



COURSE OUTLINE: AVF242 - NAVIGATION III

Prepared: Paul Bursche

Approved: Greg Farish - Dean

Course Code: Title	AVF242: NAVIGATION III
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Academic Year:	2025-2026
Course Description:	This course provides an in-depth study of radio navigation, focusing on VOR, ADF, and GNSS systems. Emphasis is placed on developing the knowledge and skills required for the Transport Canada Commercial Pilot Written Examination (CPAER) and the Commercial Flight Test. To successfully complete the course, students must achieve a passing grade on the Navigation section of the CPAER.
Total Credits:	2
Hours/Week:	1
Total Hours:	15
Prerequisites:	AVF122
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	AVT252, AVT257, AVT258, AVT259
Essential Employability Skills (EES) addressed in this course:	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.
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:	Evaluation Considerations: Students will be assessed by a combination of attendance and department, quizzes, tests, and a final exam. To successfully complete the course, students must achieve a minimum score of 70% on the designated section of the qualifier corresponding to the course code. This section will serve as the final examination for the course. Dates of tests will be announced at least 1 week in advance. Quizzes will be given without prior notice.



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-up evaluations will not be permitted without prior notice regardless of the circumstances.

Attendance:

Attendance is mandatory for courses which appear on the student`s formal Ground School Record required by Transport Canada.

To be excused from class due to illness or other unforeseen circumstance, students must inform their instructor/professor via email prior to the start of class. A make-up class may be required.

Unexcused absences will result in 2% deduction from the final mark for each occurrence. Arriving for class late will result in a 1% deduction from the final mark for each occurrence.

Classroom Conduct:

A classroom code of conduct can be found in the Sault College Student Code of Conduct policy, on the Sault College Website. This along with the list of Unacceptable Behaviours in the Sault College Aviation`s SOPs must be adhered to.

Violations of the dress code will result in a Letter of Warning (LOW). Refer to the Sault College Aviation Standard Operating Procedures (SOPs) manual, Section 10, for dress code policies.

Student Support and Students at Risk:

Student support services are provided through Sault College`s Student Services department. All students are encouraged to use these services to enhance their learning experience. Services like peer tutoring provides support from Aviation students in years ahead, who have demonstrated success in the program.

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services 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.

Books and Required Resources:

From The Ground Up
 Publisher: Aviation Publishers Co. Ltd. Edition: 29th or higher is best
 ISBN: 978-0-9730036-3-5

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Demonstrate an understanding of the theory and practical application of the VHF Omni Range (VOR) navigation system.	Explain the theory of operation and equipment associated with VOR navigation, perform serviceability checks, apply orientation techniques, intercept inbound and outbound tracks, evaluate advantages and disadvantages, and interpret indications using the Horizontal Situation Indicator (HSI).
Course Outcome 2	Learning Objectives for Course Outcome 2
Demonstrate an	



	understanding of the theory, operation, and application of the Automatic Direction Finder (ADF) and Non-Directional Beacons (NDB).	Explain the theory of operation and equipment of the ADF, conduct serviceability checks, apply orientation techniques, intercept inbound and outbound tracks, assess advantages and disadvantages, identify common inaccuracies, and interpret indications using the Radio Magnetic Indicator (RMI)
	Course Outcome 3	Learning Objectives for Course Outcome 3
	Demonstrate an understanding of Global Positioning System (GPS) theory and apply this knowledge using the GTN650/Garmin Perspective + GPS units installed in Sault College aircraft and simulators.	Explain GPS theory, including RAIM, databases, and signal augmentation, and apply this knowledge through practical use of the Garmin Perspective +, GTN650 and Aspen systems.
	Course Outcome 4	Learning Objectives for Course Outcome 4
	Demonstrate understanding and application of radio navigation aids in preparation for both the Sault College Commercial Qualification Exam and the Transport Canada Commercial Pilot Exam.	Apply the navigation knowledge gained during the semester to prepare for both the Sault College Commercial Qualification Exam and the Transport Canada Commercial Exam, while establishing a strong foundation for IFR navigation.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final exam	50%
Tests	50%

Date:

August 20, 2025

Addendum:

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

