

Course Outline

COURSE : **Internship on planes 1**

PROGRAM : 280.C0 Aircraft Maintenance

DISCIPLINE : 280 Aeronautics

WEIGHTING : Theory : 0 Practice : 3 Personal Study : 1

Teacher(s)	Office	☎ extension	✉ e-mail ou website
Yvan Larivière	C-182	4761	yvan.lariviere@ena.ca

Office hours

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Morning			9 :00 to 12 :00		
Afternoon				12 :00 to 13 :00	
Other					

Coordinator(s)	Office	☎ extension	✉ e-mail
Joaquin Mora	C-160	4220	joaquin.mora@ena.ca
Serge Rancourt	C-160	4664	serge.rancourt@ena.ca

1 CONTEXT OF THIS COURSE WITHIN THE PROGRAM

- This course is situated in the program's fifth semester.
- Please note that this course is an absolute prerequisite for course 280-6A4-EM. All students enrolled in this program are called upon in one way or another to perform aircraft inspection activities.
- In this course, inspection activities will be held in the hangar or on the tarmac and will be carried out on different types and models of planes. These activities are planned to allow students to develop skills leading to the mastery of working techniques in aeronautical maintenance and more specifically, related to aircraft inspection. In addition to getting students to apply inspection procedures, the proposed activities will develop the skills expected of researching technical manuals, planning and organization of work, finding anomalies, but also, technical writing specific to the aeronautical maintenance field. Mastery of all of these elements will enable students to fulfill the function of the course of performing activities relating to the inspection of aircraft.
- Students must keep this course outline for the duration of their studies as it will be useful for the comprehensive assessment at the end of the program.

Transport Canada : This course outline meets the requirements of Training Organisation Certification Manual (MCF) of Transport Canada. The Department applies Transport Canada standard which allows a maximum absence of 5% for the course (theory and laboratory). The department compiles absences of all students enrolled in Aircraft Maintenance (280.C0) according to Transport Canada requirements. The application of Transport Canada policies regarding absences is available on the [Ma réussite à l'ÉNA](#) website under the heading « Privilèges accordés par Transports Canada ».

2 COMPETENCIES OF THE EXIT PROFILE (STUDENT SKILL PROFILES)

- To master the aeronautic maintenance work technics.

3 MINISTERIAL OBJECTIVE(S) AND COMPETENCIES

026D To perform activities related to inspecting airplanes and helicopters.

4 TERMINAL OBJECTIVE OF THE COURSE (FINAL COURSE OBJECTIVE)

- At the end of the course, the student will be able to plan and perform inspections on the aircraft according to a methodology and an inspection work technique adapted to the aeronautical standard.

5 TEACHING AND LEARNING STRATEGIES

- Using inspection directives, students carry out maintenance tasks on an aircraft using the maintenance manual as a source of technical information.
- Prior classes, students will have to prepare their activities by answering questions related to their weekly task. Technical documentations will be accessible through a web link given by their teacher. All classes will be given in school.
- Real and simulated scenarios are very important in this course. Students work in teams of two or three.

- Before any summative evaluations, students will have had a formative evaluation to maximize the opportunity to succeed.
- The course is offered in an intensive formula at a rate of 4 hours per week for 12 weeks.

6 COURSE PLAN

LEARNING OBJECTIVES

1. Conduct research in technical manuals
2. Plan and organize the work load
3. Apply inspection procedures
4. Identify defects
5. Record information

WEEK	# OBJECTIVE	CONTENT	MODE OF INSTRUCTION AND LEARNING ACTIVITIES	DOCUMENTATIONS, RESOURCES, TECHNOLOGICAL TOOLS AND URL ADDRESS
1	1-2-5	Course presentation How to report defects and complete the paperwork A22 hangar visit Nitrogen bottle	First course will be held in a computer room. Access to A22 hangar and computers Course duration: 4 hours	Work order is available on LÉA
2	1-2-3-4-5	Perform standard practices	Different stations will be set-up in the hangar Screws removal, fuel sampling, Nitrogen bottle operation, MSDS sheets, choose appropriate products, tire inflation Course duration: 4 hours	Work order is available on LÉA
3	1-2-3-4-5	Daily inspection M1 and M2 aircrafts	Team will be assigned in rotation to perform a DI on a M1 and a M2 aircraft	Work order is available on LÉA
4	1-2-3-4-5	CL601, Do328, Learjet 60, Piper Navajo, Piper Aztec	Course duration: 4 hours	
5	1-2-3-4-5	EXAM #1	Having access to a computer station, without his notes, the student will have to demonstrate that he or she has mastered the concepts practices since the beginning of the session. Written exam with multiple questions 3 hours allowed for the exam	Study guide will be available on LÉA

WEEK	# OBJECTIVE	CONTENT	MODE OF INSTRUCTION AND LEARNING ACTIVITIES	DOCUMENTATIONS, RESOURCES, TECHNOLOGICAL TOOLS AND URL ADDRESS
6	1-2-3-4-5	Piston engine magneto check and compression check Aztec and Navajo	Teams will be assigned in rotation to perform the inspections Course duration: 4 hours	Work order is available on LÉA
7	1-2-3-4-5			
8	1-2-3-4-5	Cockpit familiarization Marshaling Gear inspection and lubrication Piper Navajo, Piper Aztec	Teams will be assigned in rotation to prepare for the run-up the following weeks. Marshaling video to be watched Inspection and lubrication of a landing gear Course duration: 4 hours	Work order is available on LÉA
9	1-2-3-4-5	RUN-UP EXAM #2 Perform run-up on the Cirrus SR-22 Gear inspection and lubrication CL601	Teams will be assigned for a week to perform the run-up exam and the run-up Inspection and lubrication of a landing gear Course duration: each student will have 20 minutes to perform the run-up	Work order is available on LÉA
10	1-2-3-4-5			
11	1-2-3-4-5	Removal, inspection and installation of a wheel Piper Navajo, Piper Aztec, Aerocommander	Each student will be assigned 1 wheel to be removed, to be inspected and to be reinstalled as per MM instructions Follow jacking procedures Course duration: 4 hours	Work order is available on LÉA
12	1-2-3-4-5	FINAL EXAM #3	Part 1 is a written exam with multiple questions based on all activities done during the session Part 2 is an inspection of a landing, finding defects and completing a report Exam duration: Part 1: 2:30 Part 2: 1:30	Computers will be available to complete the written exam Tools will be available at stores to perform the landing gear inspection

7 SYNTHESIS OF SUMMATIVE EVALUATION METHODS

Description of Evaluation Activity	Context	Learning objective(s)	Evaluation Criteria ¹	Due Date (approximate date assignment due or exam given)	Weighting (%)
<p>EXAM #1</p> <p>Search information on computers</p> <p>Report defects</p> <p>Activities from week 1 to 4</p>	<p>Individual</p> <p>Written exam with multiple questions</p>	1-2-5	<p>Accurate identification and exact anomalies description.</p> <p>Usage of proper reference for proper standard.</p> <p>Relevance and precision of the answer according to the course standard.</p> <p>Accuracy of the answer according to the course standard.</p> <p>Proper answer according to course standard.</p>	WEEK 5	20%
<p>RUN-UP EXAM #2</p>	<p>-Individual.</p> <p>-Written exam on standards and emergency procedures.</p> <p>-From scenarios while performing ground run.</p>	1-2-3	<p>Pertinence and accuracy of the answer according to the course standard.</p> <p>Understanding checks.</p> <p>Understanding of the steps.</p> <p>Appropriate execution of the procedure</p> <p>Interpretation of the parameters of the systems according to the standards.</p> <p>Understanding and execution of marshaling</p>	BEFORE THE RUN-UP	10%
<p>PAPERWORK COMPLETION FOR ALL WORK ORDERS COMPLETED DURING THE SESSION AND COMPETENCIES DURING ALL ACTIVITIES</p>	<p>Individual</p> <p>Paperwork to be completed before the end of each class</p>	1-5	<p>Paperwork completion and Competencies evaluation as per the evaluation grid provided on LÉA</p>	<p>Work Orders week 6-7-10-11</p> <p>Performance weeks 6-7-10-11</p>	<p>Weeks 6-7-10-11</p> <p>Work order 20%</p> <p>Weeks 6-7-10-11</p> <p>Performance 20%</p>

¹ Issus du programme d'études (critères de performance) et adaptés au niveau des étudiants (exigences évolutives) d'une session à l'autre. Les critères d'évaluation doivent être explicites et permettre l'observation des résultats (processus, produits, propos). Les critères d'évaluation seront présentés par écrit aux étudiants au moins une semaine avant l'activité d'évaluation sommative (article 5.1j PIEA)

FINAL EXAM #3	Individual	1-2-3-4-5	Finding the proper information	WEEK 12	30%
	Part 1 Written exam with multiple questions based on all activities during the session Part 2 Inspection of a landing gear, finding defects and completion of the paperwork		Finding the proper references in the manuals Proper evaluation of the parts condition Finding defects Properly complete the paperwork		
				TOTAL	100 %

8 REQUIRED MATERIAL

- Tools will be available at stores
- Working clothes will be mandatory as per the school policy. All students will be required inside the hangar to wear the appropriate working clothes with the ÉNA logo. Working pants or jeans with no metal pieces is mandatory.
- Safety glasses and safety shoes will be mandatory for all activities inside the hangar and the laboratories.
- A hoodie with a lace will be prohibited inside the hangar because of health and safety reason.
- All documentation will have to be printed for each class and will be available on LÉA.

9 MEDIAGRAPHY

FAA, AC43-13 Aircraft inspection, repair & alterations. Acceptable methods, techniques and practices, https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/99861, 10 janvier 2021

FAA, AC 20-106 Aircraft Inspection for the General Aviation Aircraft Owner https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22051, 12 janvier 2021

All ENA's technical publications (MM, IPC, SB, etc).

10 REQUIREMENTS TO PASS THE COURSE

1. Passing Mark

The passing mark for this course is 60% by adding the marks for the theory and practical work for the course.

2. Attendance for Summative Evaluations

Students must be present for summative evaluations and must comply with the instructions given by the instructor to carry out the evaluation activity and written in the course outline. Unexcused tardiness for a summative evaluation could result in being excluded from the activity. Any absence from a summative evaluation that is not due to serious reasons (illness, death in the family, etc.) could result in a mark of zero (0) for the activity.

Students are responsible for meeting with the instructor before an evaluation activity is held or immediately upon returning to ENA to explain the reason for an absence. Proper documentation, such as a medical certificate, a death

certificate, legal papers, etc., must be shown if the reason for absence is serious and recognized as such by the instructor(s), arrangements will be made between the instructor(s) and the student to make up the activity.

3. Submitting Assignments

All assignments must be submitted by the date, hour and location designated by the instructor(s). Late assignments will be penalized 10% per day that they are late and will receive a mark of zero (0) after one week.

4. Presentation of Written Work

The instructor(s) will provide students with information and guidelines regarding the presentation of written work. When the presentation of an assignment is unacceptable, the work will be penalized as a late assignment until an acceptable version is submitted. In this case, the penalties for late work will be applied.

Students must follow the standards adopted by the Cégep for written work (« *Normes de présentation matérielle des travaux écrits* »). These can be found at : <http://rmsh.cegepmontpetit.ca/normes-de-presentacion-materielle-des-travaux-ecrits-du-cegep/>.

5. Plagiarism and other breaches of academic integrity

- a) Plagiarism consists of copying, translating, paraphrasing, in whole or in part, the work of another person and wrongfully attributing it to oneself, with or without their consent, and constitutes a breach of academic integrity.
- b) The use of works generated entirely or partially by artificial intelligence, if not authorized by the professor, is also considered a breach of academic integrity.
- c) Acts of fraud, such as impersonating another student during a summative assessment, deceiving, cheating, or falsifying documents or results, also constitute breaches of academic integrity.
- d) Any collaboration in such acts or any attempt to commit them is also considered a breach of intellectual ethics.

Any violation of intellectual honesty, as well as any attempt at or collaboration in such an action will result in a mark of "0" for the exam, the assignment or the evaluation activity in question. In this case, the teacher will make a written report to departmental coordination which will be transmitted to the Dean of Studies in accordance with Article 5.6.1 IPESA).

11 METHODS OF COURSE PARTICIPATION

SECURITY MEASURES IN THE HANGARS

1. Student participating in a training, maintenance or manufacturing activity in the hangar or workshop must wear safety shoes, ENA work clothes and safety glasses at all times.
2. Smoking is prohibited in the school and ramp area.
3. Sitting on benches or machines is prohibited.
4. Machines must not be used without authorization from the instructor.
5. Caps or hairnets must be worn for long hair when working with the machinery.
6. The machinery and benches must be cleaned after use.
7. Clean workshop and work area used after every classes.
8. No one may circulate in the hangar unless authorized.
9. No visitors are allowed without authorization.
10. Watches, rings and neck chains must be removed before every classes.
11. Do not start any maintenance activities if you are not familiar to the equipment used. Ask your teacher or hangar technician in case of doubt.

12 OTHER DEPARTMENTAL REGULATIONS

Students are encouraged to consult the website for the specific regulations for this course:

<http://guideena-en.cegepmontpetit.ca/departement-rules/>

<https://mareussite.cegepmontpetit.ca/ena/mon-parcours/mon-programme/regles-departementales>

13 INSTITUTIONAL POLICIES AND REGULATIONS

All students enrolled at Cégep Édouard-Montpetit must become familiar with and comply with the institutional policies and regulations. In particular, these policies address learning evaluations, maintaining admission status, French language policies, maintaining a violence-free and harassment-free environment, and procedures regarding student complaints. The French titles for the policies are: *Politique institutionnelle d'évaluation des apprentissages* (PIEA), la *Politique institutionnelle de la langue française* (PILF), la *Politique pour un milieu d'études et de travail exempt de harcèlement et de violence* (PPMÉTEHV), les *Conditions d'admission et cheminement scolaire*, la *Procédure concernant le traitement des plaintes étudiantes dans le cadre des relations pédagogiques*.

The full text of these policies and regulations is accessible on the Cégep web site at the following address: <http://www.cegepmontpetit.ca/ena/a-propos-de-l-ecole/reglements-et-politiques>. If there is a disparity between shortened versions of the text and the full text, the full text will be applied and will be considered the official version for legal purposes.

14 STUDENT ACCESSIBILITY CENTER - FOR STUDENTS WITH DISABILITIES

Students having received a professional diagnosis of impairment (motor skills, neurological, organic, sensory, learning difficulties, mental health, autism spectrum disorder or other) or suffering from a temporary medical condition may request special accommodations.

Students seeking these accommodations must forward their diagnosis to the CSA by either MIO to "Service, CSA-ENA" or email to "servicesadaptesena@cegepmontpetit.ca".

Students already registered with the CSA must communicate with their teachers at the beginning of the semester to discuss those accommodations they have been awarded by the CSA.

15 ANNEX