

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

**COURSE TITLE:** Advanced Flight Systems  
**CODE NO. :** AVT363-2 **SEMESTER:** Six  
**PROGRAM:** Aviation Technology (Flight)  
**AUTHOR:** Colin Reid  
**DATE:** Sept 2013 **PREVIOUS OUTLINE DATED:** Aug 2012  
**APPROVED:**  

<b>“Greg Mapp”</b>		<b>Aug 30/13</b>
_____		_____
	<b>Chair</b>	<b>DATE</b>

  
**INSTRUCTOR** Colin Reid  
**TOTAL CREDITS:** 2  
**PREREQUISITE(S):** AVT245  
**HOURS/WEEK:** 2

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*For additional information, please contact Greg Mapp, Flight Operations Manager*  
*Aviation Program*  
*(705) 759-2554, Ext. 2865*

**I. COURSE DESCRIPTION:**

This course is designed to familiarize the student with modern Flight Management Systems (FMS). General philosophy of the FMS will be studied as well as modes of operation. The course of study will focus on FMS Principles, Pilot interface, and Procedures. Topics will include programming the FMS from Origin to Destination, including vertical and lateral revisions to the Flight Plan. The Flight Management Guidance System of the Airbus family of aircraft will be studied.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

1. Explain what a Flight Management System is and its purpose.  
Potential Elements of the Performance:
  - System definition
2. Explain the benefits air operators and pilots gain when using a FMS.  
Potential Elements of the Performance:
  - An introduction to FMS capabilities and how these affect the airline operation
3. Identify components of the FMS and have an understanding of each component interaction.  
Potential Elements of the Performance:
  - Description of FMS components
  - Identify other aircraft and system components used by the FMS for data input and output
  - Location of components on aircraft/flight deck
  - Interfaces between system and pilot
4. Describe different levels of FMS technology.  
Potential Elements of the Performance:
  - Understand and explain that different levels of automation are dependent on aircraft and FMS manufacturer combination
  - Operational differences
  - Demonstrate FMS operation and data insertion from initialization to landing

5. Identify components of the Electronic Flight Information System and understand that they are electronic versions of the traditional navigation and flight instruments.

Potential Elements of the Performance:

- Description of Electronic Flight Information System components
  - Location of components in aircraft
  - Recognize the presentation of traditional navigation and flight instrument data
  - Be familiar with additional Electronic Flight Information System capabilities
6. Recognize the wide range of information and its presentation through the Electronic Flight Information System.

Potential Elements of the Performance:

- Description of available system information
- Recognize the additional information available compared to traditional flight and navigation instruments

### III. TOPICS:

1. Flight Management System
  - Introduction
  - Benefits
  - Components
  - System capabilities
  - Preflight to post-flight operation
2. Electronic Flight Information System
  - General description
  - Abnormal procedures
  - Display methodology and logic

### IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Honeywell A320-FMS Pilot's Guide (provided)

### 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: 30% for quizzes, 30% for all tests prior to the final exam, and 40% 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 1.3 for dress code policies and SOP GEN 1.6.7 for policy regarding absence from classes.
- Quizzes will be given without prior notice
- 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 a subject at the end of a semester will result in termination from the Aviation program.**
- Although attitude, co-operation, etc., are not graded, students may be terminated based on their performance in this area (see Section VI). These attributes are also considered in the selection of the Air Canada Award and other scholarships.
- 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:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	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:

### 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. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to <https://my.saultcollege.ca>.