COURSE OUTLINE: AVT375 - MAINTENANCE REQUIRE

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Approved: Greg Farish, Dean, Aviation

Course Code: Title	AVT375: AIRFRAMES, ENGINES AND MAINT REQUIREMENT
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Academic Year:	2024-2025
Course Description:	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.
Total Credits:	4
Hours/Week:	3
Total Hours:	45
Prerequisites:	AVT366
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	AVT364, AVT377, AVT379
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**4061 - AVIATION TECHNOLOGY** VLO 1 Aviation Technology - Flight
Essential Employability Skills (EES) addressed in this course:	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. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 70%, B

	A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Other Course Evaluation & Assessment Requirements:	Evaluation Considerations: Students 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. Dates of tests will be announced at least 1 week in advance. 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-up evaluations will not be permitted without prior notice regardless of the circumstances. Attendance: Attendance is mandatory for courses which appear on the student`s formal Ground School Record required by Transport Canada. To be excused from class due to illness or other unforeseen circumstance, students must inform their instructor/professor prior to the start of class. A make-up class may be required. Unexcused absences will result in 2% deduction from the final mark for each occurrence. Arriving for class late will result in a 1% deduction from the final mark for each occurrence. Classroom Conduct: A classroom code of conduct can be found in the Sault College Student Code of Conduct policy, on the Sault College Website. This along with the list of Unacceptable Behaviours in the Sault College Aviation`s SOPs must be adhered to. Violations of the dress code will result in a Letter of Warning (LOW). Refer to the Sault College Aviation Standard Operating Procedures (SOPs) manual, Section 10, for dress code policies. Student Support and Students at Risk: Student support services are provided through Sault College`s Student Services department. All students are encouraged to use these services to enhance their learning experience. Services like peer tutoring provides support from Aviation students in years ahead, who have demonstrated success in the program. 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 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	Canadian Aviation Regulations

Resources:

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

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
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.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Describe the layout and operation of typical aviation powerplants and their systems.	Knowledge of turbine theory, layout, gas flow etc. Knowledge of propeller terminology, types, control systems, operation etc. Knowledge of engine fuel control, lubrication, induction, exhaust, ignition, starting, and monitoring 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.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
Describe the various types engine instruments, indications and advanced systems found on modern aircraft.	Ability to describe advanced aircraft system operation and function. Ability to detect faults, common airframe defects and apply logical troubleshooting of the systems. Ability to properly operate airframe systems efficiently while optimizing their reliability and longevity. Rationalization of the checklists and procedures associated with aircraft systems.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	40%
Quizzes	30%
Tests	30%

Date:

December 3, 2024

Addendum:

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