

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: METEOROLOGY
Code No.: AVT 225-3
Program: AVIATION TECHNOLOGY
Semester: THREE
Date: MARCH 1986
Author: R. Houghton

New: _____ Revision: _____

APPROVED:

J.P. Crozietto
Chairperson

Date

METEOROLOGY

Course Name

AVT 225-3

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PHILOSOPHY/GOALS:

To make the student aware of the importance of meteorology and to ensure the student understands the basic physical processes involved in meteorology.

To train the student to read, understand, and use information available at the weather office.

To introduce specialized aviation meteorological topics to the student.

METHOD OF ASSESSMENT (GRADING METHOD):

TEXTBOOKS:

COURSE OUTLINE:

<u>TOPIC</u>	<u>OBJECTIVES</u>	<u>OBJECTIVES</u>
Aviation weather services: Weather reports		To determine how to read and use aviation weather reports including SA's, SD's and UA's, what information is involved and how to interpret information.
Aviation weather services: Aviation forecasts		To determine how to read and interpret aviation forecasts including FA's, FT's, FD's and WS's.
Aviation weather services: Weather Charts		To introduce to the student the various weather charts available for flight planning and weather forecasting.
The Atmosphere:		To describe properties, composition and characteristics of the atmosphere.
Pressure:		To determine types of pressures, characteristics of pressure and pressure patterns.
Wind:		To determine what wind is and understand its characteristics including gusts, squalls, wind shifts and the relationship between surface and upper wind.
Temperature and Moisture:		To determine the properties and characteristics of temperature and moisture and understand the relationship between them including dewpoint, relative humidity, condensation and sublimation.
Stability:		To determine definition of stability/instability, lapse rates, stability/instability determinants, absolute stability/instability, conditional stability.
Clouds:		To determine types, heights, composition, identification and formation.
Precipitation:		To determine various types reported, intensities and character.
Fog:		To determine types, formation and characteristics.
Air Masses:		To determine types, location, source regions, characteristics and movements.
Fronts:		To determine types, characteristics of each type, associated weather and movement.

Thunderstorms:	To determine physical processes involved, development, characteristics and types.
Turbulence:	To determine main causes, intensities, shear, low level and high level.
Iceing:	To determine types, characteristics, intensities, location and rate of catch.
High Altitude Weather:	To introduce to student weather associated with high altitude flight such as wind shear, C.A.T., jet streams and interpretation for flight planning.
Arctic Weather:	To determine problems related to arctic flying, geography, climate and weather peculiarities.
Tropical Weather:	To determine problems related to tropical flying, weather peculiarities, oceans, monsoons, tropical cyclones, hurricanes.
Weather Radar:	To determine the uses, problems and limitations of radar used for weather detection and how to decode reports.
Satellite Meteorology:	To determine the types of imagery, and uses of weather satellites in Canada, and how to interpret satellite photos.
Fire Weather:	To determine the effects of large fires on local weather and down-stream weather.
Automatic Weather Stations:	To determine the type of information available on automatic weather observations and the method of decoding.

NOTE: As time permits, films and slides will be used throughout the course to supplement lectures.