COURSE OUTLINE: AVF117 - FLIGHT THEORY/OPERAT

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Course Code: Title	AVF117: FLIGHT THEORY AND OPERATIONS
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Academic Year:	2024-2025
Course Description:	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.
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: **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 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:	To be excused from class due to illness or other unforeseen circumstances, students must email the faculty member before the start of class. Students may request a deferment of a test for compassionate reasons, including but not limited to the death of an immediate family member, personal illness, or a recent diagnosis of a serious illness in a family member. Make-ups will not be permitted after the fact for compassionate reasons. Test dates will be announced at least one week in advance. If a faculty member determines that a student is at risk of not succeeding academically and has exhausted all available strategies, the student`s contact information may be confidentially provided to Student Services to offer additional support. Any student wishing to restrict the sharing of their information should inform the coordinator or faculty member.
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:	June 27, 2024

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