

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



**SAULT
COLLEGE**

COURSE OUTLINE

COURSE TITLE: Safety and Human Factors

CODE NO. : AVT378-3

SEMESTER: Seven

PROGRAM: Aviation Technology (Flight)

AUTHOR: Rick Fall

DATE: Jan 2015

PREVIOUS OUTLINE DATED: Jan 2013

APPROVED:

CHAIR

DATE

TOTAL CREDITS: 4

PREREQUISITE(S): AVT248

HOURS/WEEK: 4

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For additional information, please contact Greg Mapp, Flight Operations Manager
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I. COURSE DESCRIPTION:

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

The Instructor may change or omit some sections of this outline as needed.

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. Apply the process of Single Pilot Resource Management (SRM)

Potential Elements of the Performance:

- Definition and goal of Single Pilot Resource Management (SRM)
- Application of the 5 concepts
- The "5P" check

3. Assess his or her behaviour markings indicating the application of single pilot human.

Potential Elements of the Performance:

- Effective lookout.
- Maintains situation awareness.
- Assess situations and make decisions.
- Sets priorities and manage tasks.
- Maintains effective communications and interpersonal relationships.

4. 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.

5. 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.

6. 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 past 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. Personal Defense
2. Single Pilot Resource Management and Human Factors
3. Threat and Error Management
4. Terms and Team Building
5. Communications
6. Situational Awareness
7. Leadership/Fellowship
8. Interpersonal Skills
9. Safety Management Systems
10. Loss of Control
11. Controlled Flight into Terrain
12. Approach and Landing Accident Reduction
13. Two Crew Standard Operating Procedures

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!
A.I.M. – Aeronautical Information Manual

Web Links:

<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>

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%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
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. *<Optional: It is the departmental policy that once the classroom door has been enclosed, the learning process has begun. Late arrivers will not be granted admission to the room.>*

VI. COURSE OUTLINE ADDENDUM:

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