



COURSE OUTLINE: AVF117 - FLIGHT THEORY/OPERAT

Prepared: Paul Bursche

Approved: Greg Farish - Dean

Course Code: Title	AVF117: FLIGHT THEORY AND OPERATIONS
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Academic Year:	2025-2026
Course Description:	<p>This course introduces students to fundamental aerodynamic principles and theories, emphasizing their practical applications. It covers the use of performance charts to estimate key flight parameters such as cruise, range, endurance, and takeoff and landing performance. Students will learn about power and thrust requirements, principles of aircraft loading, and design characteristics of various airplane categories, with a focus on the need for economically efficient air transportation. The course also includes an introduction to essential flight instruments and their role in aircraft performance and navigation. By the end of the course, students will have a comprehensive understanding of how aerodynamic principles are applied in real-world aviation scenarios, enabling them to estimate and optimize aircraft performance effectively.</p>
Total Credits:	2
Hours/Week:	2
Total Hours:	30
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	AFT120, AVT247
Vocational Learning Outcomes (VLO's) addressed in this course:	4061 - AVIATION TECHNOLOGY
Please refer to program web page for a complete listing of program outcomes where applicable.	VLO 1 Aviation Technology - Flight
Essential Employability Skills (EES) addressed in this course:	EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. 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 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	<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>
Other Course Evaluation & Assessment Requirements:	<p>Evaluation Considerations:</p> <p>Students will be assessed by a combination of attendance and department, quizzes, tests, and a final exam.</p> <p>Dates of tests will be announced at least 1 week in advance.</p> <p>Quizzes will be given without prior notice.</p> <p>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.</p> <p>Attendance:</p> <p>Attendance is mandatory for courses which appear on the student`s formal Ground School Record required by Transport Canada.</p> <p>To be excused from class due to illness or other unforeseen circumstance, students must inform their instructor/professor via email prior to the start of class. A make-up class may be required.</p> <p>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.</p> <p>Classroom Conduct:</p> <p>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.</p> <p>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.</p> <p>Student Support and Students at Risk:</p> <p>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.</p> <p>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.</p>

Books and Required Resources:

From the Ground Up by McDonald
 Publisher: Aviation Publishers Edition: 29
 ISBN: 0973003634

Flight Computer
 Flight Computer - can be circular slight rule, E6B, or electronic

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Understand the Principles of Flight	Explore Bernoulli's Theorem and Newton's Laws, the forces acting on an aircraft, aerofoils, propellers, wing design, stability, and flight controls.
Course Outcome 2	Learning Objectives for Course Outcome 2
Understand the workings of flight instruments	Explore the Pitot-Static system, Airspeed Indicator, Vertical Speed Indicator, Altimeter, Magnetic Compass, Gyroscopes, Heading Indicator, Attitude Indicator, Turn and Bank/Turn Coordinator, and the techniques for instrument flight.
Course Outcome 3	Learning Objectives for Course Outcome 3
Learn about Flight Operations	A comprehensive range of airmanship topics will be addressed, including the handling of aviation fuels, winter operations, airport structuring, aircraft handling, utilization of performance charts, aircraft performance, weight and balance, wake turbulence, and aircraft critical surface contamination.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	50%
Quizzes	20%
Tests	30%

Date:

August 20, 2025

Addendum:

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

