Prepared: Louis St Pierre Approved: Greg Mapp

Course Code: Title	AVF111: METEOROLOGY I & II
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Semester/Term:	17F
Course Description:	This course prepares pilots-in-training for writing the meteorology section of the Transport Canada Private Pilot written exam as well as enabling them to interpret weather reports and forecasts in preparation for flight. To provide a solid foundation for making good weather decisions, meteorology theory is covered in detail. This course also provides the foundation for meteorology in second and third year of the Aviation Program
Total Credits:	2
Hours/Week:	2
Total Hours:	30
This course is a pre-requisite for:	AFT120, AVF122, AVT123, ELR104
Essential Employability Skills (EES):	#4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources. #11. Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 70%, B
Other Course Evaluation & Assessment Requirements:	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. 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. Dates of tests will be announced at least 1 week in advance. If a faculty member determines that a student is at risk of not being successful in their academic

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	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.
Evaluation Process and Grading System:	<table><tr><th>Evaluation Type</th><th>Evaluation Weight</th></tr><tr><td>Final exam</td><td>50%</td></tr><tr><td>Tests</td><td>50%</td></tr></table>
Books and Required Resources:	Aeronautical Information Manual (TC AIM - TP 14371) by Transport Canada Publisher: Transport Canada ISBN: none https://www.tc.gc.ca/eng/civilaviation/publications/tp14371-menu-3092.htm Royal Canadian Air Force Weather Manual by 1 Canadian Air Division Publisher: 17 Wint Publishing Office ISBN: 978-0-660-20260-0 Library and Archives Canada Cataloguing in Publication Royal Canadian Air Force Weather Workbook
Course Outcomes and Learning Objectives:	**Course Outcome 1.** Understand the foundation theory required for further exploration of Meteorology. **Learning Objectives 1.** Moisture in the atmosphere, heating and cooling the atmosphere, stability, pressure and circulation, air masses **Course Outcome 2.** Understand the structure of Fronts **Learning Objectives 2.**

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Warm, cold and quasi-stationary fronts, frontal waves and occlusions, discontinuities across fronts

Course Outcome 3.

Understand the formation of Clouds and Precipitation

Learning Objectives 3.

Formation mechanisms of clouds and precipitation, classification of clouds, how clouds and precipitation affect flight

Course Outcome 4.

Understand Aircraft Icing

Learning Objectives 4.

Formation of airframe ice, conditions that lead to icing, aerodynamic factors, effects of airframe ice

Course Outcome 5.

Understand the factors that affect flight visibility

Learning Objectives 5.

Measuring visibility, Lithometers, Precipitation, formation of fog and fog types, white out, calculate the distance to the visible horizon

Course Outcome 6.

Understand the types of boundary layer winds and turbulence

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Learning Objectives 6.

Classification and effect of wind shear, types of winds, wake turbulence

Course Outcome 7.

Understand Altimetry

Learning Objectives 7.

The altimeter, the ISA, altimeter setting, drift and altimeter error, terrain clearance, combined errors, density altitude

Course Outcome 8.

Understand the formation of Mountain Waves

Learning Objectives 8.

Formation, cloud types, mountain wave turbulence, effect on aircraft

Course Outcome 9.

Understand the formation and hazards of Thunderstorms

Learning Objectives 9.

The three stages, gust front, downdraft, hail, lightning, severe storm structure, classification, hazards

Course Outcome 10.

Interpret Aviation Weather Forecasts

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Learning Objectives 10.

Graphical Area Forecasts (GFA), Terminal Area Forecasts (TAF), Upper wind and temperature forecasts (FD), Airman's Meteorological Advisory (AIRMET), Significant In-Flight Weather Warning Messages (SIGMET)

Course Outcome 11.

Interpret Aviation Weather Reports

Learning Objectives 11.

Aviation Routine Weather Report (METAR), Pilot Reports (PIREP)

Course Outcome 12.

Interpret Weather Maps

Learning Objectives 12.

Surface Analysis charts, Upper air charts

Date:	Thursday, August 31, 2017
	Please refer to the course outline addendum on the Learning Management System for further information.