



## COURSE OUTLINE: ATQ112 - NAV & WTHR FNDMNTLS

Prepared: Louis St Pierre

Approved: Greg Farish, Chair, Aviation Technology - Flight

<b>Course Code: Title</b>	ATQ112: NAVIGATION AND WEATHER FUNDAMENTALS
<b>Program Number: Name</b>	4161: AVIATION TECHNIQUES
<b>Department:</b>	CONTROL - SAULT
<b>Semesters/Terms:</b>	21F
<b>Course Description:</b>	This course will introduce the principles of aeronautical navigation and weather fundamentals to individuals who are interested in careers in aviation and the air transportation system. Subjects will include map reading, dead reckoning, weather pressure patterns, frontal systems, how precipitation and fog forms, how to interpret weather maps, and so on.
<b>Total Credits:</b>	3
<b>Hours/Week:</b>	2
<b>Total Hours:</b>	30
<b>Prerequisites:</b>	There are no pre-requisites for this course.
<b>Corequisites:</b>	There are no co-requisites for this course.
<b>Vocational Learning Outcomes (VLO's) addressed in this course:</b>	<b>4161 - AVIATION TECHNIQUES</b> VLO 2 Perform basic techniques and standard practices used in aviation in order to increase skill level to enter next phase of learning and practice about aviation flight and industry. VLO 8 Develop effective learning and study skills to support success in the current program of study and advancement into subsequent, higher level, studies in Aviation.
<b>Essential Employability Skills (EES) addressed in this course:</b>	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.
<b>Course Evaluation:</b>	Passing Grade: 50%, D  A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
<b>Other Course Evaluation &amp; Assessment Requirements:</b>	The course is in two sections, Weather and Navigation, so there will be a test at the end of each section, and short quizzes during those sections.
<b>Books and Required Resources:</b>	From The Ground Up Publisher: Aviation Publishers Co. Ltd. Edition: 29th or higher is best ISBN: 987-0-9730036-3-5  Chart Edition: any

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2021-2022 academic year.



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AIR5001 Sault Ste Marie VNC (VFR Navigation Chart )

Plotting Instruments  
Douglas Protractor, ICAO ruler

**Course Outcomes and Learning Objectives:**

<b>Course Outcome 1</b>	<b>Learning Objectives for Course Outcome 1</b>
Basic Navigation Concepts	Exploring how navigation is part your daily life, Velocity equation, reading regular maps and normal navigation
<b>Course Outcome 2</b>	<b>Learning Objectives for Course Outcome 2</b>
Introduction to the VFR Navigation Chart	Learning to use Latitude and Longitude, Directions, Measuring tracks with the Douglas Protractor, what a nautical mile is, measuring distances with minutes of latitude
<b>Course Outcome 3</b>	<b>Learning Objectives for Course Outcome 3</b>
Planning a trip on the VNC	Drawing a track, measuring, basic planning and calculating
<b>Course Outcome 4</b>	<b>Learning Objectives for Course Outcome 4</b>
Using Dead Reckoning	calculating, lost procedures, practical use
<b>Course Outcome 5</b>	<b>Learning Objectives for Course Outcome 5</b>
Clouds	families, types, how they form
<b>Course Outcome 6</b>	<b>Learning Objectives for Course Outcome 6</b>
Pressure Systems and wind	Highs, Lows, and how they make the wind blow
<b>Course Outcome 7</b>	<b>Learning Objectives for Course Outcome 7</b>
Temperature, moisture and air masses	vertical temperature structure, moisture in the atmosphere and how it exchanges energy too, the air masses
<b>Course Outcome 8</b>	<b>Learning Objectives for Course Outcome 8</b>
Frontal systems	warm fronts, cold fronts, occlusions and the weather they cause
<b>Course Outcome 9</b>	<b>Learning Objectives for Course Outcome 9</b>
Precipitation and fog	types and how does it form
<b>Course Outcome 10</b>	<b>Learning Objectives for Course Outcome 10</b>
Thunderstorms	the big boomers and the hazard that they cause to aviation

**Evaluation Process and Grading System:**

<b>Evaluation Type</b>	<b>Evaluation Weight</b>
quizzes	40%
tests	60%

**Date:** August 13, 2021

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

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