

**SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON**



COURSE OUTLINE

Course Title: ENGINES AND AIRFRAMES

Code No.: AVT 230

Semester: SEVEN(7)

Program: AVIATION TECHNOLOGY (FLIGHT)

Author: EARL TURNER

Date: JANUARY 1998

Previous Outline Date: AUGUST 1995

Approved:

K. DeRosario

Dean

Dec. 22/98

Date

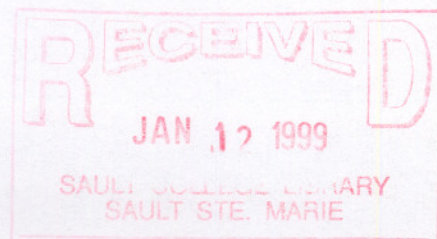
Total Credits: 4

Prerequisite(s): AVT 200

Length of Course: 16 weeks Total Credit Hours: 36 periods

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COURSE NAME **ENGINES AND AIRFRAMES**
COURSE NUMBER **AVT 230**

I. COURSE DESCRIPTION:

A study of engines and airframes and maintenance requirements, including the four stroke cycle engine and the basic gas turbine engine, fuels and fuel systems, lubrication and oil, ignition systems, engine instruments, propellers, airframes, and electrical systems at the Airline Transport Pilot Level.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

- 1) be knowledgeable about aircraft piston and turbine engines, propellers and related engine systems

Potential Elements of the Performance:

engine operation
servicing requirements
elementary work
troubleshooting
good flying practices

- 2) be knowledgeable about aircraft airframe layout, construction, materials and related systems

Potential Elements of the Performance:

care of the aircraft
elementary work
pre-flight inspections
good flying practices

- 3) be knowledgeable about aircraft maintenance requirements

Potential Elements of the Performance:

dispatch duties
scheduling maintenance requirements
maintenance record keeping
defect control

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III. TOPICS:

- 1) review of piston engines
- 2) advanced piston engines
- 3) turbine engines - theory
- 4) turbine engines - systems
- 5) turbo-prop propeller systems
- 6) review of airframes
- 7) materials
- 8) corrosion
- 9) stress & strain
- 10) maintenance requirements - general
- 11) maintenance requirements - commercial
- 12) Sault College maintenance requirements

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- 1) Instructor handouts
- 2) From The Ground Up - Engines & Airframes
- 3) Aeronautical Information Publication
- 4) Internet Access - CAR's
- 5) Internet Access - Sault College Maintenance Requirements

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COURSE NUMBER AVT 230

V. EVALUATION PROCESS/GRADING SYSTEM

The student will be assessed by tests. Weighting of each test will be 50 % for all tests prior to the final and 50 % for the final exam.

GRADE:

A+ - 93 - 100%
A - 87 - 92%
B - 80 - 86%
C - 70 - 79%
R - Below 70%

- 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. **Rewrites will not be permitted after the fact for compassionate reasons.**

- **"R" grades in any subject at the end of a semester will result in termination from the program. Re-writes in aviation subjects are not permitted except as provided in the re-write policy below.**

- Attendance is mandatory for all Aviation classes unless approval is granted in advance.

- Although attitude, co-operation, etc., are not graded, students may be terminated based on their performance in this area. 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.

RE-WRITE POLICY

- No re-writes on mid-term tests.

- The final exam of AVT 230 may be re-written in the event of a failure provided the semester average is 70% or greater and the failed final exam is within 5% of a pass. (i.e. 65% or above). The re-written final exam will be averaged with the failed final exam to determine the resulting mark which must be 70% or above to pass.

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VI. SPECIAL NOTES:

Special Needs

If you are a student with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717, 491 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 post-secondary institutions.

Disclaimer for Meeting the Needs of the Learners

VII. PRIOR LEARNING ASSESSMENT

There will be no advanced credit given for this course.

