

I. COURSE DESCRIPTION:

This course covers most of the theory required for the Private pilot, as well as provides the basic knowledge required for meteorology in the second and third years of the Aviation Program.

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 theory required for further exploration of Meteorology.

Potential Elements of the Performance:

Moisture in the atmosphere, heating and cooling the atmosphere, stability, pressure and circulation, air masses

2. Understand the structure of Fronts

Potential Elements of the Performance:

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

3. Understand the formation of Clouds and Precipitation

Potential Elements of the Performance:

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

4. Understand Aircraft Icing

Potential Elements of the Performance:

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

5. Understand the factors that affect flight visibility

Potential Elements of the Performance:

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

6. Understand the types of boundary layer winds and turbulence

Potential Elements of the Performance:

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

7. Understand Altimetry

Potential Elements of the Performance:

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

8. Understand the formation of Mountain Waves

Potential Elements of the Performance:

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

9. Understand the formation and hazards of Thunderstorms

Potential Elements of the Performance:

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

10. Understand and apply the theory of meteorology required for the completion the meteorology portion of the Transport Canada Private Pilot exam

Potential Elements of the Performance:

All elements taken this semester is in preparation for the Private Pilot written exam and also applies to Commercial and IFR level meteorology

Note: Any of the topics above not covered in AVT111 will be covered in AVT121 in semester 2.

III. TOPICS:

1. Foundations of meteorology
2. Structure of Fronts
3. Clouds and Precipitation
4. Aircraft Icing
5. Visibility
6. Boundary layer winds and turbulence
7. Altimetry
8. Mountain Waves
9. Thunderstorms
10. Preparation for Transport Canada Exams

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Air Command Weather Manual
 Air Command Weather Workbook
 Aeronautical Information Manual (AIM)
 Access to the internet is an asset

V. EVALUATION PROCESS/GRADING SYSTEM:

The student will be assessed by a combination of attendance and deportment, quizzes, 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.

- 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	

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 exam.
- 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% rather than 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 90% or greater on a make-up exam to pass the course will not be allowed to write a make-up exam.

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.

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.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

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

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

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*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. 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.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of *<choose November, March, or June>* will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.