



COURSE OUTLINE: AVF117 - FLIGHT THEORY/OPERAT

Prepared: Louis St Pierre

Approved: Greg Farish, Chair, Aviation Technology - Flight

Course Code: Title	AVF117: FLIGHT THEORY AND OPERATIONS
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Academic Year:	2022-2023
Course Description:	The course introduces the student to basic aerodynamic principles and their underlying theories and how theory translates into practical applications with the use of performance charts for estimating cruise, range, endurance, take off and landing performance. Other performance areas include power and thrust, aircraft loading, design characteristics of various airplane categories and the need to design economically efficient air transportation. Flight instruments are included.
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, AVF122, AVT123, ELR104
Vocational Learning Outcomes (VLO's) addressed in this course:	4061 - AVIATION TECHNOLOGY VLO 1 Aviation Technology - Flight
Please refer to program web page for a complete listing of program outcomes where applicable.	
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:	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:	<p>In order to be excused from class due to illness or other unforeseen circumstance, students must call the professor at extension 2666 and leave a message prior to the start of class. An email is also acceptable, but must be sent prior to the start of class.</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-ups will not be permitted after the fact for compassionate reasons.</p> <p>Dates of tests will be announced at least 1 week in advance.</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 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.</p>												
Books and Required Resources:	<p>FROM THE GROUND UP by MCDONALD Publisher: AVIATION PUBLISHERS Edition: 29 ISBN: 0973003634</p> <p>Flight Computer Flight Computer - can be circular slight rule, E6B, or electronic</p>												
Course Outcomes and Learning Objectives:	<table border="1"> <thead> <tr> <th>Course Outcome 1</th> <th>Learning Objectives for Course Outcome 1</th> </tr> </thead> <tbody> <tr> <td>Understand the Principles of Flight</td> <td>Explore Bernoulli's Theorem and Newton's Laws, the forces acting on an aeroplane, aerofoils, propellers, the design of the wing, stability and flight controls</td> </tr> <tr> <th>Course Outcome 2</th> <th>Learning Objectives for Course Outcome 2</th> </tr> <tr> <td>Understand the workings of flight instruments</td> <td>Explore the Pitot-Static system, Airspeed Indicator, Vertical Speed Indicator, Altimeter, Magnetic Compass, Gyroscopes, the Heading Indicator, Attitude Indicator, Turn and Bank/Turn Coordinator, and a bit about instrument flying (most will be taught in preparatory ground instruction)</td> </tr> <tr> <th>Course Outcome 3</th> <th>Learning Objectives for Course Outcome 3</th> </tr> <tr> <td>Learn about Flight Operations</td> <td>Many airmanship topics will be covered, such as handling of aviation fuels, Winter operations, airport structuring, a bit of aircraft handling, the use of performance charts, aircraft performance, weight and balance, wake turbulence, aircraft critical surface contamination</td> </tr> </tbody> </table>	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 aeroplane, aerofoils, propellers, the design of the wing, 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, the Heading Indicator, Attitude Indicator, Turn and Bank/Turn Coordinator, and a bit about instrument flying (most will be taught in preparatory ground instruction)	Course Outcome 3	Learning Objectives for Course Outcome 3	Learn about Flight Operations	Many airmanship topics will be covered, such as handling of aviation fuels, Winter operations, airport structuring, a bit of aircraft handling, the use of performance charts, aircraft performance, weight and balance, wake turbulence, aircraft critical surface contamination
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Date:	July 5, 2022												
Addendum:	Please refer to the course outline addendum on the Learning Management System for further												

 information.

