

I. COURSE DESCRIPTION:

This course covers most of the theory and some practical application of Dead Reckoning Navigation as required for the Transport Canada Private Pilot Written Exam (PPAER)

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Understand the foundation elements required for navigation

Potential Elements of the Performance:

Geographical Coordinates, Time and longitude, Time zones, Great circle and Rhumb lines

2. Understand Earth's magnetism

Potential Elements of the Performance:

Variation, converting from True to Magnetic, The Magnetic Compass, compass errors, magnetic dip

3. Identify and interpret Aeronautical Charts and Publications

Potential Elements of the Performance:

VNC, VTA, WAC, LO, CFS, basic chart information

4. Understand and apply the principles of Dead Reckoning Navigation

Potential Elements of the Performance:

Departure procedures, drift correction, groundspeed calculations, ETA and ETE, arrival procedures

5. Prepare a navigation chart for dead reckoning navigation

Potential Elements of the Performance:

Using plotting instruments to prepare a chart that can be used by a pilot/navigator

6. Understand and apply Mental Dead Reckoning Techniques

Potential Elements of the Performance:

Maximum drift, using MDR techniques to calculate drift correction, groundspeed and ETE

7. Understand and apply basic theory regarding the VHF Omni Range

Potential Elements of the Performance:

The VOR, receiver, serviceability checks, orientation and homing

8. Understand and apply the theory and techniques of dead reckoning navigation required for the completion of the navigation portion of the Transport Canada Private Pilot Exam

Potential Elements of the Performance:

All topics learned in this semester is for preparing the student for the Private Pilot Written exam and lays the foundation for the Commercial Exam.

Note: any of the topics above not covered in AVT112 will be completed in AVT122 in Semester 2

III. TOPICS:

1. Navigation basics
2. Earth's Magnetism
3. Aeronautical charts and publications
4. Dead Reckoning Navigation
5. Chart Preparations
6. Mental Dead Reckoning
7. The VOR
8. Preparation for the Transport Canada Private pilot exam

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

From the Ground Up
Sault Ste Marie VNC
Aeronautical Information Manual (AIM)
Navigational Plotting Instruments

V. EVALUATION PROCESS/GRADING SYSTEM:

The student will be assessed by a combination of attendance and deportment, quizzes, assignments, tests and a final exam. Weighting of each will be as follows: 20% for quizzes, 30% for the mid-term test and 50% for the final exam. A minimum mark of 70% is required to pass the course. Make-up tests are not permitted except in accordance with section VI of this outline.

- Students are expected to have their VFR navigation charts (VNC), plotting instruments and calculator with them for every class. If a student does not have the required equipment when needed for a class, a 1% deduction of the final mark will be made for each occurrence.
- Unexcused absences will result in 2% deduction of the final mark for each occurrence, arriving for class late will result in a 1% deduction of the final mark for each occurrence, and violations of the dress code will result in a 1% deduction of the final mark for each occurrence. Refer to the SOP GEN section for dress code policies and for policy regarding absence from classes
- Quizzes will be given without prior notice. If a student is absent for a quiz without excuse, the student will get 0% on the quiz. There will be no make-ups of missed quizzes when missed due to unexcused absence.
- If it is necessary to write a second final exam in order to pass the course, the highest grade achievable will be a "C". (See make-up policy in section VI)
- 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.**
- **"F" grades in any subject at the end of a semester will result in termination from the Aviation program.**
- Dates of tests will be announced at least 1 week in advance.

A classroom code of conduct can be found in the SOP General section, and will be adhered to.

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	assigned if a make-up exam was required to complete the course	2.00
F (Fail)	69% and below	0.00

X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI. SPECIAL NOTES:

Make-up Policy

- No make-ups on tests occurring prior to final exams.
- No make-ups on quizzes.
- If the final grade achieved for this course is less than 70%, a second final exam may be written at the discretion of the professor for this course. The grading system will be modified as follows: the first exam attempt will be weighted at 25% instead of the original 50% of the final mark, and the make-up exam will be weighted at 25% of the final mark. The minimum mark for the course is still 70% or better after the grade has been re-calculated to include the make-up exam.
- In the event that a second final exam is required, the highest achievable overall grade for this course will be a C
- Any student that requires 95% or greater on a make-up exam to pass the course will not be allowed to write a make-up exam.

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 703 so that support services can be arranged for you.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Direct credit for this course is not allowed.