SAULT COLLEGE OF APPLIED ARTS *St* TECHNOLOGY

SAULT STE. MARIE, ONTARIO

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COURSE TITLE: TECHNICAL MATHEMATICS

CODE NO.: MTH 626-4 **SEMESTER:** III

PROGRAM: AVIATION

AUTHOR: BOB HAMEL

DATE: JULY 1996 **PREVIOUS OUTLINE DATED:** JULY 1995

APPROVED: *H^* *lA*

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TECHNICAL MATHEMATICS   MTH 626-4

COURSE NAME   COURSE **NUMBER**

IV. LEARNING ACTIVITIES:

TOPIC   NO. OF   REFERENCE CHAPTER
NUMBER PERIODS   TOPIC DESCRIPTION   ASSIGNMENTS

| 15 | Applications of Integration | **CHAPTER 26** |

Applications of indefinite integral.
Areas of integration.   **Ex. 26.1 Odds**
Volumes of integration.   **Ex. 26.2 Odds**
Centroids.   **Ex. 26.3 Odds**
Moments of inertia.   **Ex. 26.4 Odds**
Work and liquid pressure.   **Ex. 26.5 Odds**
                                         Ex. 26.6 Odds
                                         Ex. 26.7 Odds

Trigonometric and Inverse Functions

17   **CHAPTERS 20 *ic* 27**

Review of basic trig, relations, graphs,
identities.
Derivatives of sine and cosine functions.   **Ch. 20 Ex. 20.1, 20.2, 20.3, 20.4**
Derivatives of other trigonometric functions.   **Ex. 26.1 Odds**
Inverse trigonometric functions and
derivatives.   **Ex. 26.2 Odds**
Applications.

Exponential and Logarithmic Functions   **Ex. 26.3 Odds**

Review rules for exponents and logarithms.   **Ex. 26.4**
Derivatives of logarithmic functions.   **CHAPTERS 11, 13, *ii* 27**
17 Derivatives of exponential functions.
A|k|i|k:ations.

                                         Ex. 11.1, 11.2, 13.1, 13.3
                                         Ex. 26.5, Odds

                                         Ex. 26.6 Odds
                                         Ex. 26J Odds
                                         Ex. 26.8

^   TECHNICAL MATHEMATICS   MTH 626-4

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V. EVALUATION METHODS: (cont'd)

GRADING: A+ = 90 - 100%
               A = 80 - 89%
               B = 65 - 79%
               C = 55 - 64%
               R = 0 - 54%

A passing grade will be based on a MINIMUM average of 55%.

As in any other subject the student is preparing for his working career as well as studying the-subject. Hence, on tests the student is expected to produce neat, legible, well laid out solutions which show clearly how the answers were obtained. If anything less is required, this will be indicated in the test. Failure to show such solutions may render correct answers worthless. As happens in the workplace if anything you put on paper Q^R be misread it wH be. In addition to loss of marks on individual questions, up to 25% of the marks available on a test can be subtracted as a penalty for untidiness. Marks lost in such penalties can be redeemed by a student willing to put forth the required effort. Proper solutions as described above should be produced for all your assigned work. Such practice will make it easier for you to produce the required quality of work on tests. If when you look at a page of your work it makes you feel proud of its appearance, than you are probably on target.

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Marks allotted to each question on a test are usually shown. Please enquire if they are not. The questions on a test do not necessarily have equal values.

Full attendance at all scheduled classes is required. Any student with unexcused absences exceeding 10% of the classes will have his math grade reduced, provided that this does not reduce the grade below a "C".

VI. REQUIRED STUDENT RESOURCES:

1. TEXT: "Basic Technical Mathematics with Calculus", Washington, Alan J., 6th (metric) Ed., Benjamin Cummings.

2. CALCULATOR: (Recommended) SHARP Scientific Calculator EL-531G. The use of some kinds of calculators may be restrkted during tests.

VII. SPECIAL NOTES:

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.