

## COURSE OUTLINE

**COURSE:** **Structure of Civil Aviation**

**PROGRAM:** 280.C0 Aircraft Maintenance

**DISCIPLINE:** 280 Aeronautics

**WEIGHTING:** Theory: 2                      Practical: 2                      Personal Study: 2

Instructor(s)	Office	☎ extension	✉ e-mail or website
Vincent Grenon	C-186	4623	<a href="mailto:vincent.grenon@cegepmontpetit.ca">vincent.grenon@cegepmontpetit.ca</a>

### OFFICE HOURS

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Morning					
Afternoon					

Coordinator(s)	Office	☎ extension	✉ e-mail or website
Éric Goudreault	C-160	4691	<a href="mailto:eric.goudreault@cegepmontpetit.ca">eric.goudreault@cegepmontpetit.ca</a>
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## CONTEXT OF THIS COURSE IN THE PROGRAM

This course is offered during the third session of the program for students in the Aircraft Maintenance Program 280.C0.

By the end of the course, students will be able to:

- Recognize the maintenance requirements to ensure the airworthiness of an aircraft.
- Recognize the responsibilities and limits of an AME (Aircraft Maintenance Engineer)
- Identify aircraft inspection and maintenance standards
- Explain inspection programs and maintenance schedules
- Monitor and accurately record the various maintenance activities
- Recognize the rules of professional ethics
- Recognize the terminology related to the regulation of civil aviation

**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) and Avionics (280.D0) according to Transport Canada requirements. The application of Transport Canada policies regarding absences is available on the ENA website and in the student agenda under the heading « Privilèges accordés par Transports Canada ».

## COMPETENCIES OF THE EXIT PROFILE (STUDENT SKILL PROFILES)

Master aviation maintenance work techniques.

## MINISTERIAL OBJECTIVE(S) AND COMPETENCIES

**025N** To analyze the occupation (of Aircraft Maintenance Technology)

**026D** To carry out activities related to inspecting airplanes and helicopters.

## TERMINAL OBJECTIVE OF THE COURSE (FINAL COURSE OBJECTIVE)

Acknowledge and analyze the responsibilities of a future aircraft maintenance engineer (AME) to be able to make good decision and staying within the civil aviation regulatory frame.

## TEACHING AND LEARNING STRATEGIES

In this course, the theoretical and practical parts of the course are integrated. The course is given in an internet-networked classroom and each student works at a computer.

Students will complete their learning with personal notes and homework.

Support materials include:

- Maintenance planning software: Aircraft Maintenance Manager.
- The websites of Transport Canada (TC), Federal Aviation Administration (FAA), European Aviation Safety Agency (EASA) and the International Civil Aviation Organization (ICAO).
- Technical documentation of aircraft manufacturers.

**COURSE PLAN**

**Activity Periods: Weeks 1 to 5 Length of Time: 18 hours**

Learning Objective	Content	Personal Study Activities	# of hours
1.1 Recognize the responsibilities and intervention limits of an AME (Aircraft Maintenance Engineer)	<ul style="list-style-type: none"> <li>▪ Course Outline</li> <li>▪ Personnel Licenses</li> </ul>	<ul style="list-style-type: none"> <li>▪ Guided reading of Part IV and Chapter 566 of Part V of the CAR (regulations and standards of AME licences)</li> </ul>	6
1.2 Recognize and interpret the provisions on aeronautics legislation and the rules of ethics related to the work of an AME.	<ul style="list-style-type: none"> <li>▪ Approved Maintenance Organizations (AMO)</li> <li>▪ Manufacturers</li> <li>▪ Operators/AMO.</li> <li>▪ Applying laws</li> <li>▪ Code of ethics: to come</li> <li>▪ Civil authorities</li> <li>▪ Canadian organizations</li> <li>▪ Foreign organizations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quebec Aerospace Association (www.aqa.ca)</li> <li>▪ Consultation du répertoire des entreprises aéronautiques de l'ÉNA.</li> <li>▪ Guided reading of the Aeronautics Act</li> <li>▪ Guided reading of the Canadian Aviation Regulations</li> <li>▪ Guided reading of the Transportation Appeal Tribunal of Canada (TATC)</li> <li>▪ Guided reading of the Chicago Convention</li> <li>▪ Guided reading of Appendices 6 and 8 of the Chicago Convention .</li> </ul>	4
1.3 Recognize the norms of civil aviation	<ul style="list-style-type: none"> <li>▪ Type Certificate</li> <li>▪ Supplemental Type Certificate</li> <li>▪ Certificate of Registration</li> <li>▪ Flight Authorities</li> <li>▪ ATA 100.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Guided reading of CAR, part 2 and 5</li> </ul>	6
<b>EXAM # 1</b>			2

**Activity Periods: Weeks 6 to 10 Length of time: 20 hours**

Learning Objective	Content	Personal Study Activities	# of hours
2.1 Recognize the requirements of an aircraft inspection program.	<ul style="list-style-type: none"> <li>▪ Maintenance schedules</li> <li>▪ Unscheduled tasks</li> <li>▪ TC requirements, manufacturers and operators</li> <li>▪ Introduction to maintenance planning software.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Guided reading of Standard 625.</li> <li>▪ Familiarisation with maintenance planning software</li> </ul>	8
2.2 Precisely identify Transport Canada inspection and maintenance standards for an aircraft.	<ul style="list-style-type: none"> <li>▪ Research on Transport Canada requirements for different types of aircraft and operations</li> <li>▪ Airworthiness</li> <li>▪ Service Difficulty Reports</li> <li>▪ Annual Airworthiness Information Report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Guided reading of Parts V, 6 and 7.</li> <li>▪ Transport Canada Publications</li> </ul>	4
2.3 Precisely identify the manufacturer's specifications for the inspection of an aeronautical product	<ul style="list-style-type: none"> <li>▪ Research manufacturer's requirements</li> </ul>	<ul style="list-style-type: none"> <li>▪ Consultation of various maintenance manuals</li> </ul>	6
<b>EXAM # 2</b>			2

**Activity Periods:**                      **Weeks 11 to 15**                      **Length of time: 22 hours**

Learning Objective	Content	Personal Study Activities	# of hours
3.1 Properly record various maintenance activities. Check and correct as necessary the maintenance record of an aircraft.	<ul style="list-style-type: none"> <li>▪ After doing the maintenance work, update the maintenance record of an aircraft.</li> <li>▪ Maintenance release</li> <li>▪ Minimum equipment list; list of configuration differences</li> <li>▪ Conditional certification</li> <li>▪ Maintenance record</li> <li>▪ Deferred maintenance</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of maintenance software</li> <li>▪ Guided reading of CAR</li> <li>▪ Elementary work</li> <li>▪ Standard 571.10 Type of work table</li> <li>▪ Servicing</li> <li>▪ Specialized maintenance</li> </ul>	14
3.2 Recognize the requirements and the scope of a declaration of airworthiness.	<ul style="list-style-type: none"> <li>▪ Transport Canada Publications</li> <li>▪ Maintenance record</li> <li>▪ Advisory documents</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reading</li> </ul>	6
<b>EXAM # 3</b>			2

**SYNTHESIS OF SUMMATIVE EVALUATION METHODS**

Description of Evaluation Activity	Context	Learning Objective(s)	Evaluation Criteria	Due Date (approximate date assignment due or exam given)	Weighting (%)
<ul style="list-style-type: none"> <li>▪ Exam on week on ICAO, structure of the CAR's and terms used.</li> </ul>	<ul style="list-style-type: none"> <li>▪ In class, individual</li> <li>▪ Multiple choices exam</li> </ul>	Part 1 of the course outline		Week 5.	25%
<ul style="list-style-type: none"> <li>▪ Exam on the utilisation of the documentation related to the maintenance and its tracking, using Transport Canada website's tools.</li> </ul>	<ul style="list-style-type: none"> <li>▪ In class, individual, with the computer with access to the computer and aircraft maintenance library.</li> <li>▪ Short answer.</li> </ul>	Part 2 of the course outline	<ul style="list-style-type: none"> <li>▪ Accuracy of the information</li> <li>▪ Capacity to find the information</li> </ul>	Week 10.	25%
<ul style="list-style-type: none"> <li>▪ Accident report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Team work in class and at home.</li> </ul>	Part 2.2, 2.4, 2.6, 2.7 of the course outline	<ul style="list-style-type: none"> <li>▪ Understanding of the scenario.</li> <li>▪ Appropriate analysis of human factors.</li> </ul>	Week 10	10%
<ul style="list-style-type: none"> <li>▪ Integrated exam on allowing the achievement of the core of this course, "Acknowledge and analyze the responsibilities of a future (AME) to be able to make good decision and staying within the civil aviation regulatory frame.</li> </ul>	<ul style="list-style-type: none"> <li>▪ In class, individual</li> <li>▪ Short and long answer.</li> </ul>	All	Determination and analysis of the limits and responsibilities.	Week 15.	40%

**TOTAL : 100%**

## REQUIRED MATERIAL

Documents will be sent regularly to all students in electronic form via LEA. It is the responsibility of the students to obtain them.

## MEDIAGRAPHY

Canada, Transport Canada aviation, part 1, 2, 4, 5, 6, 7 of CAR  
Aeronautics Act  
Internet sites

### International

International Civil Aviation Organisation - OACI ..... <http://www.icao.int>  
International Air Transport Association - IATA..... <http://www.iata.org>

### Europe

European Civil Aviation Conference – ECAC / CEAC ..... <http://www.ecac-ceac.org>  
European Aviation Safety Agency /  
Agence européenne de la sécurité aérienne EASA / AESA ..... <http://www.easa.eu.int/home/index.html>

### United States

Federal Aviation Administration - FAA ..... <http://www.faa.gov>

### Canada

Transport Canada Civil Aviation - TCCA ..... <http://www.tc.gc.ca/eng/air-menu.htm>  
Transport Safety Board of Canada - TSB ..... <http://www.tsb.gc.ca>  
Canadian Transportation Agency ..... <http://www.cta-otc.gc.ca>  
Transportation Appeal Tribunal of Canada - TATC ..... <http://www.tatc.gc.ca>  
Nav Canada ..... <http://www.navcanada.ca>  
Quebec Aerospace Association ..... <http://www.aqa.ca>

## 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. Tardiness

Students who arrive late after the beginning of the first period of a course are considered absent for this period.

### 3. 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.

### 4. 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.

### 5. 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 in the documentation center on the Cégep web site [www.cegepmontpetit.ca/normes](http://www.cegepmontpetit.ca/normes) under the heading **Liens éclair, Bibliothèques, « Méthodologie »**.

## **METHODS OF COURSE PARTICIPATION**

- Cell phones must be turned off during the course and are prohibited during exams.
- Drinks and food are prohibited in the room.

## **OTHER DEPARTMENTAL REGULATIONS**

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

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

## **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.