of the Competency**

Dissserter en français sur un sujet lié au champ d'études.

Elements of the Competency**Performance Criteria**

1. Analyser un texte lié au champ d'études.

- Distinction précise des caractéristiques formelles des types particuliers de textes.
- Formulation personnelle des éléments principaux.
- Inventaire des thèmes principaux.
- Repérage juste de la structure du texte.
- Relevé d'indices qui permettent de situer le texte dans son contexte.
- Articulation claire d'un point de vue personnel, s'il y a lieu.
- Association juste des éléments du texte au sujet traité.

2. Rédiger un texte sur un sujet lié au champ d'études.

- Respect du sujet.
- Emploi pertinent du vocabulaire spécialisé et des conventions.
- Appropriate choice des principaux éléments du corpus en fonction du type de texte.
- Formulation claire et cohérente du texte.
- Respect du code grammatical et orthographique.
- Articulation claire d'un point de vue personnel, s'il y a lieu.

Learning Activities

Discipline: Français, langue seconde
 Hours of instruction: 45
 Credits: 2

Social Sciences

Code: 000V

Objective**Standard****Statement of the Competency****Achievement Context**

To estimate the contribution of the social sciences to an understanding of contemporary issues.

- Working alone
- In an essay of approximately 750 words on the contribution of the social sciences to an understanding of contemporary issues
- Using documents and data from the social sciences

Elements of the Competency**Performance Criteria**

- | | |
|---|--|
| 1. Recognize the focus of one or more of the social sciences and their main approaches. | <ul style="list-style-type: none"> • Formulation of the focus specific to one or more of the social sciences • Description of the main approaches used in the social sciences |
| 2. Identify some of the issues currently under study in the social sciences. | <ul style="list-style-type: none"> • Association of these issues with the pertinent areas of research in the social sciences |
| 3. Demonstrate the contribution of one or more of the social sciences to an understanding of contemporary issues. | <ul style="list-style-type: none"> • Presentation of contemporary issues by emphasizing the interpretation of the social sciences • Illustration of the interaction between certain social changes and the contribution of the social sciences |

Learning Activities

Hours of instruction:	45
Credits:	2

Social Sciences

Code: 000W

Objective**Standard****Statement of the Competency**

To analyze one of the major problems of our time using one or more social scientific approaches.

Achievement Context

- Working alone
- In an essay of approximately 750 words on a topic related to human existence
- Using reference materials from one or more disciplines in the social sciences

Elements of the Competency**Performance Criteria**

1. Formulate a problem using one or more social scientific approaches.

- Presentation of the background to the problem
- Use of appropriate concepts and language
- Brief description of individual, collective, spatiotemporal and cultural aspects of the problem

2. Deal with an issue using one or more social scientific approaches.

- Clear formulation of an issue
- Selection of pertinent reference materials
- Brief description of historical, experimental and survey methods

3. Draw conclusions.

- Appropriate use of the selected method
- Determination of appropriate evaluation criteria
- Identification of strengths and weaknesses of the conclusions
- Broadening of issue studied

Learning Activities

Hours of instruction: 45
Credits: 2

Science and Technology

Code: 000X

Objective**Standard****Statement of the Competency**

To explain the general nature of science and technology and some of the major contemporary scientific or technological issues.

Achievement Context

- Working alone
- Given a written commentary on a scientific discovery or technological development
- In an essay of approximately 750 words

Elements of the Competency**Performance Criteria**

- | | |
|--|---|
| 1. Describe scientific thinking and the standard method. | <ul style="list-style-type: none"> • Brief description of the essential characteristics of scientific thinking, including quantification and demonstration • Organized list and brief description of the essential characteristics of the main steps in the standard scientific method |
| 2. Demonstrate how science and technology are complementary. | <ul style="list-style-type: none"> • Definition of terms and description of the primary ways in which science, techniques and technology are interrelated: logical and temporal connections, and mutual contributions |
| 3. Explain the context and the stages related to several scientific and technological discoveries. | <ul style="list-style-type: none"> • Pertinent and coherent explanation of the relationship between the determining contexts of several scientific and technological discoveries • List of the main stages of scientific and technological discoveries |
| 4. Deduce different consequences and questions resulting from certain recent scientific and technological innovations. | <ul style="list-style-type: none"> • Brief description of important consequences (of different types) and the current major challenges resulting from several scientific and technological discoveries • Formulation of relevant questions and credibility of responses to the questions formulated |

Learning Activities

Hours of instruction: 45
Credits: 2

Science and Technology

Code: 000Y

Objective**Standard****Statement of the Competency****Achievement Context**

To resolve a simple problem by applying the basic scientific method.

- Working alone or in groups
- Given a simple scientific and technological problem that can be resolved by applying the standard scientific method
- Using common scientific instruments and reference materials (written or other)

Elements of the Competency**Performance Criteria**

- | | |
|---|--|
| 1. Describe the main steps of the standard scientific method. | <ul style="list-style-type: none"> • Organized list and brief description of the characteristics of the steps of the standard scientific method |
| 2. Formulate a hypothesis designed to solve a simple scientific and technological problem. | <ul style="list-style-type: none"> • Clear, precise description of the problem • Observance of the principles for formulating a hypothesis (observable and measurable nature of data, credibility, etc.) |
| 3. Verify a hypothesis by applying the fundamental principles of the basic experimental method. | <ul style="list-style-type: none"> • Pertinence, reliability and validity of the experimental method used • Observance of established experimental method • Appropriate choice and use of instruments • Clear, satisfactory presentation of results • Validity of the connections established between the hypothesis, the verification and the conclusion |

Learning Activities

Hours of instruction:	45
Credits:	2

Modern Languages

Code: 000Z

Objective	Standard
Statement of the Competency	Achievement Context
To communicate with limited skill ¹ in a modern language.	<ul style="list-style-type: none"> For modern Latin-alphabet languages: <ul style="list-style-type: none"> during a conversation consisting of at least eight sentences of dialogue in a written text consisting of at least eight sentences Or For non-Latin-alphabet languages: <ul style="list-style-type: none"> during a conversation consisting of at least six sentences of dialogue in a written text consisting of at least six sentences Based on learning situations on familiar themes Using reference materials
Elements of the Competency	Performance Criteria
1. Understand the meaning of a verbal message.	<p>Learning a modern language requires becoming aware of the culture of the people who use the language.</p> <ul style="list-style-type: none"> Accurate identification of words and idiomatic expressions Clear recognition of the general meaning of simple messages Logical connections between the various elements of the message
2. Understand the meaning of a written message.	<ul style="list-style-type: none"> Accurate identification of words and idiomatic expressions Clear recognition of the general meaning of simple messages Logical connections between the various elements of the message

¹ This refers to the limited use of the structures, grammar and vocabulary of the language studied. This limitation varies depending on the complexity of the modern language.

Modern Languages**Code: 000Z**

3. Express a simple message verbally.
- Appropriate use of language structures in main and subordinate clauses
 - Appropriate application of grammar rules
 - Use of verbs in the present indicative
 - Appropriate use of basic vocabulary and idiomatic expressions
 - Comprehensible pronunciation
 - Coherent sequence of simple sentences
 - Spontaneous, coherent sequence of sentences in a dialogue
4. Write a text on a given subject.
- Appropriate use of language structures in main and subordinate clauses
 - Appropriate application of basic grammar rules
 - Use of verbs in the present indicative
 - Appropriate use of basic vocabulary and idiomatic expressions
 - Coherent sequence of simple sentences
 - Acceptable application of graphic rules for writing systems that do not use the Latin alphabet

Learning Activities

Hours of instruction: 45
Credits: 2

Objective	Standard
<p>Statement of the Competency</p> <p>To communicate on familiar topics in a modern language.</p>	<p>Achievement Context</p> <ul style="list-style-type: none"> • During a conversation consisting of at least 15 sentences of dialogue • In a written text consisting of at least 20 sentences for Latin-alphabet languages • In a written text consisting of at least 10 sentences for non-Latin alphabet languages • Based on: <ul style="list-style-type: none"> – situations in everyday life – simple topics from everyday life • Using reference materials
Elements of the Competency	Performance Criteria
1. Understand the meaning of a verbal message.	<p>Learning a modern language requires becoming aware of the culture of the people who use the language.</p> <ul style="list-style-type: none"> • Accurate identification of words and idiomatic expressions • Clear recognition of the general meaning and essential ideas of messages of average complexity • Logical connection between the various elements of the message
2. Understand the meaning of a written message.	<ul style="list-style-type: none"> • Accurate identification of words and idiomatic expressions • Clear recognition of the general meaning and essential ideas of messages of average complexity • Logical connection between the various elements of the message
3. Express a simple message verbally, using sentences of average complexity.	<ul style="list-style-type: none"> • Appropriate use of language structures in main or subordinate clauses • Appropriate application of grammar rules • Use of verbs in the present indicative • Appropriate use of enriched basic vocabulary and idiomatic expressions • Comprehensible pronunciation • Coherent sequence of sentences of average complexity • Coherent dialogue of average complexity

Modern Languages**Code: 0010**

4. Write a text on a given subject, using sentences of average complexity.
- Appropriate use of language structures in main or subordinate clauses
 - Appropriate application of grammar rules
 - Use of verbs in the present and past indicative
 - Appropriate use of enriched basic vocabulary and idiomatic expressions.
 - Coherent sequence of sentences of average complexity
 - Acceptable application of graphic rules for writing systems that do not use the Latin alphabet

Learning Activities

Hours of instruction: 45
Credits: 2

Modern Languages

Code: 0067

Objective	Standard
Statement of the Competency	Achievement Context
To communicate with relative ease in a modern language.	<ul style="list-style-type: none"> • Working alone • During a conversation consisting of at least 20 sentences of dialogue • In a written text of medium length (at least 25 sentences for Latin-alphabet languages and 15 sentences for other languages) • Given documents of a sociocultural nature • Using reference materials for the written text
Elements of the Competency	Performance Criteria
1. Understand the meaning of a verbal message in everyday language.	<p>Learning a modern language requires being aware of the culture of the people who use the language.</p> <ul style="list-style-type: none"> • Accurate explanation of the general meaning and essential ideas of the message • Clear identification of structural elements of the language
2. Understand the meaning of a text of average complexity.	<ul style="list-style-type: none"> • Accurate explanation of the general meaning and essential ideas of the text • Clear identification of structural elements of the language
3. Have a conversation about a subject.	<ul style="list-style-type: none"> • Appropriate use of the structural elements of the language according to the message to be expressed • Appropriate use of everyday vocabulary • Accurate pronunciation and intonation • Normal flow in a conversation in everyday language • Coherence of the message expressed • Pertinent responses to questions
4. Write a text of average complexity.	<ul style="list-style-type: none"> • Appropriate use of the structural elements of the language according to the text to be written • Accurate vocabulary • Coherence of the text as a whole • Observance of presentation and writing rules
Learning Activities	

Hours of instruction: 45
Credits: 2

Mathematics Literacy and Computer Science

Code: 0011

Objective**Standard****Statement of the Competency**

To recognize the role of mathematics or informatics in contemporary society.

Achievement Context

- Working alone
- In an essay of approximately 750 words
- Using several concrete examples selected by the student demonstrating the competency

Elements of the Competency**Performance Criteria**

- | | |
|---|---|
| 1. Demonstrate the acquisition of basic general knowledge in mathematics or informatics. | <ul style="list-style-type: none"> • Identification of basic notions and concepts • Identification of main branches of mathematics or informatics • Appropriate use of terminology |
| 2. Describe the evolution of mathematics or informatics. | <ul style="list-style-type: none"> • Descriptive summary of several major phases |
| 3. Recognize the contribution of mathematics or informatics to the development of other areas of knowledge. | <ul style="list-style-type: none"> • Demonstration of the existence of important contributions, using concrete examples |
| 4. Illustrate the diversity of mathematical or informatics applications. | <ul style="list-style-type: none"> • Presentation of a range of applications in various areas of human activity, using concrete examples |
| 5. Evaluate the impact of mathematics or informatics on individuals and organizations. | <ul style="list-style-type: none"> • Identification of several major influences • Explanation of the way in which mathematics or informatics have changed certain human and organizational realities • Recognition of the advantages and disadvantages of these influences |

Learning Activities

Hours of instruction:	45
Credits:	2

Mathematics Literacy and Computer Science

Code: 0012

Objective	Standard
Statement of the Competency To use various mathematical or computer concepts, procedures and tools for common tasks.	Achievement Context <ul style="list-style-type: none"> • Working alone • While carrying out a task or solving a problem based on everyday needs. • Using familiar tools and reference materials
Elements of the Competency	Performance Criteria
1. Demonstrate the acquisition of basic functional knowledge in mathematics or informatics.	<ul style="list-style-type: none"> • Brief definition of concepts • Correct execution of basic operations • Appropriate use of terminology
2. Select mathematical or computer tools and procedures on the basis of specific needs.	<ul style="list-style-type: none"> • List of numerous possibilities available with mathematical and computer tools and procedures • Analysis of concrete situations and recognition of the usefulness of mathematical or computer tools and procedures • Appropriate choice according to needs
3. Use mathematical or computer tools and procedures to carry out tasks and solve problems.	<ul style="list-style-type: none"> • Planned, methodical process • Correct use of tools and procedures • Satisfactory results, given the context • Appropriate use of terminology specific to a tool or procedure
4. Interpret the quantitative data or results obtained using mathematical or computer tools and procedures.	<ul style="list-style-type: none"> • Accurate interpretation, given the context • Clear, precise formulation of the interpretation
Learning Activities	
Hours of instruction:	45
Credits:	2

Art and Aesthetics

Code: 0013

Objective**Standard****Statement of the Competency**

To consider various forms of art produced by aesthetic practices.

Achievement Context

- Working alone
- Given a specified work of art
- In a written commentary of approximately 750 words.

Elements of the Competency**Performance Criteria**

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Develop an appreciation for the dynamics of the imagination in art. 2. Describe art movements. 3. Give a commentary on a work of art. | <ul style="list-style-type: none"> • Precise explanation of a creative process connected to the construction of an imaginary universe • Descriptive list of the main characteristics of three art movements from different periods, including a modern movement • Coherent organization of observations, including identification of four basic elements of form and structure related to the language used as well as a justified description of the meaning of the work of art |
|--|---|

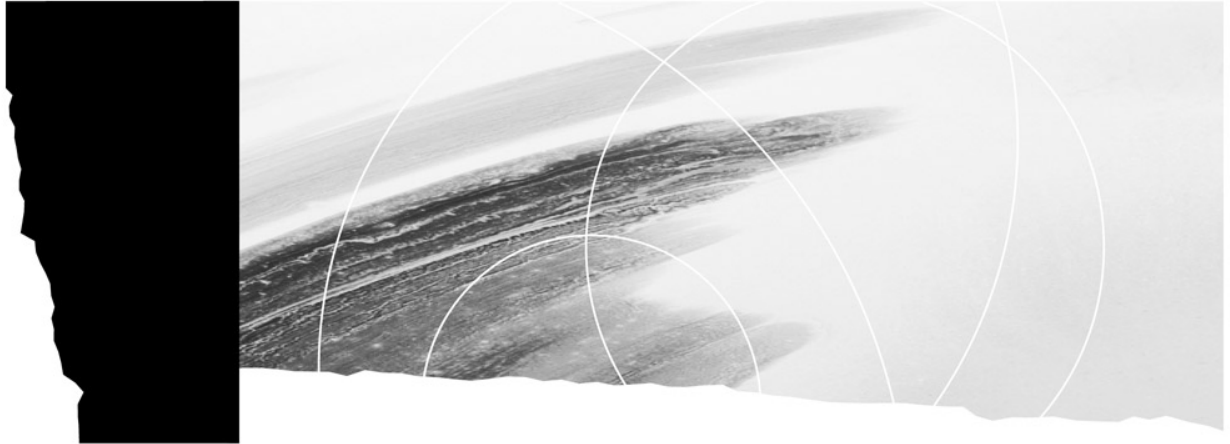
Learning Activities

Hours of instruction:	45
Credits:	2

Art and Aesthetics

Code: 0014

Objective		Standard	
Statement of the Competency		Achievement Context	
To produce a work of art.		<ul style="list-style-type: none">• Working alone• During a practical exercise• In the context of a creation or an interpretation• Using the basic elements of the language and techniques specific to the medium selected	
Elements of the Competency		Performance Criteria	
1. Recognize the primary forms of expression of an artistic medium.		<ul style="list-style-type: none">• Identification of specific features: originality, essential qualities, means of communication, styles, genres	
2. Use the medium.		<ul style="list-style-type: none">• Personal, coherent use of elements of language• Satisfactory application of artistic techniques• Observance of the requirements of the method of production	
Learning Activities			
Hours of instruction:		45	
Credits:		2	



Part II

**Goals of the Program-Specific
Component**

**Educational Aims of the Program-
Specific Component**

Grid of Competencies

Harmonization

**Objectives and Standards of the
Program-Specific Component**

Goals of the Program-Specific Component

The aim of the *Aircraft Maintenance* program is to train students to become qualified aircraft maintenance technicians in companies that use, repair, overhaul, maintain and manufacture aircraft and aircraft components.

The program specifically targets the following activities:

- routine aircraft maintenance
- maintenance of piston and turbine engines
- maintenance of electrical and avionics systems within the legal specifications of an aircraft maintenance technician
- maintenance of various aircraft systems
- maintenance of aircraft structures
- maintenance of rotary wings
- maintenance of propellers and propeller-related systems
- unplanned maintenance and inspections
- activities related to the design and manufacture of aircraft and aircraft components

The goals of the program-specific component of the *Aircraft Maintenance* program are based on the general goals of vocational and technical training. These goals are:

- To help students develop effectiveness in the practice of a trade or occupation, that is:
 - to teach students to perform roles, functions, tasks and activities associated with the trade or occupation upon entry into the job market
 - to prepare students to progress satisfactorily on the job (which implies having the necessary technical and technological knowledge and skills in such areas as communication, problem solving, decision making, ethics, health and safety)
- To help students integrate into the work force, that is:
 - to familiarize students with the job market in general and the context surrounding the occupation they have chosen
 - to familiarize students with their rights and responsibilities as workers
- To foster students' personal development and acquisition of occupational knowledge, skills, perceptions and attitudes, that is:
 - to help students develop their autonomy and the desire to learn, and acquire effective work methods
 - to help students understand the principles underlying the techniques and the technology used in the trade or occupation
 - to help students develop self-expression, creativity, initiative and entrepreneurial spirit
 - to help students adopt the attitudes required to successfully practise the trade or occupation, and instill in them a sense of responsibility and a concern for excellence
- To promote job mobility, that is:
 - to help students develop positive attitudes toward change
 - to help students develop the means to manage their careers by familiarizing them with entrepreneurship

Educational Aims of the Program-Specific Component

Educational aims are based on important values and concerns and serve as guidelines for interactions with students. As a general rule, educational aims focus on important aspects of the students' professional and personal development, such as attitudes, work habits and intellectual skills, which have not been explicitly formulated in the program's goals, objectives and standards.

The *Aircraft Maintenance* program is organized to take into account the regulations governing the occupation and the related working conditions, and includes activities performed on airplanes and helicopters. The program brings together two essential educational requirements: versatility and mastery of the job function.

Students develop versatility by acquiring general competencies that allow them to perform their tasks independently and to adapt to a variety of work situations resulting from industrial and technological advancements. Thus, the general competencies of the *Aircraft Maintenance* program help aircraft maintenance technicians to apply the principles, techniques and methods specific to the occupation and representative of new work organizations.

Mastery of the job function required for smooth integration into the workforce is ensured by the acquisition of specific competencies, directly related to occupational tasks. These competencies also focus on the various work activities related to airplanes and helicopters, thus contributing to job mobility.

The specific program component also aims to encourage the students to strive for quality and to take into account a variety of needs in performing their occupational tasks, while systematically applying the relevant regulations. Aircraft maintenance technicians will also be able to work with English and French technical documentation.

Grid of Competencies

The grid of competencies provides an overview of a technical program. It brings together all of the components of a program and shows the relationship among the competencies.

The grid of competencies includes:

- the general competencies of the program-specific component, which deal with work-related activities common to various tasks or situations
- the specific competencies, which deal with tasks directly related to the practice of the trade or occupation

The grid of competencies shows the relationship between the general competencies on the horizontal axis and the specific competencies on the vertical axis. The symbol (○) indicates a correlation between a general and a specific competency.

The order in which the competencies are presented reflects the program's design; it does not dictate the course sequence. The grid of competencies is provided for information purposes only.

GRID OF COMPETENCIES																			
SPECIFIC COMPETENCIES	Competency Number	GENERAL COMPETENCIES																	
		To analyze the occupation	To interpret schematics, drawings, assembly plans and installation plans	To apply shaping, assembly and installation techniques	To use organic and synthetic materials	To model and interpret mathematical results as they apply to aircraft maintenance	To maintain direct-current circuits on an aircraft	To inspect the operation of power and control components of hydraulic and pneumatic systems	To inspect the operation of aircraft piston engines	To perform activities related to the resistance of materials used in the aircraft industry	To clean, inspect and protect aircraft materials	To prepare and assemble sheet metal	To apply principles of aerodynamics	To verify simple alternating-current circuits on an aircraft	To verify communications, navigation and instrumentation systems	To verify the operation of aircraft turbine engines	To apply principles of aerodynamics to flight and helicopter maintenance	To assess the performance of piston and turbine engines	
Competency Number		1	2	3	4	5	6	7	8	9	10	12	13	16	18	19	21	24	
To overhaul aircraft piston engines	11	○	○	○	○	○	○	○	○	○	○		○					○	
To maintain the metal structures and structural components of an aircraft	14	○	○	○	○	○				○	○	○	○						
To maintain aircraft structures and structural components made of composite materials, wood and fabric	15	○	○	○	○	○				○			○	○	○		○		
To maintain propellers and propeller-related systems	17	○	○	○	○	○	○	○	○	○	○		○	○	○	○		○	
To maintain flight controls and flight control surfaces	20	○	○	○	○	○	○	○		○	○	○	○	○	○		○		
To maintain landing gear	22	○	○	○	○		○	○		○	○		○	○					
To overhaul aircraft turbine engines	23	○	○	○	○	○	○	○		○	○		○	○	○	○		○	
To maintain aircraft systems	25	○	○	○	○	○	○	○	○	○	○		○	○	○	○		○	
To inspect airplanes and helicopters	26	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
To maintain airplanes	27	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	
To maintain helicopters	28	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Harmonization

The Ministère de l'Éducation, du Loisir et du Sport harmonizes its vocational and technical programs by establishing similarities and continuity between secondary- and college-level programs within a particular sector or between sectors, in order to avoid overlap in program offerings, recognize prior learning and facilitate the students' progress.

Harmonization establishes consistency between training programs and is especially important in ensuring that the tasks of a trade or occupation are clearly identified and described. Harmonization makes it possible to identify tasks requiring competencies that are common to more than one program. Even if there are no common competencies, training programs are still harmonized.

Harmonization is said to be “inter-level” when it focuses on training programs at different levels, “intra-level” when it focuses on programs within the same educational level, and “inter-sector” when carried out between programs in various sectors.

An important aspect of harmonization is that it allows the common features of competencies to be identified and updated as needed. Common competencies are those that are shared by more than one program; once acquired in one program, they can be recognized as having been acquired in another. Competencies with exactly the same statement and elements are said to be identical. Common competencies that are not identical but have enough similarities to be of equal value are said to be equivalent.

Harmonization of the *Aircraft Maintenance* program has resulted in identifying competencies that are shared with other programs. Detailed information on the harmonization of this program and its results are presented in the document entitled *Tableaux d'harmonisation, Techniques de maintenance d'aéronefs*.

Code: 025N

Objective**Standard****Statement of the Competency**

To analyze the occupation.

Achievement Context

- Based on recent information on the occupation; the terminology and the regulatory framework governing aircraft maintenance; the different work environments; the rules related to obtaining licences in accordance with regulations; and occupational health and safety rules

Elements of the Competency**Performance Criteria**

1. Describe the occupation and the conditions under which it is practised.

- Relevance of information gathered
- Detailed analysis of the general characteristics of the occupation and the conditions for practising the occupation
- Accurate identification of the various categories of companies in the field of aeronautics and the types of jobs they offer
- Accurate identification of entrepreneurial opportunities within the sector
- Accurate distinction of the characteristics of each type of licence and the rules for obtaining them
- Accurate identification of the different career options

2. Analyze the tasks and operations related to the occupation.

- Detailed analysis of the activities, achievement context and performance criteria for each task
- Accurate determination of the relative importance of each task
- Association of steps in the work process with the occupational tasks
- Description of work teams in the different types of companies
- Accurate distinction of the professional limits of the occupation
- Awareness of the cost of parts, equipment and work time

Code: 025N

- | | |
|---|---|
| <p>3. Analyze the skills and behaviours required to practise the occupation.</p> | <ul style="list-style-type: none"> • Relevant connections between skills and behaviours on the one hand, and the occupational tasks on the other • Identification of rules of professional ethics • Accurate identification of the importance of teamwork |
| <p>4. Analyze the terminology and the regulatory framework governing aircraft maintenance.</p> | <ul style="list-style-type: none"> • Detailed analysis of terminology related to occupational tasks and activities • Accuracy of connections between English, French and industry terms • Accurate identification of the significance and importance of: <ul style="list-style-type: none"> – quality standards – requirements of regulatory bodies – standards, procedures and policies governing occupational activities – regulations and requirements related to the operation of an approved maintenance organization (AMO) • Effective research of standards and requirements in documentation |
| <p>5. Establish connections between occupational health and safety rules and aircraft maintenance activities.</p> | <ul style="list-style-type: none"> • Accurate identification of risks associated with: <ul style="list-style-type: none"> – products and materials – equipment – work organization, processes and methods • Accurate connections established between occupational health and safety rules and the risks inherent in practising the occupation |

Objective**Standard****Statement of the Competency**

To interpret schematics, drawings, assembly plans and installation plans.

Achievement Context

- Based on assembly plans and specifications; relevant English and French technical documentation; assembly and detail drawings in a system of measurement used in aeronautics; and aeronautical standards
- Using drafting instruments, and catalogues of aeronautical products and components

Elements of the Competency**Performance Criteria**

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Identify the different sections of an aircraft on a blueprint. 2. Establish connections between blueprints, diagrams, drawings and specifications. 3. Interpret symbols, abbreviations and other information contained in a plan. 4. Find the specifications in drawings, schematics and diagrams. | <ul style="list-style-type: none"> • Identification of the aircraft's reference lines • Accurate distinction of the different parts of an aircraft • Appropriate identification of views and cut-away views • Accurate interpretation of lines and hatching lines • Distinction of permanent and removable fastenings • Differentiation of connections in the various blueprints, drawings, diagrams and specifications • Identification of different standardized symbols • Interpretation of title and annotation blocks • Interpretation of different hydraulic, pneumatic and electrical symbols • Accurate distinction of conventions used to represent codes • Accurate interpretation of: <ul style="list-style-type: none"> – drawings and symbols – specific information – instructions – standards • Accurate interpretation of information on: <ul style="list-style-type: none"> – components and parts – assembly elements – interconnections • Accurate interpretation of connections between the avionics, hydraulic and pneumatic elements |
|--|--|

Code: 025P

5. Find information in a detail drawing.

- Interpretation of data in the blueprint
- Description of each component
- Definition of connections between the different types of components in the drawing
- Production of a block diagram based on a detail drawing

Code: 025Q

Objective**Standard****Statement of the Competency**

To apply shaping, assembly and installation techniques.

Achievement Context

- Based on relevant specifications, standards and procedures; relevant English and French technical documentation; technical drawings; and occupational health and safety rules
- Using appropriate shop tools and equipment; measuring instruments; and aircraft hardware and materials

Elements of the Competency**Performance Criteria**

1. Become familiar with objectives and requirements.

- Accurate interpretation of:
 - specifications
 - standards
 - procedures
 - technical drawings
 - occupational health and safety rules
- Accurate identification of the dimensions and tolerances of parts to be shaped and assembled

2. Select the appropriate techniques, tools and equipment.

- Appropriate selection of shaping, assembly and installation techniques according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of each technique
 - the degree of precision and finishing required for the parts to be assembled
- Appropriate selection of tools and equipment according to:
 - their possible uses
 - the characteristics of the parts to be assembled

3. Shape and assemble aeronautical components.
 - Precise use of measuring and marking tools
 - Careful preparation of materials and assemblies, as required
 - Accurate representation of the operations to be performed using technical drawings
 - Correct adaptation of operations according to the characteristics of the equipment used
 - Appropriate, safe use of tools and equipment
 - Appropriate choice of hardware and materials
 - Observance of standards, specifications and procedures pertaining to the assembly of aeronautical components
 - Installation in compliance with standards for:
 - hardware
 - safetying devices
 - Rigorous application of appropriate torque

4. Make and install tubing.
 - Appropriate choice of:
 - tubing
 - connections
 - Precise forming of tubing according to a specified drawing
 - Appropriate application of connection techniques with flaring, without flaring and with swaging
 - Thorough verification of tubing prior to installation
 - Precise, safe handling and installation of tubing
 - Rigorous application of appropriate torque

5. Verify the quality of the work done.
 - Careful verification of:
 - dimensions
 - adherence to tolerances
 - compliance with standards
 - Thorough assessment of the quality of the work done

6. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 025R

Objective**Standard****Statement of the Competency**

To use organic and synthetic materials.

Achievement Context

- Based on occupational health and safety rules; samples from engines; and standards and specifications pertaining to lubricants and fuels
- Using tables and technical data sheets for organic and synthetic materials; measuring instruments used for testing lubricants; apparatus used for testing and analyzing the quality and contamination of lubricants and fuels; and apparatus used for testing plastics

Elements of the Competency**Performance Criteria**

1. Select a solvent to clean a:

- metal part
- plastic part
- composite part

- Accurate identification of the characteristics and operating conditions of the part
- Systematic research of applicable standards and specifications
- Appropriate selection of solvents according to:
 - their compatibility with the characteristics and operating conditions of the part
 - standards and specifications

2. Select and prepare different types of plastics.

- Accurate identification of the characteristics of plastics and the conditions for their use
- Appropriate selection of resins and catalyst according to:
 - the plastic desired
 - standards and specifications
- Wearing of appropriate protective gear
- Observance of rules for handling and storing hazardous materials
- Observance of procedures for using and mixing products

Code: 025R

- | | |
|---|---|
| 3. Select lubricants and fuels. | <ul style="list-style-type: none"> • Accurate identification of the conditions for using lubricants and fuels • Systematic research of standards, specifications and recommendations of the aircraft manufacturer and the lubricant or fuel manufacturer • Appropriate selection of lubricants and fuels according to: <ul style="list-style-type: none"> – their compatibility for different uses – standards, specifications and recommendations |
| 4. Verify the quality of lubricants and fuels. | <ul style="list-style-type: none"> • Wearing of appropriate protective gear • Observance of rules for handling and storing hazardous materials • Appropriate use of: <ul style="list-style-type: none"> – measuring instruments – tables and technical data sheets – specialized equipment • Observance of testing and analysis procedures • Careful verification of quality, according to manufacturers' standards, specifications and recommendations |
| 5. Perform lubricant and fuel contamination tests and analyses. | <ul style="list-style-type: none"> • Wearing of appropriate protective gear • Observance of rules for handling and storing hazardous materials • Appropriate use of: <ul style="list-style-type: none"> – measuring instruments – tables and technical data sheets – specialized equipment • Observance of testing and analysis procedures • Accurate interpretation of results • Accurate determination of the type and level of contamination |
| 6. Record information in the appropriate documents. | <ul style="list-style-type: none"> • Observance of standards and specifications • Careful, rigorous work |
| 7. Tidy and clean the work area. | <ul style="list-style-type: none"> • Meticulous observance of health and safety rules • Observance of environmental standards pertaining to hazardous materials • Appropriate storage of tools and equipment • Cleanliness of work area |

Code: 025S

Objective**Standard****Statement of the Competency**

To model and interpret mathematical results as they apply to aircraft maintenance.

Achievement Context

- Based on mathematical problems and graphs related to aircraft maintenance; algebraic, exponential, logarithmic and trigonometric functions; mathematical symbols and algebraic expressions; reference tables, graphs and manuals; and a calculator

Elements of the Competency**Performance Criteria**

1. Establish connections between mathematical concepts and aircraft maintenance.
2. Translate phenomena and problems related to aircraft maintenance into mathematical language.

- Accuracy of connections
- Accurate distinction of the different types of problems to be solved and calculations to be done in aircraft maintenance
- Appropriate choice and use of units of measure
- Graphic representation of the phenomenon or problem
- Detailed analysis of the phenomenon or problem
- Formation of the appropriate equation for the phenomenon or problem
- Accurate calculation of interpolation and extrapolation
- Appropriate use of:
 - scientific notation in calculations
 - a scientific calculator
- Observance of rules for rounding off numbers
- Accurate calculation of angles and segments using trigonometric ratios
- Accurate interpretation of results in terms of the phenomenon or problem

Code: 025S

- | | |
|--|--|
| 3. Calculate the value of a variable. | <ul style="list-style-type: none"> • Appropriate use of problem-solving methods • Correct determination of variables • Appropriate determination of the type of equation representing the problem • Correct solving of equations • Description of the variation rate of a function with time • Correct interpretation of results in terms of the problem • Clear, careful presentation of: <ul style="list-style-type: none"> – procedure used – results |
| 4. Do a vector analysis of the forces exerted on an object. | <ul style="list-style-type: none"> • Accurate graphic representation in the form of a free-body diagram • Thorough vector analysis • Appropriate choice of vector operation • Correct interpretation of results |
| 5. Solve systems of equations involving two or three unknowns. | <ul style="list-style-type: none"> • Accurate identification of: <ul style="list-style-type: none"> – targeted objective – different unknowns • Appropriate formation of equations • Appropriate use of problem-solving methods • Clear, careful presentation of: <ul style="list-style-type: none"> – procedure used – results |

Code: 025T

Objective**Standard****Statement of the Competency**

To maintain direct-current circuits on an aircraft.

Achievement Context

- Based on drawings, schematics and block diagrams; aircraft components; standards and procedures; relevant English and French technical documentation; work instructions; and occupational health and safety rules
- Using measuring instruments; test benches; simulation and inspection software; equipment required for circuit maintenance; and equipment appropriate for lead-acid batteries

Elements of the Competency**Performance Criteria**

1. Take measurements on:
 - series circuits
 - parallel circuits
 - series-parallel circuits

- Observance of:
 - the fundamental laws of electricity
 - electrical units
- Correct use of:
 - units of measure
 - measuring instruments
 - symbols to represent variables
- Observance of:
 - standards
 - specifications pertaining to connections
 - verification procedures
- Accurate measurements of:
 - current
 - voltage
 - energy and power
- Careful validation of measurements, using calculations and specifications
- Accurate identification of defects
- Systematic, meticulous recording of measurements and defects

2. Verify the direct current of passive components.
 - Accurate description of the components to be verified
 - Correct use of:
 - units of measure
 - measuring instruments
 - symbols to represent variables
 - Observance of:
 - standards
 - appropriate verification procedure for the type of component
 - specifications pertaining to connections
 - Accurate measurement of:
 - current
 - voltage
 - energy and power
 - Careful validation of measurements, using calculations and specifications
 - Accurate identification of defects
 - Systematic, meticulous recording of measurements and defects

3. Verify the direct-current electrical power supply and distribution system of an aircraft.
 - Observance of:
 - standards
 - specifications pertaining to connections
 - appropriate inspection procedure for the type of system
 - Appropriate installation of the auxiliary power supply source
 - Careful inspection of control and distribution panels and apparatus
 - Accurate identification of defects
 - Systematic, meticulous recording of inspection information and defects

4. Diagnose any defects.
 - Accurate comparison of the values measured with the values specified
 - Appropriate choice and use of:
 - tests
 - simulation software
 - Identification of components and fasteners likely to cause malfunctions or defects
 - Appropriate choice and observance of a logical problem-solving process
 - Thorough, rigorous analysis of all problem-related data
 - Accurate deduction of the sources of problems, based on facts
 - Accurate determination of the possible causes of malfunctions or defects

Code: 025T

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|---|---|
| 5. Test the operation of lead-acid batteries. | <ul style="list-style-type: none">• Accurate description of the batteries to be inspected• Strict use of installation and removal procedures• Observance of:<ul style="list-style-type: none">– standards and specifications pertaining to:<ul style="list-style-type: none">▪ storage▪ connections▪ return to service– occupational health and safety rules– environmental standards• Systematic, meticulous recording of technical information |
| 6. Repair and replace wires and terminals. | <ul style="list-style-type: none">• Appropriate choice of common techniques• Appropriate, safe use of tools and equipment• Meticulous observance of occupational health and safety rules• Careful verification of the quality of the work• Installations in conformity with current standards |
| 7. Determine the charge balance of a direct-current circuit in an aircraft. | <ul style="list-style-type: none">• Identification of the required information in blueprints, diagrams and instruction manuals• Accurate calculation of the aircraft's load analysis• Clear, accurate, concise:<ul style="list-style-type: none">– conformity reports– non-conformity reports |

Code: 025U

Objective**Standard****Statement of the Competency**

To inspect the operation of power and control components of hydraulic and pneumatic systems.

Achievement Context

- Based on aircraft maintenance situations; relevant specifications and standards; relevant English and French technical documentation; aeronautical reference manuals; drawings, schematics and block diagrams; work instructions; occupational health and safety rules; troubleshooting logic diagrams; and the inspection procedure
- Using hydraulic, pneumatic and electro-hydraulic simulators and test benches

Elements of the Competency**Performance Criteria**

1. Gather information on the operation of the systems.

- Accurate awareness of the system to be inspected
- Careful consultation of technical documentation
- Systematic gathering of drawings, schematics and block diagrams
- Accurate interpretation of the operating sequences of the systems' control components
- Careful observation of the operation of systems
- Careful inspection of fluid levels
- Thorough documentation of problems

2. Start up aircraft systems.

- Proper handling, installation and adjustment of ground equipment, auxiliary systems and on-board systems
- Observance of procedures
- Observance of occupational health and safety rules

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|--|---|
| 3. Inspect the condition of systems. | <ul style="list-style-type: none"> • Observance of: <ul style="list-style-type: none"> – troubleshooting logic diagram – inspection procedure – occupational health and safety rules • Accurate measurement of the different parameters on the equipment • Thorough inspection of the operation of: <ul style="list-style-type: none"> – each of the components and the interaction between them – pressures and flows • Systematic identification and accurate description of defects |
| 4. Compare the operation of systems with the manufacturer's specifications and pre-established parameters. | <ul style="list-style-type: none"> • Rigorous analysis of system log books • Detailed analysis of all parameters • Accurate interpretation of drawings, schematics, diagrams and block diagrams provided by the manufacturer • Accurate determination of the expected performance of the systems • Accurate determination of their actual performance • Rigorous comparative analysis of all parameters • Recording of important elements |
| 5. Diagnose problems. | <ul style="list-style-type: none"> • Thorough, rigorous analysis of all problem-related data • Appropriate choice and observance of a logical problem-solving process • Accurate deduction of the sources of problems, based on facts • Accurate diagnosis of problems |
| 6. Transmit information. | <ul style="list-style-type: none"> • Clear presentation of: <ul style="list-style-type: none"> – the problem – information gathered for the purpose of identifying problems – highlights of the analyses performed • Accurate, clear recommendations • Observance of the scope of their duties and company policies |

Code: 025V

Objective**Standard****Statement of the Competency**

To inspect the operation of aircraft piston engines.

Achievement Context

- Based on occupational health and safety rules; relevant English and French technical documentation; manufacturer's standards and specifications; inspection and adjustment procedures; and diagrams and drawings
- Using appropriate protective gear; appropriate tools and equipment; measuring and testing instruments; test benches; and engines

Elements of the Competency**Performance Criteria**

1. Gather information on the operation of piston engines.

- Accurate identification of standards, specifications, and occupational health and safety rules
- Accurate distinction of the characteristics of the different types of engines to be inspected
- Accurate determination of the operating conditions of engines
- Careful consultation of:
 - engine log books
 - technical documentation
- Accurate interpretation of:
 - inspection procedures
 - information contained in drawings, schematics and diagrams

2. Verify the general condition of the internal parts of piston engines.

- Observance of:
 - standards and specifications
 - inspection procedures
- Basic inspection of the condition of mechanical parts
- Careful performance of differential pressure test
- Careful inspection of the cylinders of an aircraft's piston engines, using a borescope
- Systematic, meticulous recording of test results and inspection information

Code: 025V

3. Inspect the operation of piston engine ignition systems.
 - Observance of:
 - standards and specifications
 - inspection procedures
 - Wearing of appropriate protective gear
 - Careful inspection of the:
 - general condition of the ignition system
 - condition of spark plugs
 - magneto
 - Accurate verification of the timing of ignition systems
 - Precise adjustment of the:
 - spark plug gap
 - magneto timing
 - Accurate detection of defects and accurate identification of components and their defective connections
 - Adjustment, repair or replacement of parts according to the diagnosis
 - Systematic, meticulous recording of inspection information and adjustments
4. Inspect the operation of piston engine fuel systems.
 - Observance of:
 - standards and specifications
 - inspection procedures
 - Wearing of appropriate protective gear
 - Careful inspection of:
 - fuel filters
 - fuel injectors
 - fuel contamination
 - Precise adjustment of the:
 - air-fuel mixture of carburetors and injection systems
 - injection pump
 - linkages
 - Accurate detection of defects and accurate identification of components and their defective fasteners
 - Setting, repair or replacement of parts according to the diagnosis
 - Systematic, meticulous recording of inspection information and settings

Code: 025V

5. Inspect the operation of piston engine lubrication systems.

- Observance of:
 - standards and specifications
 - inspection procedures
- Careful inspection of the:
 - general condition of the lubrication system
 - oil filter
 - chip detectors
- Precise adjustment of the pump pressure
- Accurate diagnosis of defects and accurate identification of components and their defective fasteners
- Setting, repair or replacement of parts according to the diagnosis
- Systematic, meticulous recording of inspection information and settings

6. Verify piston engine operating parameters.

- Observance of:
 - standards and specifications
 - inspection procedures
- Wearing of appropriate protective gear
- Careful inspection of the general condition of the:
 - oil pressure indicating system
 - oil temperature indicating system
 - cylinder head temperature indicating system
 - intake manifold pressure indicating system
 - fuel flow indicating system
 - fuel pressure indicating system
 - engine revolution indicating system
- Careful verification of the operation of thermocouples
- Accurate detection of defects and accurate identification of components and their defective connections
- Adjustment, repair or replacement of parts according to the diagnosis
- Systematic, meticulous recording of inspection information and adjustments

Code: 025V

7. Verify the operation of piston engine control systems.

- Observance of:
 - standards and specifications
 - inspection procedures
- Wearing of appropriate protective gear
- Careful inspection of the general condition of the engine control system
- Correct performance of the system test
- Careful gathering of test data
- Careful analysis of test data to determine the system's condition
- Accurate diagnosis of defects and accurate identification of components and their defective connections
- Adjustment, repair or replacement of parts according to the diagnosis
- Systematic, meticulous recording of inspection information and adjustments

8. Tidy and clean the work area.

- Meticulous observance of health and safety rules
- Observance of environmental standards pertaining to hazardous materials
- Appropriate storage of tools and equipment
- Cleanliness of work area

Code: 025W

Objective**Standard****Statement of the Competency**

To perform activities related to the resistance of materials used in the aircraft industry.

Achievement Context

- Based on material specifications and standards; heat treatment standards; mechanical test standards; relevant English and French technical documentation; work instructions; and occupational health and safety rules
- Using an oven; destructive and non-destructive test apparatus; measuring instruments and metallographic preparation and observation equipment; ferrous metal, non-ferrous metal, composite and wood samples; various measuring instruments used to solve load and stress problems; and a calculator

Elements of the Competency**Performance Criteria**

1. Identify the forces exerted on a body or object.

- Relevant diagram of physical situations
- Accurate determination of the distribution of forces on a structure or object
- Correct determination of strains in terms of:
 - traction and compression
 - shear
 - twisting
 - bending
- Accurate calculation of the result of several forces exerted on a structure or object
- Accurate use of units of measure
- Observance of steps in a problem-solving process

Code: 025W

- | | |
|--|--|
| <p>2. Identify stress, strain and deterioration problems with aircraft structures.</p> | <ul style="list-style-type: none"> • Accurate description of: <ul style="list-style-type: none"> – ferrous alloys – non-ferrous alloys – non-metallic materials • Accurate use of: <ul style="list-style-type: none"> – terminology specific to metallurgy – the identification of alloys • Accurate determination of the mechanical, chemical and physical properties of the materials used in aircraft construction • Accurate description of the impact of mechanical and heat treatments on the properties of materials • Accurate analysis of the factors at the origin of the stress, strain and deterioration of materials • Accurate description of corrosion phenomena • Accurate identification of the type of deterioration in question and the appropriate means of protection • Accurate determination of the limitations of the materials |
| <p>3. Establish connections between aircraft maintenance tasks, on the one hand, and the properties and resistance of materials, on the other.</p> | <ul style="list-style-type: none"> • Observance of standards pertaining to ferrous, non-ferrous and non-metallic materials • Careful consultation of technical documentation • Accuracy of connections established according to: <ul style="list-style-type: none"> – standards and specifications – the characteristics of the materials – the forces and stresses at play – mechanical and heat treatments – aircraft maintenance tasks |
| <p>4. Apply procedures used for the heat treatment of aluminum and steel.</p> | <ul style="list-style-type: none"> • Accurate determination of the treatments to be applied according to: <ul style="list-style-type: none"> – standards and specifications – the characteristics of the materials – the forces and stresses at play • Careful consultation of technical documentation • Careful preparation of materials, according to the heat treatment to be applied • Strict observance of <ul style="list-style-type: none"> – the treatment procedure – occupational health and safety rules • Thorough assessment of the quality of the work done |

Code: 025W

5. Perform resistance tests on materials.

- Description of the mechanical and heat treatments applied and the areas reached
- Correct interpretation of standards and the procedure to be followed
- Correct performance of hardness, traction, impact and shear tests
- Correct use of various measuring instruments
- Careful compilation of test results and observations
- Accurate, coherent analysis of the impact of treatments on the properties of materials

Code: 025X

Objective**Standard****Statement of the Competency**

To clean, inspect and protect aircraft materials.

Achievement Context

- Based on aircraft maintenance situations; relevant specifications and standards; relevant English and French technical documentation; aeronautical reference manuals; work instructions; and occupational health and safety rules
- Using different tools and equipment for the cleaning, corrosion protection, non-destructive inspection and general inspection of various aircraft components and materials

Elements of the Competency**Performance Criteria**

1. Perform cleaning operations.

- Careful consultation of technical documentation
- Appropriate choice of cleaning products, according to the materials
- Strict observance of health and safety rules and environmental standards
- Appropriate covering of surfaces to be protected
- Correct adaptation of operations, according to the characteristics of the equipment and materials to be cleaned
- Appropriate use of tools and equipment
- Careful verification of the:
 - quality of the work
 - aircraft's compliance before returning to service

2. Perform inspections and non-destructive tests.

- Accurate identification of areas of an aircraft that are susceptible to corrosion
- Accurate description of materials being inspected or tested
- Appropriate choice of inspections and tests, according to standards and specifications
- Careful consultation of technical documentation
- Observance of inspection and testing procedures
- Accurate identification of signs of corrosion and defects
- Meticulous recording of results

Code: 025X

- | | |
|--|--|
| 3. Measure the damage caused by corrosion. | <ul style="list-style-type: none"> • Identification of tolerances for damage caused by corrosion • Accurate measurement of the depth of penetration of the corrosion • Appropriate measurement of damage with respect to tolerances, standards and specifications • Meticulous recording of results |
| 4. Select the techniques and methods for preventing and eliminating corrosion. | <ul style="list-style-type: none"> • Description of techniques and methods for preventing and eliminating corrosion • Appropriate selection of techniques and methods according to: <ul style="list-style-type: none"> – the characteristics of the materials – standards and specifications – the types of operations to be performed |
| 5. Use processes for eliminating corrosion. | <ul style="list-style-type: none"> • Careful consultation of technical documentation • Wearing of appropriate protective gear • Strict observance of health and safety rules and environmental standards • Appropriate masking of areas, ducts and holes to protect them against the abrasives and chemicals used • Correct application of mechanical and chemical processes for eliminating corrosion • Correct adaptation of operations, according to the characteristics of the equipment and corroded material • Appropriate use of tools and equipment • Careful verification of the elimination of corrosion |
| 6. Apply treatments for preventing corrosion. | <ul style="list-style-type: none"> • Careful consultation of technical documentation • Wearing of appropriate protective gear • Strict observance of health and safety rules and environmental standards • Careful preparation of materials according to the treatment to be applied • Strict observance of the treatment procedure • Appropriate use of tools and equipment • Careful verification of the quality of the work • Careful verification of the aircraft's compliance before returning to service |

Code: 025X

7. Install corrosion protection equipment.
- Careful consultation of technical documentation
 - Precise handling and installation of:
 - sacrificial anodes
 - dielectric materials between different metals
 - Precise handling and application of liquid dielectric products on metal surfaces
 - Meticulous recording of the work done

Code: 025Y

Objective**Standard****Statement of the Competency**

To overhaul aircraft piston engines.

Achievement Context

- Based on occupational health and safety rules; relevant English and French technical documentation; aircraft piston engines; manufacturers' standards and specifications; inspection and repair procedures; and drawings, schematics and diagrams
- Using appropriate protective gear; appropriate tools and equipment; measuring and testing instruments; test benches; and engines

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of standards, specifications, and occupational health and safety rules
- Accurate distinction of the characteristics of the types, models and serial numbers of the engines to be overhauled
- Accurate determination of the operating conditions of engines
- Careful consultation of:
 - engine log books
 - technical documentation
- Accurate interpretation of:
 - verification, inspection, assembly and disassembly procedures
 - information contained in drawings, schematics and diagrams

2. Plan the work to be carried out.

- Proper planning of various operations:
 - removal
 - disassembly
 - cleaning
 - inspection
 - repair
 - assembly
- Appropriate choice and verification of the availability of the equipment, materials and hardware required for overhaul operations
- Appropriate preparation of equipment and work area

3. Remove components.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Correct performance as part of a team of:
 - the removal procedure
 - inspection procedures
 - Visual inspection of the:
 - starter
 - magnetos
 - carburetor and injection system
 - fuel or injection pump
 - sensor chains
 - alternator
 - oil pump and oil system accessories
 - vacuum pump
 - magnetic chip detectors
 - propeller governor
 - Systematic, meticulous recording of inspection information
4. Disassemble the engine.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance as part of a team of:
 - the disassembly procedure
 - inspection procedures
 - Careful handling and storage of engine parts
 - Systematic identification of parts
 - Thorough, appropriate cleaning of parts
5. Inspect engine parts.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Visual, dimensional and non-destructive inspection of engine parts
 - Thorough identification of defects
 - Accurate evaluation of damaged parts
 - Accurate diagnosis of parts to be repaired and parts to be replaced
 - Accurate determination of the list and numbers of parts to be ordered
 - Systematic, meticulous recording of adjustments and inspection information

6. Repair engine parts.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Accurate assessment of the repairs to be done
 - Careful selection of repair procedure
 - Appropriate use of specialized equipment and tools
 - Correct performance of:
 - the inspection procedure
 - repair procedures
 - Careful repair and accurate adjustment of engine parts
 - Verification of the quality of the repair
 - Systematic, meticulous recording of repairs, adjustments and inspection information

7. Assemble the engine.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance as part of a team of:
 - the assembly procedure
 - inspection procedures
 - Rigorous observance of torque limits
 - Verification of the quality of the assembly
 - Systematic, meticulous recording of the operations performed

8. Install components.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance as part of a team of:
 - the installation procedure
 - the adjustment procedure
 - inspection procedures
 - Visual verification of the installation of the:
 - starter
 - magnetos
 - carburetor and injection system
 - fuel or injection pump
 - sensor chains
 - alternator
 - oil pump and oil system accessories
 - vacuum pump
 - magnetic chip detectors
 - propeller governor
 - Systematic, meticulous recording of the operations and inspection information

Code: 025Y

9. Verify that the engine has been properly overhauled.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance of:
 - the engine test procedure
 - various inspection procedures
 - Careful verification of the proper operation of the:
 - starting system
 - magnetos
 - fuel system
 - sensor chains
 - alternator
 - lubrication system
 - magnetic chip detectors
 - propeller governor
 - Accurate gathering of test data
 - Careful analysis of data gathered
 - Accurate determination of conformity or non-conformity of the engine
 - Systematic, meticulous recording of the data, operations and inspection information
10. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 025Z

Objective**Standard****Statement of the Competency**

To prepare and assemble sheet metal.

Achievement Context

- Based on situations involving the repair of aircraft sheet metal; relevant specifications and standards; relevant English and French technical documentation; aeronautical reference manuals; plans and sketches; work instructions; and occupational health and safety rules
- Using different specialized tools and equipment; measuring instruments; formulas and charts; and aircraft hardware and materials

Elements of the Competency**Performance Criteria**

1. Become familiar with objectives and requirements.

- Accurate interpretation of:
 - specifications
 - standards
 - procedures
 - technical drawings
 - occupational health and safety rules
- Accurate identification of the dimensions and tolerances of parts to be shaped and assembled

2. Select the techniques, tools and equipment.

- Appropriate selection of shaping and assembly techniques, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of each technique
 - the degree of precision and finishing required for the parts to be riveted
- Appropriate selection of tools and equipment, according to:
 - their possible uses
 - the characteristics of the parts to be assembled

Code: 025Z

3. Shape and assemble sheet metal parts by riveting.
 - Precise use of measuring and marking tools
 - Careful preparation of materials, according to the assemblies to be done
 - Accurate representation of the operations, using technical drawings
 - Correct adaptation of operations, according to the characteristics of the equipment used
 - Appropriate, safe use of tools and equipment
 - Appropriate choice of hardware, according to the materials to be riveted
 - Accurate calculations of the dimensions and neutral axis of the parts to be shaped
 - Precise forming of sheet metal parts, according to technical drawings
 - Observance of standards, specifications and riveting procedure
 - Installation in compliance with standards for hardware
4. Verify the quality of the work done.
 - Careful verification of:
 - dimensions
 - adherence to tolerances
 - compliance with standards
 - Thorough assessment of the quality of the work done
5. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 0260

Objective**Standard****Statement of the Competency**

To apply principles of aerodynamics.

Achievement Context

- Based on aircraft maintenance situations; relevant English and French technical documentation; aeronautical reference manuals; and drawings, schematics and block diagrams
- Using wind tunnels and specialized equipment; measuring and testing instruments; formulas and tables; databases; simulation software; and a calculator

Elements of the Competency**Performance Criteria**

1. Establish connections between the principles of aerodynamics and flight.

- Detailed analysis of the static and dynamic properties of fluids
- Accurate diagnosis of the factors influencing:
 - drag
 - lift
 - moments
 - stability
 - maximum speed
 - performance
 - means of aircraft propulsion
- Accurate comparison of:
 - various aerodynamic profiles
 - wing plan forms
 - means of propulsion
- Appropriate choice of measuring instruments to be used and calculations to be done
- Appropriate choice and use of units of measure
- Accurate calculations and inspection information
- Relevant diagram of principles and phenomena
- Accuracy of connections established, given the problem

2. Establish connections between the principles of aerodynamics and the flight controls of an airplane.
 - Accurate distinction of an airplane's different flight controls
 - Detailed analysis of the static and dynamic properties of fluids
 - Accurate distinction of the factors influencing:
 - drag
 - moments
 - stability
 - Proper comparison between:
 - various aerodynamic profiles
 - the shape of control surfaces
 - their placement on the structure
 - Accuracy of connections established, given the problem

3. Establish connections between the principles of aerodynamics and the operation of a propeller.
 - Accurate distinction of the different types of propellers
 - Detailed analysis of the static and dynamic properties of fluids
 - Accurate distinction of the factors influencing:
 - drag
 - moments
 - maximum speed
 - performance
 - Proper comparison between:
 - various aerodynamic profiles
 - the shape of the propeller
 - Accuracy of connections established, given the problem

4. Establish connections between the principles of aerodynamics and structural and surface repairs.
 - Accurate distinction of the different sections of an aircraft
 - Accurate distinction of the factors influencing:
 - drag
 - stability
 - performance
 - Proper comparison between:
 - various aerodynamic profiles
 - the type of surface repair
 - their placement on the structure
 - Accuracy of connections established, given the problem

Code: 0261

Objective**Standard****Statement of the Competency**

To maintain the metal structures and structural components of an aircraft.

Achievement Context

- Based on situations involving the repair of non-pressurized and pressurized tubular aircraft structures; relevant specifications and standards; relevant English and French technical documentation; reference manuals on structural repairs; plans and sketches; work instructions pertaining to damaged parts; and occupational health and safety rules
- Using different specialized tools and equipment; measuring instruments; formulas and tables; aircraft hardware and materials; assembly jigs; primary and secondary metal aircraft structures; non-destructive inspection equipment; databases; and simulation software

Elements of the Competency**Performance Criteria**

1. Become familiar with objectives and requirements.

- Careful consultation of technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - procedures
 - technical drawings
 - diagrams of:
 - primary structures
 - secondary structures
 - protected areas
 - occupational health and safety rules
- Accurate distinction of the characteristics of:
 - primary structures
 - secondary structures
 - protected areas

2. Inspect damaged parts.

- Accurate identification of damage, using the following verification processes:
 - visual
 - hardness
 - eddy current
 - dye penetrant inspection
- Accurate identification of the dimensions and tolerances of damaged areas
- Meticulous recording of results

3. Plan the work to be carried out.
 - Appropriate choice of operations and techniques, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of each structure
 - the scope of their duties with respect to tubular structures
 - the degree of precision and finishing required for the parts
 - Thorough assessment of the severity of the defects and work priorities
 - Clear, persuasive presentation of the repair design, based on appropriate sketches and documents
 - Accurate sketch of the solution retained
 - Realistic determination of the steps required to complete the project
 - Appropriate choice of tools, equipment and hardware according to the solutions considered

4. Remove the damaged parts.
 - Appropriate, safe use of tools and equipment
 - Correct adaptation of operations according to the damaged parts
 - Precision of the work done
 - Meticulous recording of technical information on the parts removed for the repair

5. Perform repairs on non-pressurized and pressurized aircraft structures.
 - Appropriate, safe use of tools and equipment
 - Correct adaptation of operations, according to the parts to be shaped and assembled
 - Precise use of measuring and marking tools
 - Careful preparation of materials, according to the assemblies to be done
 - Accurate calculations of the dimensions and neutral axis of the parts to be shaped
 - Precise forming of sheet metal parts, according to technical drawings
 - Strict observance of procedures pertaining to corrosion-prevention treatments, sealing and riveting
 - Observance of standards, specifications and techniques pertaining to non-pressurized and pressurized structures
 - Careful reinstallation of the parts removed for the repair
 - Installation in conformity with standards pertaining to hardware
 - Precision of the work done

Code: 0261

6. Inspect the quality of the work done.
 - Careful verification of:
 - dimensions
 - adherence to tolerances
 - compliance with standards
 - Thorough assessment of the quality of the work done
 - Meticulous recording of the work done
7. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 0262

Objective**Standard****Statement of the Competency**

To maintain aircraft structures and structural components made of composite materials, wood and fabric.

Achievement Context

- Based on relevant specifications and standards; relevant English and French technical documentation; reference manuals on structural repairs; plans and sketches; work instructions for the damaged parts; and occupational health and safety rules
- Using different specialized tools and equipment; measuring instruments; formulas and tables; aircraft hardware and materials made of composite materials and fabric; assembly jigs; metal tubular aircraft structures with a fabric covering; aircraft structures and components made of composite materials; wooden parts used in aeronautics; proper equipment and set-ups for the repair of composite materials and fabric; and non-destructive inspection equipment

Code: 0262

1. Become familiar with objectives and requirements.
 - Careful consultation of technical documentation
 - Accurate interpretation of:
 - specifications
 - standards
 - procedures
 - technical drawings
 - diagrams of:
 - composite material structures
 - fabric-covered structures
 - wooden structures
 - occupational health and safety rules
 - Accurate distinction of the characteristics of:
 - composite material structures
 - fabric-covered structures
 - wooden structures
 - Accurate identification of the various types of wood

2. Inspect the damaged parts.
 - Accurate identification of damage, using the following verification processes:
 - visual
 - delamination
 - tension of the fabric
 - Accurate identification of the dimensions and characteristics of the damaged areas
 - Meticulous recording of results

3. Plan the work to be carried out.
 - Appropriate choice of operations and techniques, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of each of the structures and materials concerned
 - the scope of their duties with respect to composite material structures
 - the degree of precision and finishing required for the parts
 - Thorough assessment of the severity of defects and work priorities
 - Clear, persuasive presentation of the repair design, based on appropriate sketches and documents
 - Accurate sketch of the solution retained
 - Realistic determination of the steps required to complete the project
 - Appropriate choice of tools, equipment, products, materials and hardware, according to the solutions considered

Code: 0262

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| 4. Perform the preliminary work required to repair the damaged parts. | <ul style="list-style-type: none"> • Correct adaptation of operations according to the damaged parts • Thorough cleaning of the damaged parts • Appropriate, safe use of tools and equipment • Precision of the work done • Meticulous recording of the technical information regarding parts |
| 5. Install or repair the covering of an aircraft component. | <ul style="list-style-type: none"> • Observance of standards, specifications and procedures pertaining to fabric • Appropriate, safe use of tools and equipment • Correct adaptation of operations, according to the parts to be recovered or repaired • Precise use of measuring and marking tools • Careful preparation of fabric parts, according to the covering or repairs to be done • Precise tautening of fabric on the parts • Careful preparation and application of coatings • Careful reinstallation of parts • Installation of hardware in conformity with standards • Precision of the work done • Meticulous recording of the work done |
| 6. Make a mould out of composite materials. | <ul style="list-style-type: none"> • Observance of standards, specifications and procedures for making moulds • Meticulous recording of the measurements of the part to be copied • Precise use of measuring and marking tools • Correct adaptation of operations, according to the part to be copied • Appropriate, safe use of tools and equipment • Precision of the mould making • Careful preparation and application of coatings • Precise shaping of mat on the mould • Precision in making the curing blanket • Proper determination and setting of the curing parameters • Careful verification of the quality of the work and the precision of the assembly • Meticulous recording of the work done |

Code: 0262

7. Repair an element made of composite materials.

- Observance of standards, specifications and procedures for repairing composite materials
- Meticulous recording of the measurements of the section to be repaired
- Precise use of measuring and marking tools
- Correct adaptation of operations, according to the element to be repaired
- Appropriate, safe use of tools and equipment
- Careful preparation and application of coatings
- Precise shaping of mat on the mould
- Precision in making the curing blanket
- Proper determination and setting of the curing parameters
- Careful verification of the quality of the work and the precision of the repair
- Meticulous recording of the work done

8. Tidy and clean the work area.

- Meticulous observance of health and safety rules
- Meticulous observance of environmental standards pertaining to hazardous materials
- Appropriate storage of tools and equipment
- Cleanliness of work area

Code: 0263

Objective**Standard****Statement of the Competency**

To verify simple alternating-current circuits on an aircraft.

Achievement Context

- Based on drawings, schematics and block diagrams; aircraft components; standards and procedures; relevant English and French technical documentation; work instructions; and occupational health and safety rules
- Using test benches; measuring instruments; simulation and inspection software; assembly placards; system maintenance equipment; and equipment appropriate for nickel-cadmium batteries

Elements of the Competency**Performance Criteria**

1. Inspect simple alternating-current circuits on an aircraft.

- Accurate description of the different circuits to be inspected
- Observance of:
 - standards
 - appropriate inspection procedure for the type of circuit
 - specifications pertaining to connections
- Careful inspection of circuits in terms of:
 - their functions
 - standards
 - specifications
- Appropriate choice and use of:
 - measuring instruments
 - tests
 - simulation software
 - logic diagrams for identifying defects
- Accurate interpretation of the measurements taken
- Comparison of the values measured with the values specified
- Accurate identification of defects
- Systematic, meticulous recording of measurements and defects

2. Verify the alternating current of passive components.

- Accurate identification of the effects of direct current in relation to alternating current with respect to taking measurements on passive components
- Observation of the phase shift of voltages and currents:
 - between resistor and capacitor
 - between resistor and inductor
 - between resistor, inductor and capacitor
- Observance of:
 - standards
 - appropriate inspection procedure for the type of component
 - specifications pertaining to connections
- Careful inspection of components in terms of:
 - their functions
 - standards
 - specifications
- Appropriate choice and use of:
 - measuring instruments
 - tests
 - logic diagrams for identifying defects
- Accurate interpretation of the measurements taken
- Comparison of the values measured with the values specified
- Accurate identification of defects
- Systematic, meticulous recording of measurements and defects

Code: 0263

3. Inspect the alternating-current electrical generating and distribution systems on an aircraft.
 - Accurate description of:
 - specific characteristics
 - configurations
 - single-phase and three-phase systems
 - motors
 - motor-generators
 - transformers
 - various components
 - Careful inspection of the:
 - motor
 - motor-generator
 - transformer
 - alternator
 - control panel
 - distribution circuit
 - lighting circuit
 - Observance of:
 - standards
 - inspection procedures
 - specifications pertaining to connections
 - Careful inspection in terms of:
 - the function of each of the components
 - standards
 - specifications
 - Appropriate choice and use of:
 - measuring instruments
 - tests
 - simulation software
 - logic diagrams for identifying defects
 - Accurate interpretation of the measurements taken
 - Comparison of the values measured with the values specified
 - Accurate identification of defects
 - Systematic, meticulous recording of measurements and defects

Code: 0263

4. Perform maintenance procedures on an electric motor.
 - Accurate description of the motor to be inspected
 - Observance of:
 - standards
 - appropriate inspection procedure for the type of motor
 - manufacturer' specifications
 - Careful inspection of the motor
 - Careful inspection of:
 - connections
 - operation
 - Accurate identification of defects
 - Precise installation of contact brushes
 - Systematic, meticulous recording of measurements and defects

5. Diagnose defects.
 - Accurate comparison of the values measured with the values specified
 - Appropriate choice and use of:
 - tests
 - simulation software
 - Identification of the components and fasteners likely to cause malfunctions or defects
 - Appropriate choice and observance of a logical problem-solving process
 - Thorough, rigorous analysis of all problem-related data
 - Accurate deduction of the sources of problems based on facts
 - Accurate determination of the possible causes of malfunctions or defects

6. Perform activities related to deep-cycle nickel-cadmium batteries.
 - Accurate description of the battery to be charged
 - Strict use of installation and removal procedures
 - Observance of:
 - standards and specifications pertaining to:
 - storage
 - connections
 - return to service
 - occupational health and safety rules
 - environmental standards
 - Systematic, meticulous recording of technical information

Code: 0263

7. Replace modular units.
 - Observance of:
 - standards
 - procedures
 - occupational health and safety rules
 - specifications pertaining to connections
 - the scope of their duties
 - Appropriate, safe use of tools and equipment
 - Careful inspection of the quality of the work
 - Proper installations
 - Systematic, meticulous recording of technical information
8. Make a load analysis of an aircraft.
 - Identification of the required information in blueprints, diagrams and instruction manuals
 - Accurate calculation of the aircraft's load analysis
 - Clear, accurate, concise:
 - conformity reports
 - non-conformity reports

Code: 0264

Objective**Standard****Statement of the Competency**

To maintain propellers and propeller-related systems.

Achievement Context

- Based on occupational health and safety rules; relevant English and French technical documentation; aircraft propellers; manufacturers' standards and specifications; inspection and repair procedures; and schematics, diagrams and drawings
- Using appropriate protective gear; appropriate tools and equipment; measuring and testing instruments; test benches; and engines

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of standards, specifications, and occupational health and safety rules
- Accurate distinction of the characteristics of the types, models and serial numbers of the propellers and propeller-related systems to be maintained
- Accurate determination of the operating conditions of a propeller
- Careful consultation of:
 - propeller log books
 - technical documentation
- Accurate interpretation of:
 - verification, inspection, assembly and disassembly procedures
 - information contained in schematics, diagrams and drawings

2. Plan the work to be carried out.
 - Proper planning of the various operations:
 - removal
 - disassembly
 - balancing
 - cleaning
 - inspection
 - repair
 - reassembly
 - Appropriate choice and inspection of the availability of the equipment, materials and hardware required for the maintenance operations
 - Appropriate repair of equipment and restoration of work area
3. Remove propellers and propeller-related systems.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Correct performance of:
 - the removal procedure
 - verification procedures
 - Visual inspection of:
 - propellers
 - propeller control system
 - control linkages
 - propeller governor
 - Systematic, meticulous recording of inspection information
4. Disassemble propellers.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance of:
 - the disassembly procedure
 - inspection procedures
 - Careful handling and storage of propeller parts
 - Systematic identification of parts
 - Thorough, appropriate cleaning of parts

Code: 0264

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| 5. Inspect propeller parts and propeller-related systems. | <ul style="list-style-type: none"> • Observance of standards and specifications • Wearing of appropriate protective gear • Visual, dimensional and non-destructive inspection of propeller parts and propeller-related systems • Thorough identification of defects • Accurate evaluation of damaged parts • Accurate diagnosis of parts to be repaired and parts to be replaced • Accurate determination of the list and numbers of parts to be ordered • Systematic, meticulous recording of adjustments and inspection information |
| 6. Repair propeller parts and propeller-related systems. | <ul style="list-style-type: none"> • Observance of standards and specifications • Wearing of appropriate protective gear • Accurate assessment of the repairs to be done • Careful selection of the repair procedure • Appropriate use of specialized equipment and tools • Correct performance of: <ul style="list-style-type: none"> – inspection procedures – repair procedures • Careful repair and precise adjustment of propeller parts and propeller-related systems • Verification of the quality of the repair • Systematic, meticulous recording of repairs, adjustments and inspection information |
| 7. Assemble propeller parts and propeller-related systems. | <ul style="list-style-type: none"> • Observance of standards and specifications • Wearing of appropriate protective gear • Appropriate use of specialized equipment and tools • Correct performance of: <ul style="list-style-type: none"> – assembly procedures – inspection procedures • Rigorous observance of torque limits • Verification of the quality of the assembly • Systematic, meticulous recording of the operations performed |

Code: 0264

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| 8. Install propeller parts and propeller-related systems. | <ul style="list-style-type: none"> • Observance of standards and specifications • Wearing of appropriate protective gear • Appropriate use of specialized equipment and tools • Correct performance of: <ul style="list-style-type: none"> – the installation procedure – the adjustment procedure – inspection procedures • Visual inspection of the installation of: <ul style="list-style-type: none"> – propellers – propeller control system – control linkages – propeller governor • Systematic, meticulous recording of operations and inspection information |
| 9. Verify that the propeller parts and propeller-related systems have been properly installed. | <ul style="list-style-type: none"> • Observance of standards and specifications • Wearing of appropriate protective gear • Appropriate use of specialized equipment and tools • Correct performance of: <ul style="list-style-type: none"> – the test procedure – various inspection procedures • Careful verification of the proper operation of: <ul style="list-style-type: none"> – propellers – propeller control system – control linkages – propeller governor • Accurate gathering of test data • Meticulous analysis of data collected • Accurate determination of the conformity or non-conformity of the propeller and propeller-related systems • Systematic, meticulous recording of data, operations and inspection information |
| 10. Tidy and clean the work area. | <ul style="list-style-type: none"> • Meticulous observance of health and safety rules • Observance of environmental standards pertaining to hazardous materials • Appropriate storage of tools and equipment • Cleanliness of work area |

Code: 0265

Objective**Standard****Statement of the Competency**

To verify communications, navigation and instrumentation systems.

Achievement Context

- Based on aircraft maintenance situations; relevant specifications and standards; relevant English and French technical documentation; aeronautical reference manuals; drawings, schematics and block diagrams; work instructions; occupational health and safety rules; troubleshooting logic diagrams; and the inspection procedure
- Using the necessary specialized equipment and test benches

Elements of the Competency**Performance Criteria**

1. Gather information on the operation of the systems.

- Accurate description of the system to be inspected
- Careful consultation of technical documentation
- Systematic gathering of drawings, schematics and block diagrams
- Accurate interpretation of the operating sequences of systems
- Careful observation of the system operation
- Thorough documentation of problems

2. Start up aircraft systems.

- Proper handling, installation and adjustment of ground equipment, auxiliary systems and on-board systems
- Observance of procedures
- Observance of occupational health and safety rules

3. Inspect the condition of systems.

- Observance of:
 - troubleshooting logic diagram
 - inspection procedure
 - occupational health and safety rules
- Accurate measurement of the different parameters on the equipment
- Proper verification of the operation of each component
- Systematic identification and accurate description of defects

Code: 0265

4. Compare the operation of systems with manufacturers' specifications and pre-established parameters.
 - Rigorous analysis of system log books
 - Detailed analysis of all parameters
 - Accurate interpretation of drawings, schematics and block diagrams provided by the manufacturer
 - Accurate determination of the expected performance of the systems
 - Accurate determination of their actual performance
 - Accurate comparison of the expected performance with the actual performance
5. Transmit information.
 - Clear presentation of the problem
 - Presentation of information gathered for the purpose of identifying problems
 - Clear presentation of the highlights of the analyses performed
 - Accurate, clear recommendations
 - Observance of the scope of their duties and company policies

Code: 0266

Objective**Standard****Statement of the Competency**

To verify the operation of aircraft turbine engines.

Achievement Context

- Based on occupational health and safety rules; relevant English and French technical documentation; manufacturers' standards and specifications; inspection procedures; and diagrams and drawings
- Using appropriate protective gear; appropriate tools and equipment; measuring and testing instruments; test benches; and engines

Elements of the Competency**Performance Criteria**

1. Gather information on the operation of the turbine engines.

- Accurate identification of standards, specifications, and occupational health and safety rules
- Accurate distinction of the characteristics of the different types of engines to be inspected
- Accurate determination of the operating conditions of engines
- Careful consultation of:
 - engine log books
 - technical documentation
- Accurate interpretation of:
 - inspection procedures
 - information contained in diagrams, schematics and drawings

2. Verify the general condition of the internal parts of turbine engines.

- Observance of:
 - standards and specifications
 - verification procedures
- Basic verification of the condition of mechanical parts of the:
 - reduction gearbox
 - accessory gearbox
 - hot section
 - cold section
- Careful inspection, using a borescope, of the:
 - cold section
 - hot section
- Systematic, meticulous recording of tests and inspection information

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| <p>3. Verify the operation of turbine engine ignition systems.</p> | <ul style="list-style-type: none"> • Observance of: <ul style="list-style-type: none"> – standards and specifications – inspection procedures • Wearing of appropriate protective gear • Careful inspection of the: <ul style="list-style-type: none"> – general condition of the high- and low-voltage ignition systems – condition of the spark plugs – ignition box • Systematic, meticulous recording of inspection information |
| <p>4. Verify the operation of turbine engine fuel systems.</p> | <ul style="list-style-type: none"> • Observance of: <ul style="list-style-type: none"> – standards and specifications – inspection procedures • Wearing of appropriate protective gear • Careful inspection of the: <ul style="list-style-type: none"> – fuel filters – fuel injectors – fuel pump – fuel control unit – fuel contamination • Precise adjustment of engine linkages • Systematic, meticulous recording of adjustments and inspection information |
| <p>5. Verify the operation of turbine engine lubrication systems.</p> | <ul style="list-style-type: none"> • Observance of: <ul style="list-style-type: none"> – standards and specifications – inspection procedures • Careful inspection of the: <ul style="list-style-type: none"> – general condition of the lubrication system – oil filter – chip detectors • Precise adjustment of the pump pressure • Systematic, meticulous recording of adjustments and inspection information |

Code: 0266

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| <p>6. Verify the operation of the measuring circuits used with turbine engines.</p> | <ul style="list-style-type: none"> • Observance of: <ul style="list-style-type: none"> – standards and specifications – inspection procedures • Wearing of appropriate protective gear • Careful inspection of the general condition of the: <ul style="list-style-type: none"> – oil pressure indicating system – oil temperature indicating system – internal air pressure indicating system – fuel flow indicating system – fuel pressure indicating system – engine revolution indicating system • Careful verification of the operation of the thermocouple • Systematic, meticulous recording of inspection information |
| <p>7. Verify the operation of turbine engine control systems.</p> | <ul style="list-style-type: none"> • Observance of: <ul style="list-style-type: none"> – standards and specifications – inspection procedures • Wearing of appropriate protective gear • Careful verification of the general condition of the engine control system • Correct performance of system test • Careful gathering of test data • Careful analysis of test data to determine the system's condition • Systematic, meticulous recording of inspection information |
| <p>8. Tidy and clean the work area.</p> | <ul style="list-style-type: none"> • Meticulous observance of health and safety rules • Observance of environmental standards pertaining to hazardous materials • Appropriate storage of tools and equipment • Cleanliness of work area |

Code: 0267

Objective**Standard****Statement of the Competency**

To maintain flight controls and flight control surfaces.

Achievement Context

- Based on occupational health and safety rules; flight controls (mechanical, hydromechanical, electrohydraulic, electric); manufacturers' standards and specifications; inspection and repair procedures; and diagrams, schematics and drawings
- Using an aircraft and aircraft components; test benches; measuring and testing instruments; simulation and inspection software; and appropriate tools and equipment

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of:
 - standards
 - specifications
 - occupational health and safety rules
- Accurate distinction of the characteristics of the various flight controls and fasteners, according to their:
 - role
 - operation
 - configuration
- Careful consultation of:
 - flight control log books
 - technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - verification, inspection, assembly and disassembly procedures
 - information contained in technical drawings, schematics and diagrams

2. Plan the work to be carried out.

- Appropriate choice of operations, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of the various types of flight controls:
 - mechanical
 - hydromechanical
 - electrical
 - the scope of their duties with respect to electrohydraulic flight controls
 - the scope of their duties within the work team
- Proper planning of various operations:
 - removal
 - disassembly
 - inspection
 - repair
 - assembly
 - adjustment
- Thorough assessment of work priorities, according to:
 - the inspections and verifications to be done
 - the components to be replaced
- Realistic determination of work steps involved
- Appropriate choice and verification of the availability of the equipment, materials and hardware required for the operations
- Appropriate preparation of equipment and work area
- Proper installation of auxiliary power equipment:
 - electrical
 - hydraulic

3. Perform activities related to inspecting and verifying flight control surfaces.

- Careful visual inspection of components
- Inspection of components according to specifications
- Systematic identification of all defects
- Relevant, precise adjustments made
- Systematic, meticulous recording of adjustments and inspection information

Code: 0267

4. Perform activities related to repairing a flight control surface.
 - Observance of standards and specifications
 - Accurate evaluation of damaged parts
 - Accurate distinction of parts to be repaired and parts to be replaced
 - Accurate determination of the list and numbers of parts to be ordered
 - Careful selection of the repair procedure
 - Appropriate use of equipment and tools
 - Correct performance, as part of a team, of the following procedures:
 - removal
 - repair
 - balancing
 - installation
 - adjustment
 - verification
5. Repair flight control components.
 - Observance of standards and specifications
 - Accurate evaluation of damaged parts
 - Accurate distinction of parts to be repaired and parts to be replaced
 - Accurate determination of the list and numbers of parts to be ordered
 - Appropriate use of equipment and tools
 - Correct performance, as part of a team, of the following procedures:
 - removal
 - repair
 - installation
 - adjustment
 - verification
 - Visual, functional inspection of components and system
 - Systematic, meticulous recording of repairs, adjustments and inspection information
6. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 0268

Objective**Standard****Statement of the Competency**

To apply principles of aerodynamics to flight and helicopter maintenance.

Achievement Context

- Based on relevant English and French technical documentation; aeronautical reference manuals; and drawings, diagrams, schematics and block diagrams
- Using wind tunnels and specialized equipment; formulas and tables; a calculator; measuring and testing instruments; and simulation software

Elements of the Competency**Performance Criteria**

1. Establish connections between the principles of aerodynamics and helicopter flight.

- Accurate distinction of factors influencing:
 - drag
 - lift
 - moments
 - stability
 - maximum speed
 - performance
- Appropriate choice of measuring instruments to be used and calculations to be done
- Appropriate choice and use of units of measure
- Accurate calculations
- Relevant diagram of principles and phenomena
- Accuracy of connections established, given the problem

2. Establish connections between the principles of aerodynamics and the various helicopter components.
 - Accurate description, according to physical and aerodynamic phenomena:
 - various flight controls
 - various flight control systems
 - various flight parameters
 - construction of a rotor blade
 - various elements of the mechanical drive train of rotors
 - various anti-torque systems
 - bearings and the different elements that take up centrifugal force
 - rotor vibrations according to their frequency and direction
 - structures
 - landing gear
 - Accuracy of connections established, given the problem
 - Correct location of:
 - control stations and axes
 - basic components and flight controls

3. Perform activities related to balancing rotors.
 - Accurate description of rotor configurations
 - Appropriate choice of rotor balancing methods:
 - aerodynamic balancing
 - static balancing
 - dynamic balancing
 - Correct performance, as part of a team, of the static balancing procedure
 - Observance of standards and specifications
 - Meticulous observance of health and safety rules
 - Appropriate use of equipment and tools
 - Appropriate storage of tools and equipment
 - Cleanliness of work area
 - Systematic, meticulous recording of the work done

Code: 0269

Objective**Standard****Statement of the Competency**

To maintain landing gear.

Achievement Context

- Based on occupational health and safety rules; manufacturers' standards and specifications; inspection and repair procedures; drawings, schematics and diagrams; relevant English and French technical documentation; situations involving the maintenance of landing gear (fixed and retractable, on wheels, on skis and on floats, with shock absorbers that convert energy and those that do not)
- Using an aircraft and aircraft components; jacking and lubrication equipment; specialized tools; and electrical and hydraulic auxiliary power systems

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of:
 - standards
 - specifications
 - occupational health and safety rules
- Accurate distinction of the characteristics of the various landing gear, according to their:
 - role
 - operation
 - configuration
- Careful consultation of:
 - landing gear log books
 - technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - verification, inspection, assembly, disassembly and repair procedures
 - information contained in technical drawings, schematics and diagrams

2. Plan the work to be carried out.
 - Appropriate choice of operations according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of the various types of landing gear
 - the scope of their duties within the work team
 - Proper planning of the various operations:
 - removal
 - disassembly
 - inspection
 - repair
 - reassembly
 - adjustment
 - lubrication
 - return to service
 - Thorough assessment of work priorities, according to:
 - the inspections and tasks to be performed
 - the components to be replaced
 - Realistic determination of work steps involved
 - Appropriate choice and verification of the availability of the equipment, materials and hardware required for the operations
 - Appropriate preparation of equipment and work area
 - Installation and adjustment in compliance with auxiliary power systems:
 - electrical
 - hydraulic
 - pneumatic
3. Perform activities related to inspecting landing gear.
 - Correct performance, as part of a team, of jacking and levelling procedures
 - Careful visual inspection of components
 - Inspection of components according to specifications
 - Systematic identification of all defects
 - Systematic, meticulous recording of adjustments and inspection information

Code: 0269

4. Perform maintenance activities on:
 - a wheel
 - the brakes
 - an oleopneumatic shock absorber
 - the retraction system
 - the braking system
 - the steering system
 - Observance of standards and specifications
 - Accurate evaluation of damaged parts
 - Accurate diagnosis of parts to be repaired and parts to be replaced
 - Accurate determination of the list and numbers of parts to be ordered
 - Appropriate use of specialized equipment and tools
 - Correct performance, as part of a team, of the following procedures:
 - jacking
 - removal
 - replacement
 - balancing
 - installation
 - lubrication
 - adjustment
 - inspection
 - return to service
 - Verification of the quality of the work
 - Systematic, meticulous recording of adjustments and inspection information

5. Perform activities related to repairing a:
 - steering system
 - anti-skid system
 - retractable landing gear system
 - Observance of standards and specifications
 - Accurate evaluation of damaged parts
 - Accurate diagnosis of parts to be repaired and parts to be replaced
 - Accurate determination of the list and numbers of parts to be ordered
 - Appropriate use of specialized equipment and tools
 - Correct performance, as part of a team, of the following procedures:
 - jacking and levelling
 - removal
 - repair
 - installation
 - adjustment
 - verification
 - return to service
 - Visual, functional inspection of components and system
 - Systematic, meticulous recording of repairs, adjustments and inspection information

Code: 0269

6. Perform activities related to modifying different types of landing gear.
 - Observance of standards and specifications
 - Appropriate use of specialized equipment and tools
 - Correct performance, as part of a team, of the following procedures:
 - jacking
 - removal
 - modification of configuration
 - installation
 - adjustment
 - verification
 - return to service
 - Visual, functional inspection of components and system
 - Systematic, meticulous recording of configuration modifications and inspection information
7. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 026A

Objective**Standard****Statement of the Competency**

To overhaul aircraft turbine engines.

Achievement Context

- Based on occupational health and safety rules; relevant English and French technical documentation; manufacturers' standards and specifications; inspection and repair procedures; and drawings, schematics and diagrams
- Using appropriate protective gear; appropriate tools and equipment; measuring and testing instruments; test benches; and engines

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of standards, specifications, and occupational health and safety rules
- Accurate distinction of the characteristics of the types, models and serial numbers of the engines to be overhauled
- Accurate determination of the operating conditions of engines
- Careful consultation of:
 - engine log books
 - technical documentation
- Accurate interpretation of:
 - verification, inspection, assembly and disassembly procedures
 - information contained in drawings, schematics and diagrams

2. Plan the work to be carried out.

- Proper planning of the various operations:
 - removal
 - disassembly
 - cleaning
 - inspection
 - repair
 - assembly
- Appropriate choice and verification of the availability of the equipment, materials and hardware required for overhaul operations
- Appropriate preparation of equipment and work area

3. Remove components.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Correct performance, as part of a team, of:
 - the removal procedure
 - inspection procedures
 - Visual verification of the:
 - starter
 - ignition system
 - pneumatic system
 - fuel injection system
 - sensor chains
 - alternator and generator
 - oil pump and oil system accessories
 - vacuum pump
 - magnetic chip detectors
 - control linkages
 - propeller governor
 - Systematic, meticulous recording of inspection information
4. Disassemble the engine.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance, as part of a team, of:
 - the disassembly procedure
 - inspection procedures
 - Careful handling and storage of engine parts
 - Systematic identification of parts
 - Thorough, appropriate cleaning of parts
5. Inspect engine parts.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Visual, dimensional and non-destructive inspection of engine parts
 - Thorough identification of defects
 - Accurate evaluation of damaged parts
 - Accurate diagnosis of parts to be repaired and parts to be replaced
 - Accurate determination of the list and numbers of parts to be ordered
 - Systematic, meticulous recording of adjustments and inspection information

Code: 026A

6. Repair engine parts.
- Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Accurate assessment of the repairs to be done
 - Careful selection of the repair procedure
 - Appropriate use of specialized equipment and tools
 - Correct performance of:
 - the inspection procedure
 - repair procedures
 - Careful repair and accurate adjustment of engine parts
 - Verification of the quality of the repair
 - Systematic, meticulous recording of repairs, adjustments and inspection information
7. Assemble the engine.
- Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance, as part of a team, of:
 - the assembly procedure
 - inspection procedures
 - Rigorous observance of torque limits
 - Verification of the quality of the assembly
 - Systematic, meticulous recording of operations

Code: 026A

8. Install components.

- Observance of standards and specifications
- Wearing of appropriate protective gear
- Appropriate use of specialized equipment and tools
- Correct performance, as part of a team, of:
 - the installation procedure
 - the adjustment procedure
 - inspection procedures
- Visual inspection of the installation of the:
 - starter
 - alternator
 - ignition system
 - fuel injection system
 - pneumatic system
 - sensor chains
 - alternator and generator
 - oil pump and oil system accessories
 - vacuum pump
 - magnetic chip detectors
 - control linkages
 - propeller governor
- Systematic, meticulous recording of operations and inspection information

9. Verify that the engine has been properly overhauled.

- Observance of standards and specifications
- Wearing of appropriate protective gear
- Appropriate use of specialized equipment and tools
- Correct performance of:
 - the engine test procedure
 - various inspection procedures
- Careful verification of the proper operation of:
 - starting systems
 - fuel systems
 - sensor chains
 - lubrication systems
 - ignition systems
 - pneumatic systems
 - alternator and generator
 - magnetic chip detectors
 - control linkages
 - propeller governor
- Accurate gathering of test data
- Careful analysis of data gathered
- Accurate determination of the conformity or non-conformity of the engine
- Systematic, meticulous recording of data, operations and inspection information

Code: 026A

10. Tidy and clean the work area.

- Meticulous observance of health and safety rules
- Observance of environmental standards pertaining to hazardous materials
- Appropriate storage of tools and equipment
- Cleanliness of work area

Code: 026B

Objective**Standard****Statement of the Competency**

To assess the performance of piston and turbine engines.

Achievement Context

- Based on occupational health and safety rules; relevant English and French technical documentation; manufacturers' standards and specifications; and drawings, schematics, diagrams and tables
- Using appropriate protective gear; appropriate tools and equipment; measuring and testing instruments; test benches; and engines

Elements of the Competency**Performance Criteria**

1. Gather the information required to assess performance.

- Accurate identification of standards, specifications, and occupational health and safety rules
- Accurate description of:
 - the principles of applied thermodynamics
 - variables used in thermodynamics
 - problems related to different types of engines
- Accurate distinction of the:
 - types of engines to be inspected
 - different concepts of performance
- Establish connections between thermodynamics and the verifications prescribed by the manufacturer
- Careful consultation of technical documentation
- Accurate interpretation of:
 - inspection procedures
 - information contained in diagrams, schematics, tables and drawings

2. Plan the inspection to be performed.

- Proper selection of:
 - the inspection procedure associated with the desired result
 - parameters of the test
- Appropriate preparation of test equipment and area

Code: 026B

3. Perform tests.
 - Observance of standards and specifications
 - Wearing of appropriate protective gear
 - Appropriate use of specialized equipment and tools
 - Correct performance of:
 - the test procedure
 - various inspection procedures
 - Accurate gathering of test data
 - Systematic, meticulous recording of data, operations and inspection information
4. Analyze performance.
 - Proper selection of test results for analysis
 - Observance of thermodynamic principles in the analysis
 - Accurate determination of the conformity or non-conformity of the unit tested
 - Accurate determination of the possible causes of performance problems
 - Systematic, meticulous recording of conclusions of the analysis

Code: 026C

Objective**Standard****Statement of the Competency**

To maintain aircraft systems.

Achievement Context

- Based on occupational health and safety rules; manufacturers' standards and specifications; inspection and repair procedures; schematics, diagrams and drawings; relevant English and French technical documentation; system maintenance situations (air conditioning and pressurization; fire detection and suppression; fuel supply; protection against rain, fog, frost, oxygen; drinking water and wastewater management); and situations involving the maintenance of movable set-ups and equipment
- Using an aircraft and aircraft components; auxiliary electrical, pneumatic and air conditioning power systems; simulation and inspection software; and appropriate tools and equipment

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of:
 - standards
 - specifications
 - occupational health and safety rules
- Accurate description of the various systems and their main components according to their:
 - role
 - operation
 - configuration
- Careful consultation of:
 - log books for various systems
 - technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - verification and inspection procedures
 - information contained in technical drawings, schematics and diagrams

Code: 026C

2. Plan the work to be carried out.
 - Appropriate choice of operations, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of various systems
 - Proper planning of the various operations:
 - inspection
 - troubleshooting
 - adjustment
 - return to service
 - Thorough assessment of work priorities according to the inspections and tasks to be performed
 - Realistic determination of work steps involved
 - Appropriate choice and verification of the availability of the equipment required for the operations
 - Appropriate preparation of equipment and work area
 - Proper installation and adjustment of auxiliary power systems:
 - electrical
 - pneumatic
 - air conditioning

3. Perform activities related to inspecting and verifying various systems.
 - Careful visual inspection of components
 - Inspection of components according to specifications
 - Systematic identification of all defects
 - Systematic, meticulous recording of inspection information and defects

4. Diagnose defects.
 - Accurate comparison of the values measured with the values specified
 - Appropriate choice and use of:
 - tests
 - simulation software
 - Identification of components and fasteners likely to cause malfunctions or defects
 - Appropriate choice and observance of a logical problem-solving process
 - Thorough, rigorous analysis of all problem-related data
 - Accurate deduction of the sources of problems, based on facts
 - Accurate determination of the possible causes of malfunctions or defects

Code: 026C

5. Perform activities related to modifying the internal configuration.
 - Observance of standards and specifications
 - Appropriate use of specialized equipment and tools
 - Correct performance of the following procedures:
 - removal
 - configuration modification
 - installation
 - inspection
 - Systematic, meticulous recording of configuration modifications and inspection information
6. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 026D

Objective**Standard****Statement of the Competency**

To inspect airplanes and helicopters.

Achievement Context

- Based on occupational health and safety rules; regulatory standards; manufacturers' specifications; environmental standards pertaining to hazardous materials; relevant English and French technical documentation; verification and inspection procedures; and diagrams and drawings
- Using an aircraft and aircraft components; electrical, hydraulic, pneumatic and air conditioning auxiliary power systems; maintenance software; and appropriate tools and equipment

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of:
 - standards
 - specifications
 - occupational health and safety rules
- Accurate interpretation of the scope of their duties within the company
- Accurate description of the type of inspection to be performed
- Careful consultation of:
 - log books for the aircraft to be inspected
 - technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - verification and inspection procedures
 - information contained in technical drawings, schematics and diagrams

Code: 026D

2. Plan the work to be carried out.
 - Appropriate choice of operations, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of various aircraft
 - Thorough assessment of work priorities, according to the inspections and tasks to be performed
 - Realistic determination of work steps involved
 - Appropriate choice and verification of the availability of the equipment required for the operations
 - Appropriate preparation of equipment and work area
 - Proper installation and adjustment of electrical, hydraulic, pneumatic and air conditioning auxiliary power systems
3. Perform inspections.
 - Observance of standards and specifications
 - Meticulous observance of health and safety rules
 - Proper start-up of aircraft systems
 - Appropriate use of maintenance software
 - Correct observance of visual inspection procedures (planned and unplanned)
 - Careful visual inspection of components and systems
 - Inspection of components and systems according to specifications
 - Systematic identification of all defects
 - Verification and precise adjustment of tolerances and frictions of rotating components
 - Appropriate use of equipment and tools
 - Visual, functional inspection of components and systems
 - Systematic, meticulous recording of defects, verifications and inspections
4. Tidy and clean the work area.
 - Meticulous observance of health and safety rules
 - Meticulous observance of environmental standards pertaining to hazardous materials
 - Appropriate storage of tools and equipment
 - Cleanliness of work area

Code: 026E

Objective**Standard****Statement of the Competency**

To maintain airplanes.

Achievement Context

- Based on occupational health and safety rules; regulatory standards; manufacturers' specifications; environmental standards pertaining to hazardous materials; relevant English and French technical documentation; maintenance procedures; and schematics, diagrams and drawings
- Using airplanes and airplane components; electrical, hydraulic, pneumatic and air conditioning auxiliary power systems; towing equipment; maintenance software; and appropriate tools and equipment

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of:
 - standards
 - specifications
 - occupational health and safety rules
- Accurate interpretation of the scope of their duties within the company
- Accurate description of the type of equipment
- Careful consultation of:
 - the airplane's log books
 - technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - maintenance procedures
 - information contained in technical drawings, schematics and diagrams

2. Plan the work to be carried out.
 - Appropriate choice of operations, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of various airplanes
 - Thorough assessment of work priorities, according to:
 - the inspections and tasks to be performed
 - the severity of defects
 - Realistic determination of work steps involved
 - Appropriate choice and verification of the availability of the equipment required for the operations
 - Correct performance of procedures for towing and moving a airplane
 - Appropriate preparation of equipment and work area
 - Proper installation and adjustment of auxiliary power systems:
 - electrical
 - hydraulic
 - pneumatic
 - air conditioning
 - Proper jacking and levelling of the aircraft
3. Perform maintenance activities.
 - Proper start-up of aircraft systems
 - Appropriate use of maintenance software
 - Correct observance of maintenance procedures
 - Appropriate choice and observance of a logical problem-solving process
 - Proper, safe performance of run-up procedure
 - Correct performance of compass compensation procedure
 - Meticulous recording of work
4. Perform activities related to weight and balance.
 - Correct performance of weight and balance procedures
 - Appropriate choice of measuring instruments to be used and calculations to be done
 - Appropriate choice and use of units of measure
 - Accurate calculations
 - Systematic, meticulous recording of data

Code: 026E

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| 5. Change outdated components and correct defects. | <ul style="list-style-type: none">• Observance of standards and specifications• Appropriate use of specialized equipment and tools• Correct performance of the following procedures:<ul style="list-style-type: none">– jacking– removal– replacement– balancing– installation– lubrication– adjustment– inspection– return to service• Verification of the quality of the work• Systematic, meticulous recording of replacements, adjustments and inspection information |
| 6. Perform activities related to parking and tying down an airplane. | <ul style="list-style-type: none">• Observance of standards and specifications• Meticulous observance of health and safety rules• Appropriate use of equipment and tools• Systematic, meticulous recording of technical data |
| 7. Tidy and clean the work area. | <ul style="list-style-type: none">• Meticulous observance of health and safety rules• Meticulous observance of environmental standards pertaining to hazardous materials• Appropriate storage of tools and equipment• Cleanliness of work area |

Code: 026F

Objective**Standard****Statement of the Competency**

To maintain helicopters.

Achievement Context

- Based on occupational health and safety rules; regulatory standards; manufacturers' specifications; environmental standards pertaining to hazardous materials; relevant English and French technical documentation; maintenance procedures; and schematics, diagrams and drawings
- Using helicopters and helicopter components; electrical and hydraulic auxiliary power systems; towing equipment; maintenance software; and appropriate tools and equipment

Elements of the Competency**Performance Criteria**

1. Gather the required information.

- Accurate identification of:
 - standards
 - specifications
 - occupational health and safety rules
- Accurate interpretation of the scope of their duties within the company
- Accurate description of the type of equipment
- Careful consultation of:
 - the helicopter's log books
 - technical documentation
- Accurate interpretation of:
 - specifications
 - standards
 - maintenance procedures
 - information contained in technical drawings, schematics and diagrams

Code: 026F

2. Plan the work to be carried out.
 - Appropriate choice of operations, according to:
 - standards and specifications
 - objectives and needs
 - the characteristics of various helicopters
 - Thorough assessment of work priorities, according to:
 - the inspections and tasks to be performed
 - the severity of defects
 - Realistic determination of work steps involved
 - Appropriate choice and verification of the availability of the equipment required for the operations
 - Correct performance of procedures for towing and moving a helicopter
 - Appropriate preparation of equipment and work area
 - Proper installation and adjustment of auxiliary power systems:
 - electrical
 - hydraulic
 - Proper jacking and levelling of the helicopter

3. Perform maintenance activities.
 - Proper start-up of helicopter systems
 - Appropriate use of maintenance software
 - Correct observance of maintenance procedures
 - Appropriate choice and observance of a logical problem-solving process
 - Accurate, safe performance of the procedure for reducing vibrations
 - Systematic, meticulous recording of the work done

4. Perform activities related to weight and balance.
 - Correct performance of weight and balance procedures
 - Appropriate choice of measuring instruments to be used and calculations to be done
 - Appropriate choice and use of units of measure
 - Accurate calculations
 - Systematic, meticulous recording of data

Code: 026F

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|--|---|
| <p>5. Change outdated components and correct defects.</p> | <ul style="list-style-type: none"> • Observance of standards and specifications • Appropriate use of specialized equipment and tools • Correct performance of the following procedures: <ul style="list-style-type: none"> – jacking – removal – replacement – balancing – installation – lubrication – adjustment – inspection – return to service • Verification of the quality of the work • Systematic, meticulous recording of replacements, adjustments and inspection information |
| <p>6. Perform activities related to parking and tying down a helicopter.</p> | <ul style="list-style-type: none"> • Observance of standards and specifications • Meticulous observance of health and safety rules • Appropriate use of equipment and tools • Systematic, meticulous recording of technical data |
| <p>7. Tidy and clean the work area.</p> | <ul style="list-style-type: none"> • Meticulous observance of health and safety rules • Meticulous observance of environmental standards pertaining to hazardous materials • Appropriate storage of tools and equipment • Cleanliness of work area |

