

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

COURSE TITLE: Engines & Airframes  
CODE NO. : AVT115 Semester: One  
PROGRAM: Aviation Technology (Flight)  
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WebCT/LMS  
DATE: Sept.1, 2007 PREVIOUS OUTLINE DATED: New

APPROVED:

\_\_\_\_\_  
DEAN

\_\_\_\_\_  
DATE

TOTAL CREDITS: 1

PREREQUISITE(S): N/A

HOURS/WEEK: 1

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*For additional information, please contact Colin Kirkwood*  
*School of Technology, Skilled Trades, Natural Resources & Business*  
*(705) 759-2554, Ext. 2688*

**I. COURSE DESCRIPTION:**

An introductory course on the working of typical small light aircraft engines and engine systems, and airplane construction with the emphasis on safety in both handling and recognizing abnormal conditions

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

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

1. Appreciate the need for the smooth and proper handling of engines and airframes with regard to mechanical tolerances and aircraft performance.
2. Appreciate the need to stay current with the Canadian Air Regulations with regard to regular inspections of aircraft systems, and the timely action given to manufacturers' recommendations and aircraft advisories.
3. Understand the need for well developed airmanship skills when operating in severe weather conditions or in the vicinity of larger aircraft and the hazards they impose to both pilot and aircraft .
4. Understand the direction the engine and airframe industry is taking in future technologies and the need to stay educated and informed with current and future technologies.
5. Use the mathematical skills toward a higher degree of quantitative analysis of engine, airframe and aircraft performance.

**III. TOPICS:**

1. Airframe construction methods
2. The operation of the internal combustion engine
3. Engine accessory and life limited components
4. Inspections according to the Canadian Air Regulations
5. Load factor calculations
6. Weight and balance

&lt;insert course name here&gt;

&lt;insert course code number here&gt;

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

- From The Ground Up
- Handouts
- Power Point through WebCT/LMS

**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 any 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:

*Grade Point*

&lt;insert course name here&gt;

&lt;insert course code number here&gt;

| <b>Grade</b> | <b><u>Definition</u></b>   | <i>Equivalent</i> |
|--------------|--|-------------------|
| 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:

### 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.

&lt;insert course name here&gt;

&lt;insert course code number here&gt;

**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.

*<include any other special notes appropriate to your course>*

**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:**

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.