



## COURSE OUTLINE: AVT375 - MAINTENANCE REQUIRE

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Approved: Greg Farish, Chair, Aviation Technology - Flight

<b>Course Code: Title</b>	AVT375: AIRFRAMES, ENGINES AND MAINT REQUIREMENT
<b>Program Number: Name</b>	4061: AVIATION TECHNOLOGY
<b>Department:</b>	AVIATION TECHNOLOGY
<b>Semesters/Terms:</b>	21W
<b>Course Description:</b>	A study of airframes and engines including the internal combustion engine and the basic gas turbine engine, fuels and fuel systems, lubrication and oil, ignition systems, engine instruments, propellers, airframes. Also study of aircraft maintenance requirements to the level required of a Person Responsible for Maintenance Control (PRMC) for an Air Operator.
<b>Total Credits:</b>	4
<b>Hours/Week:</b>	3
<b>Total Hours:</b>	45
<b>Prerequisites:</b>	AFT240, AVT361, AVT363, AVT364, AVT366, AVT369
<b>Corequisites:</b>	There are no co-requisites for this course.
<b>Essential Employability Skills (EES) addressed in this course:</b>	<p>EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>EES 4 Apply a systematic approach to solve problems.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
<b>Course Evaluation:</b>	<p>Passing Grade: 70%, B</p> <p>A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.</p>
<b>Other Course Evaluation &amp; Assessment Requirements:</b>	<p>The student will be assessed by a combination of attendance and deportment, quizzes, tests and a final exam. Weighting of each will be as follows: 30% for quizzes, 30% for all tests prior to the final exam and 40% for the final exam. A minimum mark of 70% (B) is required to pass the course.</p> <p>Unexcused absences will result in 2% deduction of the final mark for each occurrence, arriving for class late will result in a 1% deduction of the final mark for each occurrence, and violations of the dress code will result in a 1% deduction of the final mark for each occurrence. Refer to the Sault College Aviation Standard Operating Procedures (SOP's) Section 10 for dress code</p>

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.



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policies and SOP Section 4 for policy regarding absence from classes.

Quizzes will be given without prior notice.

Students may request a deferment of a test for compassionate reasons. Compassionate Grounds for deferment will include but not be limited to death of an immediate family member, personal illness, or recent diagnosis of a serious illness of a family member. Make-ups will not be permitted after the fact for compassionate reasons.

A classroom code of conduct can be found in the Sault College Student Code of Conduct, on the Sault College Website. This along with the list of Unacceptable Behaviours in the SOP will be adhered to.

Attendance is mandatory for all Aviation classes unless approval is granted in advance. In the case of illness, a phone call, voice mail or e-mail message is expected before class.

If a student expects to be late or will be delayed for any reason, every attempt should be made to contact the professor, or leave a message on voice mail or e-mail.

Although attitude, co-operation, etc., are not graded, students may be terminated based on their performance in this area (see section 5.2 SOP). These attributes are also considered in the selection of the Air Canada Award and other scholarships.

Dates of tests will be announced at least 1 week in advance.

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

**Books and Required Resources:**

Canadian Aviation Regulations  
Available for download from the Internet - Link on LMS

Sault College Maintenance Policy and Control Manual

Sault College Maintenance Schedules Zlin Z-242-L and Piper PA44

Flight Training Manual  
No author indicated

**Course Outcomes and Learning Objectives:**

<b>Course Outcome 1</b>	<b>Learning Objectives for Course Outcome 1</b>
Understand the duties of a Person Responsible for Maintenance of an air operator or flight training unit.	Knowledge of general maintenance requirements prescribed by CARs. Knowledge of the additional requirements for an air operator or FTU. Knowledge of a typical Maintenance Control Manual and its related sub manuals (i.e. Sault College MPCM) Familiarity with the format of typical maintenance publications such as Airworthiness Directives, Type Certificates, Manufacturers Service Bulletins etc.
<b>Course Outcome 2</b>	<b>Learning Objectives for Course Outcome 2</b>

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	Describe the layout and operation of typical aviation powerplants and their systems	<p>Knowledge of piston engine layout, operational cycles etc.  Knowledge of turbine theory, layout, gas flow etc.  Knowledge of propeller terminology, types, control systems, operation etc.  Knowledge of fuel, lubrication, induction, exhaust, ignition, starting, fire, monitoring and control systems.  Ability to properly operate engines efficiently while optimizing their reliability and longevity.  Ability to detect and troubleshoot common engine problems.  Rationalization of the checklists and procedures associated with aircraft engines.</p>
	<b>Course Outcome 3</b>	<b>Learning Objectives for Course Outcome 3</b>
	Describe the various types and styles of airframe construction, the properties of the materials used and the systems associated with aircraft such as electrical, pneumatic, vacuum, hydraulic, anti/de-ice, heating/ventilating/cooling and pressurization	<p>Knowledge of the various airframe styles and types of construction.  Knowledge of the various systems.  Ability to operate the systems.  Ability to detect faults and common airframe defects and to troubleshoot the systems.  Ability to properly operate airframes efficiently while optimizing their reliability and longevity.  Rationalization of the checklists and procedures associated with aircraft systems.</p>

**Evaluation Process and Grading System:**

<b>Evaluation Type</b>	<b>Evaluation Weight</b>
Final Exam	40%
Quizzes	30%
Tests	30%

**Date:**

December 18, 2020

**Addendum:**

Please refer to the course outline addendum on the Learning Management System for further information.

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