

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: Mathematics
CODE NO. : MTH 612-4 **SEMESTER:** One
PROGRAM: Aviation Technology
AUTHOR: Math Department
DATE: May 2006 **PREVIOUS OUTLINE DATED:** May 2005
APPROVED:

_____ **DEAN** **DATE**
TOTAL CREDITS: 4
PREREQUISITE(S): None
HOURS/WEEK: 4

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For additional information, please contact C. Kirkwood, Dean
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I. COURSE DESCRIPTION:**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

1.
 - Add, subtract, multiply and divide algebraic expressions
 - Solve linear equations
 - Rearrange Formulas
2.
 - Graph linear equations
 - Solve system of equations graphically and algebraically
3.
 - Factor difference of squares, trinomials, sum and difference of cubes, by grouping
 - Add, subtract, multiply and divide algebraic fractions
 - Solve fractional equations
4.
 - Add, subtract, multiply and divide radical expressions
 - Solve equations involving radicals
5.
 - Graph quadratic functions
 - Solve quadratics using the quadratic formula, by factoring and by completing the square
6.
 - Evaluate the 6 trig functions using a calculator
 - Convert degrees to radians and vice-versa
 - Graph trig functions

Solve problems involving vectors using the sine law and cosine law
7.
 - Convert from exponential form to log form and vice-versa
 - Solve exponential and logarithmic equations.
 - Graph exponential and logarithmic functions
8.
 - Solve applied problems that involving ratio and proportion, and variation

III. TOPICS:

1. Basic Algebraic Operations ----- Chapter 1
2. System of Equations and Graphing-----Chapters 3 and 5
3. Factoring and Fractions-----Chapter 6
4. Exponents and Radicals-----Chapter 11
5. Quadratic Equations-----Chapter 7
6. Trigonometry and vectors----- Chapters 4,8,9
7. Exponential and Logarithmic Functions-----Chapter 13
8. Variation-----Chapter 18

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Basic Technical Mathematics with Calculus, 8th Edition, Metric Version, Washington. Addison-Wesley, 2005
2. Calculator: *(Recommended)* SHARP Scientific Calculator EL-531.
The use of some kinds of calculators, cell phones, and other electronic devices may be restricted during tests.

V. EVALUATION PROCESS/GRADING SYSTEM:

Test 1	Topics 1 and 2	25%
Test 2	Topics 3 and 4	25%
Test 3	Topics 5 and 6	25%
Test 4	Topics 7 and 8	25%

The following semester grades will be assigned to students:

Grade	Definition	<i>Grade Point 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.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. 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.

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.