COURSE OUTLINE: AVT258 - INSTRUMENT PROCEDURE

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Course Code: Title	AVT258: INSTRUMENT PROCEDURES
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Academic Year:	2024-2025
Course Description:	This course reviews key instrument flight topics, including VORs, GPS, ADF, pitot-static systems, magnetic compasses, and gyroscopic instruments, to build on previous knowledge. Students will learn the rules and procedures for flying in instrument conditions, covering navigation aid tracking, general flight rules, and departure, enroute, arrival, and holding procedures. The course emphasizes using official resources like the Canadian Air Pilot and Canadian Aviation Regulations (CARs) for accurate and reliable information.
Total Credits:	2
Hours/Week:	2
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Prerequisites:	AFT241, AFT242, AVF242, AVT247, AVT248
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	AVT363, AVT369
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 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:	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 students` 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. A subscription to ForeFlight or a similar service is highly recommended as a valuable asset for this course.
Books and Required Resources:	Canadian Flight Supplement - English Publisher: NavCanada Enroute Chart - LO4 Publisher: NavCanada Canadian AIr Pilot - General Pages (CAPGEN) Publisher: NavCanada Canadian Air Pilot - Ontario (CAP 4) Publisher: NavCanada

Course Outcomes and Learning Objectives:

Course Outcome 1	**Learning Objectives for Course Outcome 1**
Develop the skills to effectively navigate using IFR instruments, ground-based, aircraft-based, and satellite-based navigation aids, ensuring precision and reliability in instrument flight operations.	1. Explain the operation and usage of the VOR and DME as aids to enroute and terminal IFR flight procedures. 2. Explain the operation and usage of the ADF and RMI equipment as aids to enroute and terminal IFR flight procedures. 3. Use LOC and ILS and explain ILS advantages and limitations as a primary instrument approach aid. 4. Use the Global Positioning System (GPS) as a navigation aid for enroute and terminal IFR operations. 5. Explain pitot-static and gyroscopic flight instruments 6. Explain the design, errors and usage of the magnetic compass
Course Outcome 2	**Learning Objectives for Course Outcome 2**
Gain proficiency in using IFR charts, approach plates, and related aviation publications to plan and execute instrument flight operations accurately and safely.	1. Understand the general layout and structure of the Canadian Air Pilot (CAP) and CAP GEN. 2. Efficiently navigate through the relevant sections of these documents to locate essential information. 3. Use the CAP and CAP GEN as learning tools during training and as references for professional IFR flight operations. 4. Interpret and apply procedures, approach plates, and operational guidelines outlined in the CAP to real-world IFR scenarios.

		5. Develop situational awareness and decision-making skills through effective use of these resources.
	Course Outcome 3	**Learning Objectives for Course Outcome 3**
	Gain a comprehensive understanding of air law and regulations specific to instrument flight conditions, including compliance with IFR procedures, clearances, and operational requirements.	1. Explain Canadian domestic airspace and VFR procedures in preparation for detailed discussion on applied instrument flight procedures. 2. Prepare for safe and effective flight in an IFR environment, including departure, enroute, holding, separation and instrument arrival procedures. 3. Review airport markings, systems and distances as they relate to aerodrome traffic.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	40%
Midterm Test	40%
Quizzes	20%

Date: December 5, 2024

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