

COURSE DESCRIPTION:**I.**

This course will focus on safety defence strategies, which can, if applied, reduce the likelihood of you being involved in an incident or an accident. These safety defence strategies will be developed from a personal level, a multi crew level and an organizational level.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Develop personal defense strategies to reduce the occurrence of unsafe acts.
Potential Elements of the Performance:
 - Investigate an accident to identify failures in both the pre-condition and productive activity levels (Reason's model).
 - Develop personal strategies which can help you avoid the same pitfall.
 - Explain how you intend to apply your personal defense strategy.
2. Analyze an accident or incident using Reason's Model.
Potential Elements of the Performance:
 - Identify the failures in each of the five layers.
 - Develop or suggest strategies to reinforce each of the layers.
 - Be aware of and able to recognize design and automation features which are latent failures in a system.
3. Apply the process of Single Pilot Resource Management (SRM).
Potential Elements of the Performance:
 - The "5P" check
 - The SRM decision process
4. Effectively participate on a team or in a crew.
Potential Elements of the Performance:
 - Communicate effectively to make decisions and manage resources.
 - Provide leadership and followership.
 - Establish priorities to manage workload.
 - Be aware of how decisions related to problem solving fit in the big picture.
 - Resolve conflicts.
 - Provide constructive critiques.
 - Manage threats to reduce or trap errors.
5. Explain the role safety management programs (systems) play in improving the efficiency and safety of complex systems.
Potential Elements of the Performance:
 - The components of SMS.
 - The regulatory framework for SMS in Canada.
 - The role of the safety manager.
 - Qualifications of a human factors specialist
 - Appropriate level of human factor training for an organization
 - The use of reporting systems to provide a proactive approach to reducing incidents

- and accidents.
 - Safety culture
6. Explain the rationale and process in applying threat and error management.
Potential Elements of the Performance:
- Definitions.
 - Types of threats.
 - Types of errors.
 - Handling threats, errors and undesired aircraft states.
7. Explain industry training initiatives and strategies to reduce accidents.
Potential Elements of the Performance
- The industries safety record - where we are now; the improvements made over the last twenty years.
 - The why, where and how to reduce the likelihood of the major killers in aviation today (Loss of control (LOC), Controlled Flight into Terrain (CFIT), Approach and Landing Accident Reduction (ALAR)).

III. TOPICS:

1. Reason's Model
2. Unsafe Acts – Errors And Violations
3. Personal Defences
4. Single Pilot Resource Management
5. Threat And Error Management
6. Teams and Team Building
7. Communications
8. Group Problem Solving/Decision Making
9. Situational Awareness
10. Leadership/Followership
11. Interpersonal Skills
12. Critique
13. Safety Management Systems
14. Loss of Control
15. Controlled Flight into Terrain
16. Approach and Landing Accident Reduction

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- 1) Human Factors for Aviation - Advanced Handbook / Published by Transport Canada
ISBN # 0-660-16656-9
- 2) Internet Access

ADDITIONAL RESOURCES/TEXTS/MATERIALS:

Your Sault College Library is an excellent resource!

Web Links:

[A.I.M. – aeronautical information manual](#)

<http://www.tc.gc.ca/eng/civilaviation/opssvs/aviationsafety-menu.htm>

<http://www.faa.gov/pilots/safety/pilotsafetybrochures/>

<http://flightsafety.org/>

<http://www.airforce.forces.gc.ca/dfs-dsv/index-eng.asp>

<http://www.casa.gov.au/scripts/nc.dll?WCMS:HOMEPAGE::pc=HOME>

V. EVALUATION PROCESS/GRADING SYSTEM:

The student will be assessed by a combination of attendance and department, assignments, tests and a final exam. Weighting will be as follows: assignments 1,2,3,4, & 7 - 20%, assignments 5 & 6 – 20%, term test(s) – 20%, and the final exam – 40%. A minimum mark of 70% is required to pass the course. No re-write or make-up tests will be permitted except for compassionate reasons as described below.

- Unexcused absences may result in 2% deduction of the final mark for each occurrence, arriving for class late may result in a 1% deduction of the final mark for each occurrence, and violations of the dress code may result in a 1% deduction of the final mark for each occurrence. Refer to the SOP GEN 1.3 for dress code policies and SOP GEN 1.6.7 for policy regarding absence from classes
- 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.
- A classroom code of conduct can be found in the SOP General section, and will be adhered to.
- Dates of tests will be announced at least 1 week in advance.

The following semester grades will be assigned to students:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	3.00
F (Fail)	below 70%	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
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:

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *For all AVT classes there is an additional incentive not to miss class. Please refer to Section V Evaluation Process/Grading System for further information.*

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.